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Correction Report

March 20, 2023

1. Corrected disclosure document: Business report
2. First submission date of the corrected disclosure document: March 17, 2023
3. Corrections

Item	Whether requested/ordered corrections	Reason for corrections	Before correction	After correction
II. Details of the Business 6. Major Contracts and R&D Activities (3) R&D expenses	-	Correction due to errors in entry	Note 1)	Note 1*)
III. Matters Concerning Finance 7. Matters Concerning Financing via the Issuance of Securities 7-1. Performance in Financing via the Issuance of Securities [Matters related to the issuance of equity securities, etc.] A. Performance in the issuance of debt securities	-	Corrections in rating	Note 2)	Note 2*)
VIII. Matters Concerning Executives and Employees, Etc. 1. Status of Executives and Employees, Etc. D. Status of employees, etc.	-	Correction due to errors in entry	Note 3)	Note 3*)
VIII. Matters Concerning Executives and Employees, Etc. 2. Remuneration of the Executives, Etc. <Status of the individual remuneration for the top 5 individuals among those who were paid KRW 500 million or greater for remuneration> 1. Individual remuneration	-	Correction due to errors in entry	Note 4)	Note 4*)
IV. Management Diagnosis & Analysis and Opinions of the Directors 3. Financial position and operating performance results (on a consolidated basis) 1) Financial position	-	Sign standardization	Note 5)	Note 5*)

Note 1) [SK Bioscience]

(Reference date: 2022.12.31)

(Unit: KRW one million)

Account	The 5th Period	The 4th Period	The 3rd Period
Raw material expenses	18,404	24,688	8,577
Labor cost	31,589	22,848	12,142
Selling, general and administrative expenses, etc.	63,002	52,043	11,764
112,995	99,579		32,483

Government subsidies		(627)	(477)	(1,034)
External subsidies		(53,244)	(51,672)	(5,462)
Total subsidies		(53,871)	(52,149)	(6,496)
59,124	47,430	25,987		
Accounting	Selling, general and administrative expenses	57,960	47,250	25,987
	Development cost (intangible assets)	1,164	180	
	Total amount accounted	59,124	47,430	25,987
R&D expenses / sales amount ratio (%) [Total R&D cost ÷ Sales amount for the current period × 100]		24.7	10.7	14.4

Note 1*) [SK Bioscience]

(Reference date: 2022.12.31)

(Unit: KRW one million)

Account		The 5th Period	The 4th Period	The 3rd Period
Raw material expenses		18,404	24,688	8,577
Labor cost		31,589	22,848	12,142
Selling, general and administrative expenses, etc.		63,002	52,043	11,764
Total R&D expense		112,995	99,579	32,483
Government subsidies		(627)	(477)	(1,034)
External subsidies		(53,244)	(51,672)	(5,462)
Total subsidies		(53,871)	(52,149)	(6,496)
Amount after deducting the subsidies		59,124	47,430	25,987
Accounting	Selling, general and administrative expenses	57,960	47,250	25,987
	Development cost (intangible assets)	1,164	180	
	Total amount accounted	59,124	47,430	25,987
R&D expenses / sales amount ratio (%) [Total R&D cost ÷ Sales amount for the current period × 100]		24.7	10.7	14.4

Note 2)

(Reference date: 2022.12.31)

(Unit: KRW one million, %)

Issuing company	Type of securities	Method of issuance	Date of issuance	Total par value (electronic registration)	Interest rate	Rating (rating agency)	Date of maturity	Whether redeemed	Managing company
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.05.30	50,000	3.06	A2 (Korea Investors Service, NICE)	2022.08.30	Redeemed	Shinhan Bank
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.08.30	50,000	4.02	A2 (Korea Investors Service, NICE)	2022.11.30	Redeemed	Shinhan Bank
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.10.17	30,000	5.81	A2 (Korea Investors Service, NICE)	2023.04.17	Unredeemed	Korea Investment & Securities Co., Ltd.
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.11.11	30,000	8.00	A2 (Korea Investors Service, NICE)	2023.02.10	Unredeemed (Note 1)	KB Securities
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.11.30	50,000	5.13	A2 (Korea Investors Service, NICE)	2023.02.28	Unredeemed (Note 1)	Shinhan Bank

Total	-	-	-	210,000	-	-	-	-	-
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Note 2*)

(Reference date: 2022.12.31)

(Unit: KRW one million, %)

Issuing company	Type of securities	Method of issuance	Date of issuance	Total par value (electronic registration)	Interest rate	Rating (rating agency)	Date of maturity	Whether redeemed	Managing company
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.05.30	50,000	3.06	A2+ (Korea Investors Service, NICE)	2022.08.30	Redeemed	Shinhan Bank
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.08.30	50,000	4.02	A2+ (Korea Investors Service, NICE)	2022.11.30	Redeemed	Shinhan Bank
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.10.17	30,000	5.81	A2+ (Korea Investors Service, NICE)	2023.04.17	Unredeemed	Korea Investment & Securities Co., Ltd.
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.11.11	30,000	8.00	A2+ (Korea Investors Service, NICE)	2023.02.10	Unredeemed (Note 1)	KB Securities
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.11.30	50,000	5.13	A2+ (Korea Investors Service, NICE)	2023.02.28	Unredeemed (Note 1)	Shinhan Bank
Total	-	-	-	210,000	-	-	-	-	-

Note 3)

(Reference date: 2022.12.31)

(Unit: KRW one million)

Employees										Non-affiliated employees			Note
Business Division	Gender	Number of employees					Average number of years of continuous service	Total amount of annual salaries	Amount of salary per person	Male	Female	Total	
		Employees with no fixed term contract		Employees with fixed term contract		Total							
		Overall	(Short-term workers)	Overall	(Short-term workers)								
Management Support Division	Male	76	-	6	-	82	3.02	7,409	90	375	81	456	-
Management Support Division	Female	37	-	11	-	48	2.96	2,815	59				-
Green Chemicals Biz	Male	182	-	23	-	505	4.14	50,483	100				-
Green Chemicals Biz	Female	89	-	15	-	104	3.76	6,377	61				-
Life Science Biz	Male	505	-	20	-	525	3.97	40,457	77				-
Life Science Biz	Female	148	-	13	-	161	3.68	8,965	56				-
Genders combined	Male	1,063	-	49	-	1,112	3.98	98,349	88				-
Genders combined	Female	274	-	39	-	313	3.59	18,157	58				-
Total		1,337	-	88	-	1,425	3.82	116,506	82				-

Note 3*)

(Reference date: 2022.12.31)

(Unit: KRW one million)

Employees										Non-affiliated employees			Note
Business Division	Gender	Number of employees					Average number of years of continuous service	Total amount of annual salaries	Amount of salary per person	Male	Female	Total	
		Employees with no fixed term contract		Employees with fixed term contract		Total							
		Overall	(Short-term workers)	Overall	(Short-term workers)								
Management Support Division	Male	76	-	6	-	82	3.02	7,409	90	375	81	456	-
Management Support Division	Female	37	-	11	-	48	2.96	2,815	59				-

Green Chemicals Biz	Male	482	-	23	-	505	4.14	50,483	100	-
Green Chemicals Biz	Female	89	-	15	-	104	3.76	6,377	61	-
Life Science Biz	Male	505	-	20	-	525	3.97	40,457	77	-
Life Science Biz	Female	148	-	13	-	161	3.68	8,965	56	-
Genders combined	Male	1,063	-	49	-	1,112	3.98	98,349	88	-
Genders combined	Female	274	-	39	-	313	3.59	18,157	58	-
Total		1,337	-	88	-	1,425	3.82	116,506	82	-

Note 4)

(Unit: KRW one million)

Name	Position	Total amount of remuneration	Remuneration not included in the total amount of remuneration
Jeon Kwang-hyun	President	1,450	-
Kim Cheol	President	775	-
Kim Cheol-jin	Executive	1,459	-
Kim Hyun-suk	Executive	709	-
Hwang Chun-hyun	Executive	585	-

Note 4*)

(Unit: KRW one million)

Name	Position	Total amount of remuneration	Remuneration not included in the total amount of remuneration
Jeon Kwang-hyun	President	1,840	-
Kim Cheol	President	1,250	-
Kim Cheol-jin	Executive	1,459	-
Kim Hyun-suk	Executive	709	-
Hwang Chun-hyun	Executive	585	-

Note 5)

(Unit: KRW one million, %)

Account	The 6th Period	The 5th Period	Amount of increase	Rate of increase
[Current assets]	2,518,694	2,784,059	(265,365)	(9.53)
[Non-current assets]	1,426,989	1,171,574	255,415	21.80
Total assets	3,945,683	3,955,632	(9,949)	-0.25
[Current liabilities]	1,058,819	1,086,649	(27,830)	-2.56

[Non-current liabilities]	177,958	302,246	(124,288)	-41.12
Total liabilities	1,236,777	1,388,895	(152,118)	-10.95
[Shares owned by the controlling company]	2,146,699	2,053,542	93,157	4.54
[Non-controlling interest]	562,207	513,196	49,011	9.55
Total equity	2,708,906	2,566,737	142,169	5.54
Total liabilities and stockholders' equity	3,945,683	3,955,632	(9,949)	-0.25

Note 5*)

(Unit: KRW one million, %)

Account	The 6th Period	The 5th Period	Amount of increase	Rate of increase
[Current assets]	2,518,694	2,784,059	(265,365)	(9.53)
[Non-current assets]	1,426,989	1,171,574	255,415	21.80
Total assets	3,945,683	3,955,632	(9,949)	(0.25)
[Current liabilities]	1,058,819	1,086,649	(27,830)	(2.56)
[Non-current liabilities]	177,958	302,246	(124,288)	(41.12)
Total liabilities	1,236,777	1,388,895	(152,118)	(10.95)
[Shares owned by the controlling company]	2,146,699	2,053,542	93,157	4.54
[Non-controlling interest]	562,207	513,196	49,011	9.55
Total equity	2,708,906	2,566,737	142,169	5.54
Total liabilities and stockholders' equity	3,945,683	3,955,632	(9,949)	(0.25)

【Confirmation of the Chief Executive Officer, Etc.】

Statement of Confirmation

We, as the Chief Executive Officer and the Director in Charge of Reporting Business of the Company, have verified and reviewed the details provided in this disclosure document with due care in person, and based on such review, hereby confirm that there are no omissions of important matters required for entry or presentation of the same, nor any fabrication, and have also found no entries or presentations made with regard to any details which might cause material misunderstanding by and for those using the matters provided or presented in this disclosure document.

Furthermore, we confirm that the Company has prepared and is operating an internal accounting control system in accordance with the provisions of Article 8 of the Act on External Audit of Stock Companies, Etc.

March 20, 2023

[SK Chemicals Co., Ltd.]

Jeon Kwang-hyun, Chief Executive Officer

Kim Kee-dong, Director in Charge of Reporting Business

Business Report

(The 6th Period)

Business Year From January 1, 2022
 Until December 31, 2022

Respectfully submitted to
Financial Services Commission, the Korea Exchange

March 17, 2023

Type of Corporation Subject to Submission: Stock-listed Corporation

Reason for Exemption: Not applicable

Name of Company: SK Chemicals Co., Ltd.

Chief Executive Officer: Jeon Kwang-hyun

Head Office Location: 310 Pangyo-ro (Sampyeong-dong), Bundang-gu,
Seongnam-si, Gyeonggi-do (Phone) 02-2008-2008
(Website) <http://www.skchemicals.com>

Principal Officer: (Position) Director, Administration & Management Group (Name) Kim Kee-dong
(Phone) 02-2008-2008

【Confirmation of the Chief Executive Officer, Etc.】

Statement of Confirmation

We, as the Chief Executive Officer and the Director in Charge of Reporting Business of the Company, have verified and reviewed the details provided in this disclosure document with due care in person, and based on such review, hereby confirm that there are no omissions of important matters required for entry or presentation of the same, nor any fabrication, and have also found no entries or presentations made with regard to any details which might cause material misunderstanding by and for those using the matters provided or presented in this disclosure document.

Furthermore, we confirm that the Company has prepared and is operating an internal accounting control system in accordance with the provisions of Article 8 of the Act on External Audit of Stock Companies, Etc.

March 17, 2023

SK Chemicals Co., Ltd.

Jeon Kwang-hyun, Chief Executive Officer

Kim Kee-dong, Director in Charge of Reporting Business

I. Overview of the Company

1. Overview of the Company

A. Overview of the Consolidated Subsidiaries

1) Status of the Consolidated Subsidiaries (Summary)

(Unit: company)

Classification	Number of Consolidated Companies				Number of Major Subsidiaries
	Beginning of period	Increase	Decrease	End of period	
Listed	1	-	-	1	1
Unlisted	8	1	-	9	1
Total	9	1	-	10	2

※ For detailed status, refer to 'Detailed Table-1 Status of Consolidated Subsidiaries (Details).'

2) Changes in the Consolidated Companies

Classification	Subsidiaries	Reason
Newly consolidated	SK bioscience USA, Inc.	Newly invested by SK Bioscience Co.,Ltd.
	-	-
Excluded from consolidation	-	-
	-	-

B. Legal and Commercial Name of the Company

The Company's name is 'SK Chemicals Co., Ltd.', which in Korean is noted as '에스케이케미칼 주식회사', and in English as 'SK CHEMICALS CO., LTD.'

C. Date of Establishment & Survival Period

The Company is a split-off company newly established on December 1, 2017 through the split-off of the Green Chemicals and Life Science business divisions previously operated by SK Discovery Co, Ltd. pursuant to the provisions of Articles 530-2 to 530-11 of the Commercial Act.

D. Head Office's Address, Phone Number, and Website Address

Classification	Details
Head Office's Address	310 Pangyo-ro (Sampyeong-dong), Bundang-gu, Seongnam-si, Gyeonggi-do
Phone Number	02-2008-2008
Website	http://www.skchemicals.com/

E. Whether Applicable as an SME, Etc.

Whether applicable as an SME	Not applicable
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Whether applicable as a venture company	Not applicable
Whether applicable as a mid-sized enterprise	Not applicable

F. Details of the Main Businesses

The Company was established by splitting off the Green Chemicals and Life Science business divisions from among the businesses conducted by SK Discovery Co., Ltd., and operates the Green Chemicals Biz. that is focused on the eco-friendly materials business and the Life Science Biz. that is involved with producing and selling pharmaceuticals and vaccines. As of the end of 2022, on a consolidated basis, the Company posted sales amount of KRW 1.8291 trillion, 77% of which is from eco-friendly materials such as high-functional copolyester resin, 17% from natural and synthetic drugs, 25% from vaccine products, and -19% from others.

☞ For more details, please refer to 'II. Details of the Businesses' of these disclosure documents.

G. Matters Concerning the Credit Rating [Corporate Bond]

Session	Amount Issued (KRW 100 million)	Date of Issuance	Date of Maturity	Classification	Date of Rating	Rating	Rating Agency
13-3	700	2023.02.24	2026.02.24	This rating	2023.02.07	A+	Korea Investors Service (AAA-D)
13-2	950	2023.02.24	2025.02.24	This rating	2023.02.07	A+	Korea Investors Service (AAA-D)
13-1	350	2023.02.24	2024.08.23	This rating	2023.02.07	A+	Korea Investors Service (AAA-D)
13-3	700	2023.02.24	2026.02.24	This rating	2023.02.07	A+	Korea Ratings (AAA-D)
13-2	950	2023.02.24	2025.02.24	This rating	2023.02.07	A+	Korea Ratings (AAA-D)
13-1	350	2023.02.24	2024.08.23	This rating	2023.02.07	A+	Korea Ratings (AAA-D)
13-3	700	2023.02.24	2026.02.24	This rating	2023.02.06	A+	NICE Investors Service (AAA-D)
13-2	950	2023.02.24	2025.02.24	This rating	2023.01.27	A+	NICE Investors Service (AAA-D)
13-1	350	2023.02.24	2024.08.23	This rating	2023.01.27	A+	NICE Investors Service (AAA-D)
12-2	750	2019.10.30	2024.10.30	Periodic rating	2022.04.19	A+	Korea Investors Service (AAA-D)
12-1	700	2019.10.30	2022.10.30	Periodic rating	2022.04.19	A+	Korea Investors Service (AAA-D)
11-2	800	2019.01.31	2024.01.31	Periodic rating	2022.04.19	A+	Korea Investors Service (AAA-D)
9-2	660	2018.04.30	2023.04.30	Periodic rating	2022.04.19	A+	Korea Investors Service (AAA-D)
9-2	660	2018.04.30	2023.04.30	Periodic rating	2022.04.14	A+	Korea Ratings (AAA-D)
12-2	750	2019.10.30	2024.10.30	Periodic rating	2022.04.14	A+	Korea Ratings (AAA-D)
12-1	700	2019.10.30	2022.10.30	Periodic rating	2022.04.14	A+	Korea Ratings (AAA-D)
11-2	800	2019.01.31	2024.01.31	Periodic rating	2022.04.14	A+	Korea Ratings (AAA-D)
12-2	750	2019.10.30	2024.10.30	Periodic rating	2022.04.14	A+	NICE Investors Service (AAA-D)
12-2	750	2019.10.30	2024.10.30	Periodic rating	2021.06.03	A+	Korea Investors Service (AAA-D)
12-1	700	2019.10.30	2022.10.30	Periodic rating	2021.06.03	A+	Korea Investors Service (AAA-D)
11-2	800	2019.01.31	2024.01.31	Periodic rating	2021.06.03	A+	Korea Investors Service (AAA-D)
11-1	700	2019.01.31	2022.01.31	Periodic rating	2021.06.03	A+	Korea Investors Service (AAA-D)
9-2 (Jointly guaranteed by SK Bioscience)	660	2018.04.30	2023.04.30	Periodic rating	2021.06.03	A+	Korea Investors Service (AAA-D)
12-2	750	2019.10.30	2024.10.30	Periodic rating	2021.05.14	A	NICE Investors Service (AAA-D)
9-2	660	2018.04.30	2023.04.30	Periodic rating	2021.04.29	A	Korea Ratings (AAA-D)
9-1	750	2018.04.30	2021.04.30	Periodic rating	2021.04.29	A	Korea Ratings (AAA-D)
12-2	750	2019.10.30	2024.10.30	Periodic rating	2021.04.29	A	Korea Ratings (AAA-D)
12-1	700	2019.10.30	2022.10.30	Periodic rating	2021.04.29	A	Korea Ratings (AAA-D)
11-2	800	2019.01.31	2024.01.31	Periodic rating	2021.04.29	A	Korea Ratings (AAA-D)
11-1	700	2019.01.31	2022.01.28	Periodic rating	2021.04.29	A	Korea Ratings (AAA-D)
12-2	750	2019.10.30	2024.10.30	Non-periodic rating	2021.03.09	A↑	Korea Investors Service (AAA-D)
12-1	700	2019.10.30	2022.10.30	Non-periodic rating	2021.03.09	A↑	Korea Investors Service (AAA-D)

11-2	800	2019.01.31	2024.01.31	Non-periodic rating	2021.03.09	A↑	Korea Investors Service (AAA-D)
11-1	700	2019.01.31	2022.01.31	Non-periodic rating	2021.03.09	A↑	Korea Investors Service (AAA-D)
9-2 (Jointly guaranteed by SK Bioscience)	660	2018.04.30	2023.04.30	This rating	2021.03.09	A↑	Korea Investors Service (AAA-D)
9-1 (Jointly guaranteed by SK Bioscience)	750	2018.04.30	2021.04.30	This rating	2021.03.09	A↑	Korea Investors Service (AAA-D)
8-1	1,000	2017.07.26	2020.07.26	Periodic rating	2020.06.11	A	Korea Ratings (AAA-D)
12-2	750	2019.10.30	2024.10.30	Periodic rating	2020.06.01	A	Korea Investors Service (AAA-D)
12-1	700	2019.10.30	2022.10.30	Periodic rating	2020.06.01	A	Korea Investors Service (AAA-D)
11-2	800	2019.01.31	2024.01.31	Periodic rating	2020.06.01	A	Korea Investors Service (AAA-D)
11-1	700	2019.01.31	2022.01.31	Periodic rating	2020.06.01	A	Korea Investors Service (AAA-D)
9-2 (Jointly guaranteed by SK Bioscience)	660	2018.04.30	2023.04.30	Periodic rating	2020.06.01	A	Korea Investors Service (AAA-D)
9-1 (Jointly guaranteed by SK Bioscience)	750	2018.04.30	2021.04.30	Periodic rating	2020.06.01	A	Korea Investors Service (AAA-D)
8-1 (Jointly guaranteed by SK Discovery and SK Bioscience)	1,000	2017.07.26	2020.07.26	Periodic rating	2020.06.01	A	Korea Investors Service (AAA-D)
12-2	750	2019.10.30	2024.10.30	Periodic rating	2020.05.14	A	NICE Investors Service (AAA-D)

[Commercial Paper]

Date of Rating	Type of Rating	Rating	Effective Date	Rating Agency
2022.12.13	Periodic rating	A2+	2023.06.30	Korea Investors Service (A1-D)
2022.12.21	Periodic rating	A2+	2023.06.30	NICE Investors Service (A1-D)
2022.04.14	This rating	A2+	2023.06.30	NICE Investors Service (A1-D)
2022.04.19	This rating	A2+	2023.06.30	Korea Investors Service (A1-D)
2021.06.03	Non-periodic rating	A2+	2021.06.30	Korea Investors Service (A1-D)
2021.03.09	Non-periodic rating	A2	2021.06.30	Korea Investors Service (A1-D)
2020.12.28	Periodic rating	A2	2021.06.30	NICE Investors Service (A1-D)
2020.12.23	Periodic rating	A2	2021.06.30	Korea Investors Service (A1-D)
2020.06.01	This rating	A2	2021.06.30	Korea Investors Service (A1-D)
2020.05.15	This rating	A2	2021.06.30	NICE Investors Service (A1-D)

[Electronic Short-Term Bonds]

Date of Rating	Type of Rating	Rating	Ceiling on Issuance (KRW 100 million)	Rating Agency
2021.06.03	Non-periodic rating	A2+	500	Korea Investors Service (A1-D)
2021.03.09	Non-periodic rating	A2↑	500	Korea Investors Service (A1-D)
2020.12.28	Periodic rating	A2	500	NICE Investors Service (A1-D)
2020.12.23	Periodic rating	A2	500	Korea Investors Service (A1-D)
2020.06.01	This rating	A2	500	Korea Investors Service (A1-D)
2020.05.14	This rating	A2	500	NICE Investors Service (A1-D)

※ About Corporate Bond Ratings

AAA	A 'AAA' rating indicates the highest probability of payment of principal and interest.
AA	A 'AA' rating indicates a very high probability of the payment. However, the probability may be slightly lower than the highest rating category (AAA).

A	An 'A' rating indicates a high probability of the payment. However, the probability may be more sensitive to changes in circumstances and economic conditions than the higher rating category (AA).
BBB	A 'BBB' rating indicates a moderate probability of the payment. However, changes in circumstances and economic conditions are more likely to impair this likelihood than the higher rating category (A).
BB	A 'BB' rating indicates some uncertainty about the probability of the payment and speculative elements.
B	A 'B' rating indicates substantial uncertainty about the probability of the payment and is considered speculative, and interest payments are not guaranteed in times of recession.
CCC	A 'CCC' rating indicates a high risk of default, questionable probability of the payment, and is considered highly speculative.
CC	A 'CC' rating indicates a very high risk of default and an extremely low probability of the payment, with greater uncertainties than the higher rating category (CCC).
C	A 'C' rating indicates the highest risk of default and no capacity to repay the principal and interest.
D	A 'D' rating indicates default.

※ Ratings of Commercial Papers and Electronic Short-Term Bonds

A1	The capacity for timely payment is extremely strong.
A2	The capacity for timely payment is very strong, but somewhat less than 'A1.'
A3	The capacity for timely payment is very good, but somewhat less than 'A2.'
B	The capacity for timely payment is good, but depending on short-term changes in the environment, may be speculative.
C	The capacity for timely payment is poor and is considered highly speculative.
D	A 'D' rating indicates default.

H. Matters Concerning Whether the Company's Stock Certificates are Listed (or Registered or Designated) and Special Listing

Whether Listed (or Registered or Designated)	Date Listed (or Registered or Designated)	Whether Specially Listed, Etc.	Applicable Law Such as Special Listing, Etc.
Securities market	January 5, 2018	Not applicable	Not applicable

2. History of the Company

A. History of the Company

- 1969** Founded Sunkyung Synthetic Fiber
- 1987** Acquired Samshin Pharmaceutical
- 1989** Established Life Science Research Institute
- 1998** Changed the company name to SK Chemicals
- 1999** Developed Sunpla®, the world's first 3rd generation platinum complex anticancer drug (Korea's first new drug)
- 2002** Launched Joins®, an arthritis treatment (First natural treatment)
- 2005** Established SK Petrochemical (DMT business)
Merged with SK Pharmaceutical

- 2006** Merged with Dongshin Pharmaceutical (Began the vaccine and blood products businesses)
Developed biodiesel production technology
- 2008** Acquired UB Care Co., Ltd., a healthcare company
- 2009** Launched Ecogen®, a biomass-containing polyester resin
Licensed out hemophilia treatment of NBP601, a new biopharmaceutical drug (CSL Limited.), for the first time in Korea
- 2012** NBP601 selected as Top 10 New Technologies in Korea
Completed the construction of Andong Vaccine Plant (L House)
- 2013** Established Initz Co., Ltd. (Began the PPS business through a joint venture with Teijin Limited)
- 2014** Pursued a joint development of next generation pneumococcal vaccine with Sanofi Pasteur SA
Andong Vaccine Plant (L House) approved to be qualified for KGMP (Korea Good Manufacturing Practice)
- 2015** Launched SKYCellflu® Trivalent (Korea's first cell-cultured influenza vaccine)
- 2016** Launched SKYCellflu® Quadrivalent (World's first quadrivalent cell-cultured influenza vaccine)
Launched Afstyla (NBP601), a hemophilia treatment (CSL Limited.)
- 2017** Launched SKYZoster® (World's second and Korea's first herpes zoster vaccine)
Launched a holding company (Surviving entity: SK Discovery / Newly established entity: SK Chemicals)
- 2018** Entered into a technology transfer agreement with Sanofi Pasteur for the production of highly efficient influenza vaccines
Launched SKYVaricella® (Varicella vaccine)
Established SK Bioscience (through a split-off of the vaccine business)
- 2019** Merged with Initz Co., Ltd.
- 2020** Sold off the bio-energy business
- 2021** Listed SK Bioscience on the securities market
Established SK Multi-Utility (through a split-off of the utility supply business)
Sold off the PPS business
Commercialized ECOTRIA CR
- 2022** Commercialized SKYPET CR (Korea's first chemically recycled PET)
Received UL Low Carbon Certification for CR-Copolyester

B. Location of the Company's Head Office and Its Change

310 Pangyo-ro (Sampyeong-dong), Bundang-gu, Seongnam-si, Gyeonggi-do

C. Important Changes in the Senior Management

Date of Change	Type of General Meeting of Shareholders	Appointment		Expiry or Dismissal
		Newly Appointed	Reappointed	
2017.12.01	-	Chief Executive Officer Kim Cheol Chief Executive Officer Park Man-hoon Independent Director Choi Jeong-hwan Independent Director Ahn Deok-geun Independent Director An Yang-ho	-	-

2019.03.25	Regular Meeting of Shareholders	Chief Executive Officer Jeon Kwang-hyun Independent Director Park Jeong-su	-	Independent Director Ahn Deok-geun
2020.12.01	-	-	-	Independent Director An Yang-ho
2021.03.31	Regular Meeting of Shareholders	-	Independent Director An Yang-ho	-
2022.03.28	Regular Meeting of Shareholders	Non-Executive Director Ahn Jae-hyun	Chief Executive Officer Jeon Kwang-hyun Independent Director Park Jeong-su	-

※ The Company was established through a split-off from SK Discovery Co., Ltd. (formerly, SK Chemicals Co., Ltd.) on December 1, 2017, the date of the split-off.

D. Changes in the Largest Shareholder

When the Company was split off and newly established on December 1, 2017, the largest shareholder of the Company was Vice Chairman Choi Chang-won.

However, as a result of SK Discovery's tender offer for the Company's registered common shares on April 19, 2018, SK Discovery Co., Ltd. held 24.15% (3,148,571 shares) of the Company's total issued shares at that time and became the largest shareholder.

E. Change of the Trade Name

The Company was newly established on December 1, 2017 under the trade name "SK Chemical" through the split-off of the Green Chemicals and Life Science businesses previously operated by SK Discovery Co, Ltd. pursuant to the provisions of Articles 530-2 to 530-11 of the Commercial Act.

F. If the Company Has Executed Merger, Their Relevant Details

What follows are the matters which have taken place within the last 5 business years.

1) Decision to merge with SK Petrochemical Co., Ltd.

- Date of merger: May 1, 2018

For more details, please refer to "XI. Other Matters Required for the Investor Protection - 4. Other Matters Such as Major Issues Which Arose After the Reference Date of Preparation - B. Post-merger Information, Etc. - 2) Merger with SK Petrochemical".

2) Decision to split off the Vax. business division

- Date of split-off: July 1, 2018

For more details, please refer to "XI. Other Matters Required for the Investor Protection - 4. Other Matters Such as Major Issues Which Arose After the Reference Date of Preparation - B. Post-merger Information, Etc. - 3) Split-off and New Establishment of SK Bioscience".

3) Merger and Acquisition of Initz Co., Ltd.

- Date of merger: December 1, 2019

For more details, please refer to "XI. Other Matters Required for the Investor Protection - 4. Other Matters Such as Major Issues Which Arose After the Reference Date of Preparation - B. Post-merger Information, Etc. - 2) Merger and Acquisition of Initz Co., Ltd."

4) Split-off of the Utility Supply Business Division

- Date of split-off: December 1, 2021

For more details, please refer to "XI. Other Matters Required for the Investor Protection - 4. Other Matters Such as Major Issues Which Arose After the Reference Date of Preparation - B. Post-merger Information, Etc. - 2) Split-off of the Utility Supply

Business Division”.

G. Details of Other Important Matters Related to the Business Management Activities

What follows are the matters which have taken place within the last 5 business years.

[SK Chemicals]

1) Decision to Participate in Initz Co., Ltd.'s Paid-in Capital Increase

The Company decided to participate in the paid-in capital increase for its subsidiary of Initz Co., Ltd. via a resolution of the board of directors on February 12, 2018, whose details are as follows.

- Details of the acquisition: 998,250 convertible preferred stocks
- Amount of acquisition: KRW 59,895,000,000
- Number of stocks owned and the shareholding ratio after acquisition: 9,580,890 stocks, 66%

2) Execution of a Vaccine Technology Transfer Agreement

On February 12, 2018, the Company executed an agreement on the transfer of production technology for high-efficiency influenza vaccines with Sanofi Pasteur, whose details are as follows.

- Counterparty: Sanofi Pasteur Inc. of the United States
- Details of the technology: A cell-culture-based high-efficiency influenza vaccine production technology
- Contractual terms and conditions
 - ▶ Total amount of technology export: US\$ 155,000,000
 - ① Upfront Fee: US\$ 15,000,000
 - ② Milestone for the completion of technology transfer: US\$ 20,000,000
 - ③ Milestone for each phase: US\$ 120,000,000
 - ▶ Royalties: Scheduled to receive sales royalties depending on the sales amount achieved.

3) Decision to Acquire the Stocks and Equity Securities of Another Corporation

Through the board of directors on April 24, 2019, the Company decided to purchase the entire interest Teijin, a partner in joint venture, owns in Initz Co., Ltd. and converted Initz Co., Ltd. into a wholly owned subsidiary on May 22, 2019.

- Target stock: Initz Co., Ltd.
- Number of stocks acquired: Common stocks and preferred stocks worth KRW 45 billion
- Date of acquisition: May 22, 2019
- Method of acquisition: Cash acquisition

4) Decision on the Paid-in Capital Increase through Third-party Allocation

On April 24, 2019, the Company's board of directors decided to issue new stocks for Teijin Co., Ltd. based on the 3rd party allocation method for the continued cooperation for the PPS business, whose details are as follows.

- Type and number of new stocks: 161,544 common stocks
- Issuing price: KRW 69,600
- Amount of capital increase: KRW 11,243 million
- Date of payment: May 23, 2019
- Date of issuance of new stocks: June 5, 2019

※ The new stocks above are deposited with the Korea Securities Depository on the date of issuance of new stocks in accordance with the execution of restrictions on the resale provided under Article 2-2 Paragraph 2 Subparagraph 1 of the Regulations on Issuance and Disclosure of Securities, Etc., and the withdrawal and sale of the relevant securities are restricted for 1 year from the date of deposit.

5) Decision to Transfer the Bio-energy Business

On February 5, 2020, the Company decided to transfer the bio-energy business to 'Han & Co No.16 Co., Ltd.' through a resolution of the board of directors. On February 19, 2020, Han & Co No.16 Co., Ltd. transferred its status as a contracting party and any and all rights and obligations under the same contract to K-Green System Co., Ltd., a wholly owned subsidiary of the Company. As of the date of report submission, K Green System Co., Ltd. has changed its trade name to SK Eco Prime. The Company held an extraordinary meeting of stockholders on March 17, 2020 and received shareholder approval for the matter.

The overview of the relevant contract is as follows.

- Sold to: SK Eco Prime
- Business transferred: Bio-energy business
- Transfer price: KRW 385.2 billion
- Date of contract execution: February 5, 2020
- Date of extraordinary meeting of shareholders: March 17, 2020
- Date of transaction closing: May 29, 2020

※ For details of this transfer, refer to the report on major issues which the Company submitted to the electronic disclosure system on February 5, 2020 (correction disclosure made on July 14, 2020) and the report on the closing of merger, etc., submitted to the electronic disclosure system on May 29, 2020.

6) Publicly Offered Sales of SK Bioscience

Following the listing of SK Bioscience, the Company's subsidiary, on the securities market, the Company decided to publicly offer and sell the old stocks of the relevant subsidiary on February 5, 2021. For more information, refer to the securities declaration initially submitted by SK Bioscience on February 5, 2021.

7) Decision on the Capital Increase without Consideration

Based on the resolution of the board of directors dated October 7, 2021, the Company decided to carry out a capital increase without consideration for the allotment of new shares in the ratio of 0.5 share for each share held by the shareholders (excluding treasury shares) registered in the list of shareholders as of the date of new shares allocation.

The details of the allocation following the execution of the capital increase without consideration are as follows.

- Details of the Allocation Following the Capital Increase without Consideration

(Unit: stocks)

Classification	Before the Capital Increase without Consideration	Details of the Allocation Following the Capital Increase without Consideration	After the Capital Increase without Consideration
Common stocks (excluding treasury stocks)	11,738,768	5,869,384	17,608,152
Preferred stocks (excluding treasury stocks)	1,313,519	656,759	1,970,278
Treasury stocks	157,779	-	157,779
Total	13,210,066	6,526,143	19,736,209

Following the execution of the capital increase without consideration, the Company acquired treasury stocks (18,229 common stocks, 2,982 preferred stocks) in order to process fractional shares on November 9, 2021.

[SK Bioscience]

The Company's subsidiary, SK Bioscience, was established on July 1, 2018, through the physical split-off of SK Chemical's VAX business division, and its main history is as follows.

Year	History
2001	Acquired Dongshin Pharmaceutical
2005	Established the Vaccine R&D Center

2009	Licensed out NBP601 (hemophilia treatment), Korea's first new biopharmaceutical drug (CSL)
2012	Completed the construction of a vaccine production plant (Andong L House)
2013	Signed a joint development and global supply agreement for typhoid vaccine (IVI, BMGF)
2014	Executed a contract on the joint development of next-generation pneumococcal vaccine (Sanofi)
2015	Released Korea's first trivalent cell culture-based influenza vaccine
2016	Released the world's first quadrivalent cell-cultured influenza vaccine
2017	Executed a contract on the joint development and production of pediatric enteritis vaccine for developing countries (PATH, BMGF) Released the world's second herpes zoster vaccine
2018	Executed a contract on the export of cell cultured flu vaccine production technology (Sanofi) Released chickenpox vaccine Established SK Bioscience Co., Ltd. (by splitting off the SK Chemicals' VAX business division on July 1, 2018)
2019	Acquired WHO PQ certification for trivalent and quadrivalent influenza vaccines and varicella vaccine
2020	Entered global phase 2 clinical trial for next-generation pneumococcal vaccine (Sanofi) Initiated development of COVID-19 vaccine Received BMGF grant for development of COVID-19 vaccine Executed a contract on the COVID-19 Capacity Reservation (CEPI) Executed a COVID-19 CMO contract (AstraZeneca) Executed a COVID-19 CDMO contract (Novavax)
2021	Executed a contract on the introduction of Novavax's COVID-19 vaccine technology Listed on the securities market (March 18, 2021) Acquired EU GMP for the first time as a vaccine company in Korea (Andong L House) Received IND approval for a phase 3 clinical trial plan for the COVID-19 vaccine candidate, 'GBP510'
2022	Obtained domestic product approval for Novavax COVID-19 vaccine Signed a pre-purchase agreement for the COVID-19 vaccine 'GBP510' with the government Received IND approval for a phase 3 clinical trial plan for the 'GBP510' COVID-19 Booster Vaccine Received export product approval for typhoid vaccine (SKYTyphoid Multi Inj.) Obtained domestic product approval for COVID-19 vaccine 'SKYCovione (GBP510)' from the Ministry of Food and Drug Safety

[SK Multi-Utility]

The Company's subsidiary, SK Multi-Utility, was established on December 1, 2021, through the physical split-off of SK Chemical's power, steam and other utility supply divisions, and its main history is as follows.

Year	History
1989	Completed the construction of a coal-fired boiler
2009	Completed the construction of environment friendly Eco Green Boiler
2021	Established SK Multi-Utility (by physically splitting off SK Chemical's power, steam and other utility supply divisions on December 1, 2021)
2022	Signed an EPC contract for an LNG CHP plant

H. History of the Major Consolidated Subsidiaries

Name of Company	Date	Key Details
SK Petrochemical	2014.09	Change of the largest shareholder (SK Global Chemicals → SK Syntech)
	2017.03	Change of the largest shareholder (SK Syntech → SK Chemicals)
	2018.05	Merged and acquired by SK Chemicals
Initz	2019.05	Converted into a wholly owned subsidiary (66% → 100%)
	2019.12	Merged and acquired by SK Chemicals
SK Bioscience	2018.07	Newly established by splitting off the vaccine business division of SK Chemicals
	2021.03	Listed on the securities market
SK Multi-Utility	2021.12	Newly established by splitting off the utility supply business division of SK Chemicals

3. Changes in Capital

A. Changes in the Capital

The Company issued 161,544 common stocks in 2019, 5,879,384 common stocks and 656,759 preferred stocks in 2021, and 22,492 stocks in 2022, thereby increasing its capital by KRW 33,600,895,000.

(Unit: KRW, stocks)

Type	Classification	The 6th Period (End of 2022)	The 5th Period (End of 2021)	The 4th Period (End of 2020)	The 3rd Period (End of 2019)	The 2nd Period (End of 2018)
Common stocks	Total number of issued stocks	17,253,783	17,620,780	11,741,396	11,741,396	11,579,852
	Par value	5,000	5,000	5,000	5,000	5,000
	Capital	88,216,360,000	88,103,900,000	58,706,980,000	58,706,980,000	57,899,260,000
Preferred stocks	Total number of issued stocks	2,115,429	2,115,429	1,458,670	1,458,670	1,458,670
	Par value	5,000	5,000	5,000	5,000	5,000
	Capital	10,577,145,000	10,577,145,000	7,293,350,000	7,293,350,000	7,293,350,000
Total	Capital	98,793,505,000	98,681,045,000	66,000,330,000	66,000,330,000	65,192,610,000

※On September 28, 2002, the board of directors decided to retire 389,489 treasury stocks held by the Company, and the retirement did not result in a reduction of the Company's capital.

4. Total Number of Stocks, Etc.

A. Status of the Total Number of Stocks

(Reference date: 2022.12.31)

(Unit: stocks)

Classification	Type of stock			Note
	Common stocks	Preferred stocks	Total	

I. Total number of stocks to be issued	40,000,000	10,000,000	50,000,000	-
II. Total number of stocks issued to date	17,643,272	2,115,429	19,758,701	-
III. Total number of stocks decreased to date	389,489	-	389,489	-
	1. Capital reduction	-	-	-
	2. Retirement of profits	389,489	-	389,489
	3. Redemption of redeemable shares	-	-	-
	4. Others	-	-	-
IV. Total number of issued shares (II-III)	17,253,783	2,115,429	19,369,212	-
V. Number of treasury stocks	30,857	148,133	178,990	-
VI. Number of outstanding stocks (IV-V)	17,222,926	1,967,296	19,190,222	-

※ As a result of the exercise of stock options on November 11, 2022, the number of common stocks increased by 22,492.

※ On September 28, 2022, the board of directors decided to retire 389,489 treasury stocks held by the Company, and the retirement was completed on October 5, 2022.

※ 5,869,384 common stocks and 656,759 preferred stocks were increased as a result of the capital increase without consideration on October 22, 2021.

※ As a result of the exercise of stock options on April 2, 2021, the number of common stocks increased by 10,000.

※ On May 4, 2020, treasury shares (948 common stocks, 143,767 preferred stocks) were acquired through the exercise of the shareholders' right to purchase shares in connection with the transfer of the bio-energy business.

※ The common stocks increased by 161,544 as a result of the execution of the paid-in capital increase by third party allocation on May 24, 2019.

B. Status of the Treasury Stock Acquisition and Disposal

(Reference date: 2022.12.31)

(Unit: stocks)

Method of acquisition	Type of stock	Beginning balance	Change			Closing balance	Note	
			Acquisition (+)	Disposal (-)	Share retirement (-)			
Amount of shares acquired within profits available for dividends	Direct acquisition	Direct acquisition in exchange	Common stocks	-	-	-	-	-
			Preferred stocks	-	-	-	-	-
		Direct acquisition in OTC	Common stocks	-	-	-	-	-
			Preferred stocks	-	-	-	-	-
		Tender offer	Common stocks	-	-	-	-	-
			Preferred stocks	-	-	-	-	-
	Subtotal (a)	Common stocks	-	-	-	-	-	
		Preferred stocks	-	-	-	-	-	
	Acquisition by trust contract	Number of shares indirectly held through trust contracts	Common stocks	-	-	-	-	-
			Preferred stocks	-	-	-	-	-
		Number of shares directly held	Common stocks	-	389,489	-	389,489	-
			Preferred stocks	-	-	-	-	-
		Subtotal (b)	Common stocks	-	389,489	-	389,489	-
			Preferred stocks	-	-	-	-	-
Amount of shares acquired for other reasons (c)	Common stocks	30,857	-	-	-	30,857	-	
	Preferred stocks	148,133	-	-	-	148,133	-	
Total (a+b+c)	Common stocks	30,857	389,489	-	389,489	30,857	-	
	Preferred stocks	148,133	-	-	-	148,133	-	

※ On September 28, 2022, the board of directors decided to retire 389,489 treasury stocks directly held by the Company.

* On March 22, 2022, 389,489 common stocks were acquired by entering into a trust agreement for the acquisition of treasury stock. Upon termination of the trust agreement, the acquired stocks were received in kind.

※ On November 9, 2021, the Company acquired treasury stocks (18,229 common stocks, 2,982 preferred stocks) to process fractional shares resulting from the execution of the capital increase without consideration.

※ On May 4, 2020, treasury shares (948 common stocks, 143,767 preferred stocks) were acquired through the exercise of the shareholders' right to purchase shares in connection with the transfer of the bio-energy business.

※ On January 17, 2018, the Company acquired treasury stocks (11,680 common stocks, 1,384 preferred stocks) to process fractional shares resulting from the split-off.

C. Progress Status of the Execution and Termination of the Trust Agreements for Treasury Stocks

(Reference date: 2022.12.31)
(times)

(Unit: KRW one million, %, No. of

Classification	Contract period		Contract amount (A)	Amount of acquisition (B)	Progress (B/A)	Changes in trade direction		Date of reporting results
	From	To				No. of times	Date	
Termination of trust	March 23, 2022	September 22, 2022	50,000	49,907	99.81	-	-	September 22, 2022

D. Status of the Issuance of Different Classes of Stocks (Preferred Stocks)

(Unit: KRW)

Date of Issuance		December 1, 2017		
Issuing price per stock (par value)		39,791	5,000	
Total amount of issuance (number of stocks issued)		84,174,339,850	2,115,429	
Current balance (current number of stocks)		84,174,339,850	2,115,429	
Details of stocks	Duration (valid period for preferred stock rights)		-	
	Matters concerning the profit dividend		<ul style="list-style-type: none"> - For the preferred stocks without the voting rights, an additional 1% per year in terms of the par value shall be paid out in cash rather than the dividends for the common stocks. - Dividends on the preferred stocks may not be paid if no dividends are paid on the common stocks. 	
	Matters concerning the distribution of residual assets		-	
	Matters concerning the redemption	Holder of the redemption right	None	
		Terms and conditions of the redemption	-	
		Method of redemption	-	
		Period of redemption	-	
		Maturity value per stock	-	
	Matters concerning the conversion	If redemption is planned for 1 year or less		-
		Holder of the conversion right	None	
Terms and conditions of the conversion		-		

	(including whether the conversion ratio has changed)	
	Exercise of conversion right since issuance	N
	Period of conversion claim	-
	Types of stocks to be issued following the conversion	-
	Number of stocks to be issued following the conversion	-
	Matters concerning the voting rights	<ul style="list-style-type: none"> – Registered preferred shares to be issued by the Company shall be non-participating, non-cumulative, indefinite, non-voting shares. – In the event that a prescribed dividend cannot be paid out of the profits of the relevant business year for the preferred stocks, it shall be deemed that, from the general meeting following the general meeting at which a resolution to not pay out the prescribed dividend for the preferred stocks is made until the closing of the general meeting at which a resolution to pay out the preferred dividend is made, the relevant stocks shall have voting rights.
	Other matters to be factored into investment decisions (inter-shareholder agreements and financial agreements, etc.)	<ul style="list-style-type: none"> – The date of issuance above is the date of the split off of the Company. – The total amount of issuance and the current balance above are the figures that were obtained by multiplying the number of preferred stocks by dividing the sum of the capital at the point in time of the split off and establishment and the excess amount of the stock issuance of the Company by the total number of issued shares. – The issuing price per stock above is the amount obtained by dividing the total issuance amount by the total number of issued stocks.

5. Matters Concerning the Articles of Incorporation

A. History of the Changes Made to the Articles of Incorporation

The history of the changes made to the Company's Articles of Incorporation during the period subject to disclosure is as follows.

Date of Change of the Articles of Incorporation	Name of the Relevant General Meeting of Shareholders	Major Changes	Reason for the Relevant Change Made
2020.03.25	The 3rd Regular Meeting of Shareholders	<ol style="list-style-type: none"> 1. Amendment of the full text of the provisions - reflective of the SKMS amendments such as business management goals 2. Deletion of the list of shareholders' closing procedures - only the reference date system is operated 3. New establishment of the Company's safety and health related plans 	<ol style="list-style-type: none"> 1. Reflection of the details of the SKMS amendments 2. Lack of need for the closing procedures for the list of shareholders given the introduction of the electronic securities system 3. Reflection of the amended Occupational Safety and Health Act
2021.03.31	The 4th Regular Meeting of Shareholders	<ol style="list-style-type: none"> 1. Addition of the registered class stocks as the stocks to be issued following the exercise of stock option 	<ol style="list-style-type: none"> 1. Expansion of the scope of stocks subject to stock option
2022.03.28	The 5th Regular Meeting of Shareholders	<ol style="list-style-type: none"> 1. Cancellation of share classes upon introduction of electronic securities system 2. Alignment of the end date of directors' terms of office with the conclusion of the annual regular meeting of shareholders 3. Establishment of new provisions on the reasons for the introduction of an interim dividend system 	<ol style="list-style-type: none"> 1. Lack of need to distinguish share classes due to the introduction of electronic securities system 2. Elimination of risks arising from the mismatch between the end of the term of office and the date of the regular meeting of shareholders, such as a gap in a director's term of office 3. Establishment of new provisions for the interim dividend system in accordance with the interim dividend plan to be implemented as part of the shareholder return policy

II. Details of the Business

1. Business Overview

With its head office located in Pangyo, the Company is operating 3 production plants in Korea which are in Ulsan, Cheongju, and Andong, 2 production plants in Soju and Yantai, China, and local entities and regional offices in the United States, Germany, Japan, and Malaysia, etc.

In terms of business divisions, Green Chemicals Biz, which oversees the eco-friendly materials business, produces and sells polyester-based specialty polymers (copolyesters), adhesives and coatings, etc., and is developing new growth engines with the commercialization of PO3G, a biomaterial, etc. Life Science Biz., which oversees the pharmaceutical and biotechnology businesses, is engaged in the production and sale of new drugs developed in-house, such as a natural substance-based arthritis treatment and a blood circulation enhancer, and premium vaccines such as the world's first cell-cultured quadrivalent influenza vaccine developed by its subsidiary SK Bioscience and herpes zoster vaccine.

In particular, as the transition to the COVID-19 endemic is underway, the Company's subsidiary SK Bioscience is expanding its vaccine portfolio to target the COVID-19 endemic vaccine and the premium vaccine market based on its vision '[SKBS 3.0: Become a Recognized Vaccine Manufacturer]'.

Key examples include an ongoing project with Sanofi to develop a next-generation pneumococcal vaccine and a project to develop a multivalent COVID-19 vaccine for future coronavirus related disease epidemics.

With these portfolio expansion efforts in mind, the Company is pursuing projects that can create synergies, such as 1) "Glocalization" which enhances SK Bioscience's global production capabilities by presenting the capabilities as business models, 2) participation in CEPI's 100 Day Mission (a project to accelerate vaccine development), which is a representative project to prepare for the "next pandemic", and 3) expansion into new bio areas such as CGT (cell gene therapy).

The main products which the Company offers by business division are as follows.

- Green Chemical Biz.: Highly functional copolyester resin, DMT, copolyester adhesive, etc.
- Life Science Biz. (pharma business division): Natural substance based and synthetic pharmaceuticals such as Joins, Ginexin, Rivastigmine Patch, etc.
- Life Science Biz. (SK Bioscience): COVID-19 vaccine, Boostrix, fluid, etc.

The Company's consolidated sales amount as of the end of 2022 are KRW 1.8291 trillion, 77% of which is in Green Chemicals Biz., 17% in Life Science Biz. (Pharma Biz.), 25% in SK Bioscience, and -19% in others. By region, the structure of sales is 57% exports and 43% domestic consumption.

As for the details of "1. Businesses Overview" above and any details not included, etc., refer to "2. Key Products and Services" of "II. Details of the Businesses" through "7. Other Matters for Reference."

2. Key Products and Services

A. Key Product Sales

The Company's Green Chemicals Biz. provides distinct products according to its customer needs including copolyester resins, adhesives and coatings. The Life Science Biz. is engaged in the health care business in the 2 fields of pharmaceutical business (pharma business division) and the vaccine business (SK Bioscience). The net sales amount and the weight of sales by business division are as follows.

(Reference date: 2022.12.31)

(Unit: KRW one million, %)

Division		Key Products	Sales amount	Weight
Green Chemicals Biz.		Highly functional copolyester resin, DMT, copolyester adhesive, etc.	1,401,947	76.6
Life Science Biz.	Pharma Business	Natural substance based and synthetic drugs (arthritis treatment, blood circulation improving agent, etc.), etc.	313,933	17.2
	SK Bioscience	COVID-19 vaccine, Boostrix, fluid, etc.	456,726	25.0
		Others	(343,414)	-18.8
		Total	1,829,191	100.0

B. Key Products

1) Green Chemicals Biz. [SKYGREEN]

Copolyester resin

Copolyester (PETG, PCTG) SKYGREEN is used for a variety of applications ranging from household goods to industrial materials such as cosmetic containers, electronic parts and building materials due to its excellent transparency, chemical resistance, processability and moldability. From CHDM, a key raw material, to copolyester, the company has developed a stable production system based on vertical integration.

[ECOZEN] Bio copolyester resin

Launched in 2009, ECOZEN is a product that offers improved heat resistance compared to the previous copolyester SKYGREEN product through the introduction of biomass (plant) derived ingredients (1-15% based on carbon weight). In addition, it does not contain the bisphenol derivatives (BPA, etc.) or phthalate-based plasticizers restricted by EU RoHS regulations, and meets the requirements for food contact materials in Korea, the United States, Europe, China, and Japan. Due to its excellent properties, ECOZEN is used in a wide range of applications including electronic products, food containers and baby products.

[ECOTRIA] Resource circulated copolyester resin

Ecotria is a copolyester product that uses 30 - 50% of post-consumer recycled materials as its raw materials. It consists of the R series, which is a mixture of the physically recycled raw materials, and the CR series, which uses chemically recycled raw materials, and offers products which are in line with the definition of PET under ASTM D7611-20. Ecotria can be used in a variety of applications, including cosmetic containers, packaging materials and household products, and offers a level of transparency, physical performance and moldability that is close to a conventional copolyester product.

[SKYDMT] DMT

DMT is primarily used for the synthesis of polyesters such as PET and PBT via transesterification, and is also used for products requiring high quality such as films, fibers, engineering plastics, and adhesives. In addition, the Company's DMT is used as a raw material for CHDM for copolyester production.

[SKYBON] Polyester resin for coating and adhesion

SKYBON, a high molecular weight polyester resin, is attracting attention as a resin for bonding and coating in various fields, including steel sheets for household appliances and food can coatings, due to its flexibility and excellent adhesion, and its application in solvent-free hot-melt products that do not use organic solvents is expanding to adhesive resins for thermal transfer films for clothing, due to its excellent wash resistance. In addition, the Company is expanding its portfolio of water-based polyester resins and developing high-performance special resins that can be used for rapidly developing electrical and electronic components and materials to respond to the trend toward environmentally friendly products.

[SKYPURA] PCT

As a PCT material, SKYPURA is a type of super engineering plastic made on the basis of CHDM. With excellent thermal stability, reflectivity and light resistance, it is used in LED reflectors for TVs and lighting. Due to its excellent electrical properties and high heat resistance, it is increasingly used in electrical and electronic components such as SMT connectors. Recently, its use in automotive films and high-heat resistant fibers has increased due to its heat resistance, durability and insulation resistance.

[SKYPEL] TPEE

SKYPEL is a thermoplastic elastomer based on high molecular weight polyester. As an elastic material with intermediate characteristics between plastic and rubber, it is used in a range of applications such as automobiles, E&E, fiber, and film. With the recent emphasis on aesthetic and tactile properties, the demand for TPEE, which offers excellent cost effectiveness, is expanding into footwear and synthetic leather materials, making it an attractive material with an average annual growth rate of 6%. The Company continues to expand the market by developing unique materials with low hardness but excellent physical properties and products that can meet customer needs.

[SKYTRA] Compound Product

SKYTRA, a compounding brand of SK Chemicals, is a product based on the high-functional resins produced by SK Chemicals, offering solutions to meet the needs of various customers. Based on the resin produced by SK Chemicals, it is achieving continuous growth through business development for various applications, including automobiles, electricity and electronics, and living environment.

[PO3G] 100% bio-based eco-friendly polyol

PO3G is a 100% new biomaterial that replaces polyols using conventional petroleum-based raw materials. Polyol is one of the key raw materials for polyurethane materials, which are widely used in synthetic leather, clothing, coatings and adhesives, and spandex fibers. Made from biological resources, PO3G is a renewable resource, not a finite resource like petroleum, which helps address global environmental and climate issues due to its low greenhouse gas (carbon dioxide) emissions. In terms of physical properties, it can also help realize excellent low-temperature properties, elastic recovery, elongation and excellent surface properties, satisfying various customer needs based on its distinct product development. The PO3G commercial facility was commissioned in March 2022, and is currently equipped with a 5,000 tons per year mass production system. The Company plans to pioneer into a full-scale eco-friendly materials market with the facility as a new growth engine.

2) Life Science Biz.

(1) Pharmaceutical business (pharma business division)

[Joins] Number 1 natural arthritis treatment in Korea

Joins is the first herbal medicine ingredient for arthritis treatment in Korea, and in clinical trials conducted at 5 general hospitals including Seoul National University Hospital, has shown proven anti-inflammatory and analgesic effects and low side effects equivalent to those of the existing anti-inflammatory analgesics. It has been evaluated as a drug that fundamentally treats arthritis, demonstrating a protective effect on cartilage tissue that goes beyond anti-inflammatory and analgesic action. Since its release, this flagship product has generated cumulative sales amount of more than KRW 543.4 billion as of Q4 2022.

[Ginexin F] Ginkgo leaf blood circulation improving agent

Ginexin F, a blood circulation improving agent, is SK Chemicals' flagship brand that has maintained the largest share in the relevant market. As of Q4 2022, it has achieved cumulative sales amount of KRW 506.8 billion since its release. Manufactured by extracting active ingredients such as ginkgo fluoride from ginkgo leaves using proprietary technology, this product lowers blood viscosity and dilates blood vessels. In 2010, the anticoagulant "Renexin", which combines cilostazol, a thrombolytic agent, with Ginexin F, was launched and received positive feedback by improving efficacy and reducing side effects. With the launch of "Renexin CR Tablet" in June 2020, with improved dosage compliance and convenience, the Company is strengthening its position in the Korean market for blood circulation disorders.

[Rivastigmine Patch] A patch-type dementia treatment

Rivastigmine patch (product name in Korean: Wondrone), a patch-type dementia treatment first developed by SK Chemicals in Korea, was approved as the first generic drug in Europe in 2013, demonstrating SK Chemicals' technological strength in Europe, and continues to maintain its No. 1 position with the largest share of the European generic drug market. The Company secured approvals in Australia and Colombia in 2016, Mexico and Jordan in 2017, Canada in 2018, FDA approval in the United States in 2019, and Brazil in 2021, and continues to expand overseas markets.

[Mvix S] Ranked 1st in the International Index of Erectile Function (IIEF), the world's first film-type erectile dysfunction treatment

SK Chemicals is building a diversified portfolio of formulations by launching the world's first film-type erectile dysfunction treatment, Mvix S, in 2011, and high-dose film-type formulations in 2012. Mvix S has been well received in the market as a product that maximizes the convenience of carrying and taking by innovatively transforming existing tablets into a film formulation that is thin and light enough to fit in a wallet. In 2014, the formulation of Mvix S was improved to dramatically reduce its melting speed and size, making it even more convenient.

[Trast] A powerful knee arthritis treatment effect

Since its release in 1996, Trast has grown into a most notable Korean brand as a patch-type knee arthritis treatment that has been consistently loved by many. Because it is applied directly to the knee joint and acts on the sore knee, it has the advantage of minimizing the side effects of existing medications while maximizing the effectiveness of treating knee osteoarthritis. An anti-inflammatory and analgesic drug, Piroxicam is delivered at the same concentration via Trans-dermal Drug Delivery System (TDDS) technology, and its greatest strength is that a single application lasts 48 hours.

(2) Vaccine business (SK Bioscience)

[SKYCovione]

'SKYCovione' is a synthetic antigen-based COVID-19 vaccine co-developed by the Institute for Protein Design (IPD) at the University of Washington and SK Bioscience using GlaxoSmithKline's AS03 immune booster. Funded by the Bill & Melinda Gates Foundation and the Center for Epidemic Prevention and Innovation (CEPI), the project also received institutional support from the Korean government. The vaccine was approved by the Korean Ministry of Food and Drug Safety after demonstrating excellent immunogenicity and safety in a global phase 3 clinical trial with a comparator provided by AstraZeneca, the Company's CMO collaborator during the COVID-19 pandemic. It can be supplied globally, including the underdeveloped countries that do not have expensive ultra-low temperature facilities, as it can be refrigerated and stored for long periods.

[SKYCellflu]

'SKYCellflu' is a cell-cultured influenza vaccine that the Company's subsidiary SK Bioscience has successfully commercialized for the first time in Korea for adults and for the first time in the world for children. Furthermore, following 'SKYCellflu', the Company launched 'SKYCellflu Quadrivalent', the world's first cell-cultured quadrivalent influenza vaccine which can simultaneously prevent 4 types of viruses. The Company plans to aggressively enter the global market with 'SKYCellflu Quadrivalent', a next-generation influenza vaccine.

The cell culture method is a new vaccine production technology that uses animal cells to grow a virus and then convert it into a vaccine. The previous fertilized egg culture method required more than 6 months to produce the fertilized eggs used for vaccine production, which meant that if the demand for vaccines suddenly increased due to a pandemic, or if the supply of fertilized eggs was disrupted due to external factors, including avian influenza, we were limited in our ability to respond effectively. Since the cell culture method is based on animal cells, the production period is only 2-3 months and has the advantage of providing a stable supply regardless of crisis situations such as avian influenza.

[SKYZoster]

'SKYZoster' is the first successfully commercialized herpes zoster vaccine in Korea and the second in the world by the

Company's subsidiary SK Bioscience. On September 29, 2017, the Ministry of Food and Drug Safety approved its marketing, which was the final stage of commercialization, and we began supplying it to hospitals and clinics across Korea on December 20, 2017, after starting full-scale production and receiving national shipment approval. Previously, a single herpes zoster vaccine product launched by a global pharmaceutical company in 2006 (launched in Korea in 2013) monopolized the global market of approximately KRW 820 billion* (Korean market of approximately KRW 80 billion). SK Bioscience's 'SKYZoster' is a live vaccine which has attenuated varicella zoster virus. After proving its safety in overseas specialized non-clinical testing institutes, 8 clinical institutes conducted clinical trials to confirm its efficacy and safety in adults aged 50 years or older and demonstrated non-inferiority of the product.

[SKYVaricella]

'SKYVaricella' is the Company's subsidiary SK Bioscience's fourth successful varicella vaccine, following 'SKYCellflu', 'SKYCellflu Quadrivalent' and 'SKYZoster'. 'SKYVaricella' was approved in June 2018 and has been supplied to hospitals across Korea since September 18, 2018, and was officially released after successfully undergoing pre-marketing quality verification procedures, such as national shipment approval.

The high immunogenicity of 'SKYVaricella' was confirmed by phase 3 clinical trials to verify efficacy and safety in a total of 499 children aged 12 months to 12 years at 19 domestic and overseas clinical trial sites. Commercialization of the varicella vaccine, one of the most important preventive vaccines, is expected to diversify profits and accelerate entry into overseas markets.

[AFSTYLA]

'AFSTYLA' is the world's first 'single-chain product' researched and developed by the Company's subsidiary SK Bioscience for the treatment of type A hemophilia. The technology was exported to CSL in 2009, and CSL conducted manufacturing, global clinical trials and applications for approval.

As a result, the drug received marketing approval from the U.S. Food and Drug Administration (FDA) and the European Medicines Agency (EMA), becoming the first new Korean biopharmaceutical product to enter the U.S. and EU markets. In addition, the Company has received marketing approval in other countries including Australia, Canada, Switzerland and Japan.

While previous hemophilia treatments have been a combination of two separate proteins, 'AFSTYLA' has completely combined the two proteins into one, dramatically improving stability while increasing efficacy and its duration. While previous products required regular administration 3 to 4 times per week, 'AFSTYLA' can achieve its preventive effect with only two administrations per week. In addition, the most serious side effect of hemophilia A treatments, a neutralizing antibody reaction (a reaction in which antibodies are formed to inhibit the action of the drug), was not reported at all in the global clinical trials, demonstrating the safety of the drug.

[CDMO/CMO business]

The Company's subsidiary SK Bioscience has various types of vaccine production technologies and also engages in development services, joint research and contract manufacturing with companies and institutions seeking to develop vaccines. Accordingly, since the outbreak of COVID-19, the Company has secured an opportunity for the contract vaccine manufacturing business and produced the stock solution and finished product of AstraZeneca's COVID-19 vaccine, 'Vaxzevria (AZD1222)', in SK Bioscience and performed contract manufacturing for AstraZeneca for its global supply. In addition, the Company entered into process development and contract development and manufacturing (CDMO) agreements for stock solution and a license in agreement for Novavax's COVID-19 vaccine, 'Nuvaxovid (NVX-CoV2373)'.

Based on the CDMO contract, SK Bioscience has developed the commercialization process by transferring the stock solution manufacturing technology from a company with the original vaccine technology and has produced and supplied vaccines worldwide.

[SK Multi-Utility]

In 2021, SK Chemicals established a new subsidiary, SK Multi-Utility, through a physical split-off to enhance its expertise and strengthen management efficiency by focusing on its core competencies in the utility supply business, including the electricity and steam businesses. The main products of the SK Multi-Utility business are heat (steam) and electricity, and it sells steam and electricity to customers within its supply area as a collective energy business operator and a deemed district electricity business operator.

SK Multi-Utility is currently investing in an LNG cogeneration plant to specialize in the industrial power and steam supply business, and aims to complete the plant in the first half of 2025.

3. Raw Materials and Production Facilities

A. Matters Concerning the Key Raw Materials

1) Status of the Purchase of Key Raw Materials

(Reference date: 2022.12.31)

(Unit: KRW one million)

Division	Type of Purchase	Item	Purpose of Use	Amount of Purchase	Major Place of Purchase
Green Chemicals Biz.	Raw materials	PTA, MEG	Main raw material for the copolyester resin production	229,457	PTA - Hanwha Impact, Taekwang Industrial MEG - Lotte Chemical, SK Networks
	Raw materials	PX, QTA	Main raw material for the DMT production	122,492	PX - SK Geo Centric QTA - Samnam Petrochemical
Life Science Biz.	Raw materials	Polaprezinc, Febuxostat, Rivastigmine	Main raw materials for Promac Tab./Fabric Tab./Dementia Patch	9,611	Enzychem Life Sciences, Teijin, Shodhana
	Raw materials	Raw materials for COVID-19/SKYCellflu/SKYZoster	Raw materials for COVID-19/SKYCellflu/SKYZoster	116,788	Lonza, Merck, Cytiva, Thermofisher, etc.

2) Trends in the Changes of the Major Raw Materials' Prices

(1) Green Chemicals Biz.

Green Chemicals Biz. uses PTA, MEG, and CHDM as raw materials to produce our highly functional copolyester resins and polyester adhesives. The prices of these raw materials are directly affected by oil prices and exchange rates. In particular, the price of purified terephthalic acid (PTA), a main raw material in copolyester resin, frequently rises and falls depending on the global economy and the supply and demand.

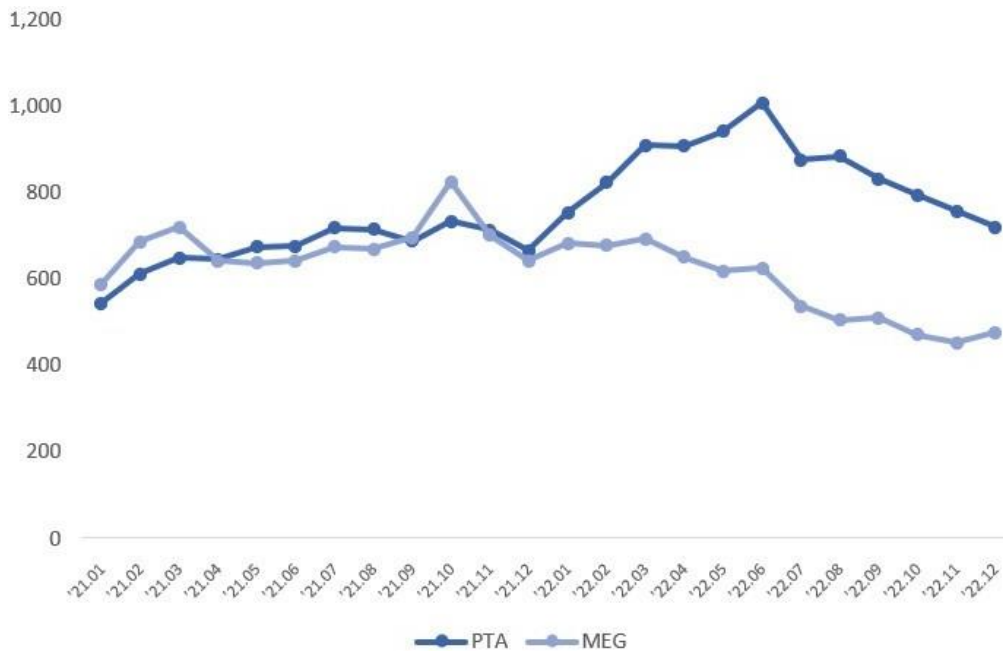
After a steady decline due to China's "zero corona" policy and the global economic downturn, oil prices rebounded significantly in early October following the OPEC+ decision to cut production by large amount. Since then, despite the easing of quarantine measures in China, prices have declined throughout the fourth quarter due to concerns about the spread of the corona virus in China and an economic slowdown.

The prices of PTA and QTA, our main raw materials, also declined due to upstream declines (oil prices, PX) and sluggish demand for chemical fibers, with international prices declining by USD 50/ton or more than in Q3.

MEG continued to decline due to weak downstream demand with the worst business environment continuing, but saw a rebound in December on expectations of China's reopening.

Price Trends of PTA and MEG

(Unit: \$/ton)



(Source: ICIS report)

(2) Life Science Biz.

Our Life Science Biz. inputs raw materials and materials into the manufacturing process to produce finished pharmaceutical products in specific formulations that can be administered to the human body in accordance with GMP. The prolonged war in Ukraine and Russia's suspension of gas supplies to Europe led to a continuous increase in the purchase price of some raw materials manufactured in Europe, and as production levels declined in the third quarter and did not recover, supply disruptions occurred.

In response, we advanced the timing of purchase orders from European manufacturing sources and strengthened SCM to stabilize the supply of raw materials we purchase through regular communication.

Compared with the third quarter, the issue of delayed shipments and transportation was resolved as oil prices stabilized and demand for freight transportation fell sharply.

SK Bioscience's biopharmaceutical raw materials have relatively low demand elasticity depending on price fluctuations and are less affected by economic trends. This means that the price of key raw materials and subsidiary materials is usually negotiated in the form of annual contracts. The Company provides the expected volume of demand based on the annual usage history and business plan, and the vendors determine the discount rate for each item based on the list price to determine the final annual unit price.

Conventionally, the unit prices of raw materials and subsidiary materials fluctuate according to the annual inflation rate, labor cost, demand and supply, etc., while in the case of imported items, factors including exchange rate, transportation unit price, and customs agreement are additional considerations. Compared to the pandemic era, the supply and demand situation for raw materials has improved significantly, and the market is gradually reorganizing from a supply-dominated to a demand-driven

market. However, many of the suppliers who experienced the so-called “COVID-19 special demand” during the pandemic are reducing their production volumes as they realize that the expected sales of COVID-19 items will decrease. This has resulted in an increase in manufacturing costs, which has necessitated an increase in the cost of supply for corona related raw material items. While there are some direct cost increases due to volume reductions, the impact of general cost increases, rising raw material prices and inflation are more significant factors.

SK Bioscience is monitoring the factors of rising prices for the major raw and subsidiary materials and the supply and demand of quantities in real time, and we are strengthening our bargaining power and partnership with our suppliers, based on which the smooth supply of raw and subsidiary materials continues to be our top priority to ensure that there are no disruptions to the in-house production.

[SK Multi-Utility]

1) Status of the Purchase of Key Raw Materials

(Reference date: 2022.12.31)

(Unit: KRW one million)

Division	Type of Purchase	Item	Purpose of Use	Amount of Purchase	Major Place of Purchase
Supply of utilities such as electricity and steam	Raw materials	Bituminous coal	Fuel for steam and electricity production	54,840	Hanil International
	Raw materials	Wood chips	Fuel for steam production	2,183	Sungjin Industrial, D&G Industry, etc.

2) Trends in the Changes of the Major Raw Materials' Prices

The supply of utilities such as electricity and steam relies on raw materials such as bituminous coal and wood chips to generate steam and electricity. These raw materials experience boom and bust cycles depending on global economic conditions and changing supply and demand. In particular, the type of bituminous coal, a key raw material, varies by origin and calorific value, and the market fluctuates depending on the supply status of major producing countries. In January, the unit price spiked due to an Indonesian export ban and has remained at a high level due to the prolonged pandemic, supply disruptions in producing countries, export restrictions due to the Ukraine issue, resulting recession concerns, etc.

B. Matters Concerning the Production and Facilities

1) Production Capacity and the Calculation

Basis for Production Capacity

[SK Chemicals]

(1) Production capacity

Production capacity = Daily production capacity × Number of days of operation available

Business division	Item	The 6th Period	The 5th Period	The 4th Period
Green Chemicals Biz.	Copolyester resin, DMT, etc.	445,300 tons	445,300 tons (Note 1)	373,320 tons
	BON	15,330 tons	15,330 tons	15,330 tons
Life Science Biz.	Tablet (Note 2)	758,368,624 T	761,426,562 T	767,542,438 T
	Patch	65,620,800 P	65,885,400 P	66,414,600 P

(Note 1) The new copolyester production facility (#4) started operations on June 15, 2021, and the details above include the corresponding figures. Excluding the new production facilities, the 'production capacity' of the 5th period is 372,300 tons.

(Note 2) It refers to the production capacity of the production equipment itself regardless of the type of tablets produced.

(2) Calculation basis for the production capacity

① Basis of calculation

Business division	Products	Daily Production Capacity	Number of Days of Operation Available for the Current Period
Green Chemicals Biz.	Copolyester resin, DMT, etc.	1,220 tons	365 days
	BON	42 tons	365 days
Life Science Biz.	Tablet (Note 1)	3,057,938 T	248 days
	Patch	264,600 P	248 days

(Note 1) It refers to the production capacity of the production equipment itself regardless of the type of tablets produced.

② Average hours of operation

Business division	Products	Average Daily Hours of Operation	Average Number of Days of Operation Per Month	Number of Days of Operation for the Current Period
Green Chemicals Biz.	Copolyester, DMT, etc.	24 hours	28 days	337 days
	BON	24 hours	30 days	365 days
Life Science Biz.	Tablet	8 hours	20 days	236 days
	Patch	8 hours	20 days	236 days

(3) Production Performance and Operation Rate

Production performance

Business division	Item	The 6th Period	The 5th Period	The 4th Period
Green Chemicals Biz.	Copolyester, DMT, etc.	376,686 tons	366,469 tons (Note 1)	252,804 tons
	BON	10,758 tons	13,058 tons	9,208 tons
Life Science Biz.	Tablet (Note 2)	730,204,575 T	605,863,519 T	606,231,520 T
	Patch	41,112,323 P	38,730,028 P	40,500,354 P

(Note 1) The new copolyester production facility (#4) started operations on June 15, 2021, and the details above include the corresponding figures. Excluding the new production facilities, the 'production performance' of the 5th period is 332,391 tons.

(Note 2) As for the tablets, there are many different types, and the production process and production time vary for each type, and thus, the production volume is inevitably smaller than the production capacity of the equipment itself. As for the operation rate of tablet items, note that the operation rate of the current period is the correct figure, not the production volume relative to the production capacity.

② Operation Rate for the Current Business Year

Business division	Item	Number of Days of Operation Available for the Current Period	Number of Days of Actual Operation for the Current Period	Average Operation Rate
Green Chemicals Biz.	Copolyester, DMT, etc.	365 days	337 days	92%
	BON	365 days	345 days	95%
Life Science Biz.	Tablet	248 days	236 days	95%
	Patch	248 days	236 days	95%

[SK Bioscience]

(1) Completion standard

(A) Production capacity and the calculation basis for production capacity

① Production capacity

Production capacity = Daily production capacity × Number of days of operation available

Place of Business	Item	The 5th Period	The 4th Period	The 3rd Period
Andong Plant	Vaccine	513,920,000 doses	192,640,000 doses	157,920,000 doses

② Calculation basis for the production capacity

- Calculation standard

Place of Business	Products	Daily Production Capacity	Number of Days of Operation Available for the Current Period	Note
Andong Plant	Vaccine	1,760,000 doses/day	292 days	Number of days of operation reduced due to preventive maintenance

- Average hours of operation

Place of Business	Products	Average Number of Days of Operation Per Month	Number of Days of Operation for the Current Period
Andong Plant	Vaccine (Note 1)	16 days	195 days

(Note 1) The number of days of operation does not include the time to operate the loading lines for approval and research purposes.

※ The '(A) Production capacity and the calculation basis for production capacity' above is based on completed production as of the date of preparation of this report.

(B) Production Performance and Operation Rate

① Production performance

Place of Business	Item	The 5th Period	The 4th Period	The 3rd Period
Andong Plant	Vaccine (Note 1)	4,654,316 doses	81,934,044 doses	11,477,663 doses

(Note 1) Based on the approved quantity of shipment.

② Operation Rate for the Current Business Year

Place of Business	Item	The 5th Period	The 4th Period	The 3rd Period
Andong Plant	Vaccine	0.9%	42.5%	7.3%

(2) Stock solution standard

- As for the production capacity for the stock solution, the process period was calculated with one notable item for each suite, and the production capacity of the suite used for R&D activities was excluded.

Classification	The 5th Period	The 4th Period	The 3rd Period
Production capacity	494 batches	273 batches	261 batches
Production performance	110 batches	179 batches	107 batches
Operation rate	22.3%	65.6%	41.0%

[SK Multi-Utility]

(1) Production capacity

Production capacity = Daily production capacity × Number of days of operation available

Business division	Item	The 2nd Period	The 1st Period (Note 1)
Supply of utilities such as electricity and steam	Steam	2,190,000 tons	186,000 tons
	Electricity	236,520 MWh	20,088 MWh

(Note 1) The production capacity above is only for the month of December 2021.

(2) Calculation basis for the production capacity

① Basis of calculation

Business division	Products	Daily Production Capacity	Number of Days of Operation Available for the Current Period
Supply of utilities such as electricity and steam	Steam	6,000 tons	365 days
	Electricity	648 MWh	365 days

② Average hours of operation

Business division	Products	Average Daily Hours of Operation	Average Number of Days of Operation Per Month	Number of Days of Operation for the Current Period
Supply of utilities such as electricity and steam	Steam	24 hours	30 days	273 days
	Electricity (Note 1)	-	-	-

(Note 1) We do not generate electricity at our own facilities due to the increase in the price of key raw materials.

(3) Production Performance and Operation Rate

① Production performance

Business division	Products	The 2nd Period	The 1st Period (Note 1)
Supply of utilities such as electricity and steam	Steam	1,484,046 tons	150,837 tons
	Electricity (Note 2)	-	-

(Note 1) The production performance above is only for the month of December.

(Note 2) We do not generate electricity at our own facilities due to the increase in the price of key raw materials.

② Operation Rate for the Current Business Year

Business division	Products	Number of Days of Operation Available for the Current Period	Number of Days of Actual Operation for the Current Period	Average Operation Rate
Supply of utilities such as electricity and steam	Steam	365 days	365 days	100.0%
	Electricity	-	-	-

2) Status of production and facilities, etc.

[SK Chemicals]

The Company's main places of business are as follows.

Place of Business	Details of Main Business	Location
Pangyo Head Office	Company-wide management and marketing, R&D	310 Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do
Ulsan Plant	Copolyester resin production, etc.	718 Cheoyong-ro, Nam-gu, Ulsan-si, Gyeongsangnam-do
Cheongju S HOUSE	Pharmaceutical production	149 Sandan-ro, Heungdeok-gu, Cheongju-si, Chungcheongbuk-do

The Company's facilities and equipment include land, buildings, structures, and machinery, etc., and the details of their book value as of the end of the current period are as follows.

(Reference date: 2022.12.31)

(Unit: KRW one million)

Classification	Beginning of period	Acquired	Disposed	Depreciation	Others (Note 1)	End of period
Land	155,793	5,799	(9,700)	-	64	151,956
Building	181,241	3,941	(2)	(6,201)	9,286	188,266
Structure	70,573	6,453	(647)	(2,397)	10,178	84,161
Mechanical equipment	192,608	18,730	(4,270)	(35,741)	18,808	190,134
Vehicles and transport equipment	190	137	-	(78)	-	248
Other tangible assets	9,491	4,211	(32)	(4,406)	4,468	13,732
Assets under construction in progress	51,738	25,681	(16)	-	(45,526)	31,877
Machineries in transit	1,851	2,046	-	-	(2,498)	1,400
Total	663,485	66,999	(14,667)	(48,823)	(5,219)	661,774

(Note 1) They consist of the main account replacement for assets under construction in progress, replacement with investment real estate properties and intangible assets, etc.

※ It is difficult to objectively determine the market price of major tangible assets. Therefore, such entry has been omitted.

※ For details of tangible assets, refer to "12. Tangible assets" of "5. Notes to the Financial Statements" among the "III. Matters Concerning Finance."

[SK Bioscience]

SK Bioscience's main places of business are as follows.

Place of Business	Details of Main Business	Location
Pangyo Head Office	Company-wide management and marketing, R&D	310 Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do
Andong L House	Production, wholesale and retail of pharmaceuticals	150 Saneopdanji-gil, Poongsan-eup, Andong-si, Gyeongsangbuk-do
Pyeongtaek	Storage of vaccine stock solution	131 Oseongsandan 1-ro, Oseong-myeon, Pyeongtaek-si, Gyeonggi-do
Hwaseong	Storage of raw materials and completed products	184beon-gil, Jeongmunsongsan-ro, Yanggam-myeon, Hwaseong-si, Gyeonggi-do

SK Bioscience's facilities and equipment consist of land, buildings, structures, and machinery, etc.

(Reference date: 2022.12.31)

(Unit: KRW one million)

Place of Business	Land	Building	Structure	Mechanical equipment	Vehicles and transport equipment	Other tangible assets	Total
Head Office	39,524	18,242	-	9,089	-	3,274	70,129
Andong	5,746	108,538	960	44,046	6	1,579	160,875
Total	45,270	126,780	960	53,135	6	4,853	231,004

※ Assets under construction in progress, machineries in transit, and memberships are excluded.

※ It is difficult to objectively evaluate the market price of major tangible assets. Therefore, such entry has been omitted.

[SK Multi-Utility]

SK Multi-Utility's main places of business are as follows.

Place of Business	Details of Main Business	Location
Ulsan Head Office	Steam and electricity production	718 Cheoyong-ro, Nam-gu, Ulsan-si, Gyeongsangnam-do

SK Multi-Utility's facilities and equipment consist of land, buildings, structures, and machinery, etc.

(Reference date: 2022.12.31)

(Unit: KRW one million)

Place of Business	Land	Building	Structure	Mechanical equipment	Vehicles and transport equipment	Other tangible assets	Total
Ulsan Head Office	26,155	6,764	39,431	28,194	-	131,791	232,335

(2) Investments in progress and future investment plans, etc.

[SK Bioscience]

In June 2021, the Company's subsidiary SK Bioscience signed a Memorandum of Understanding (MOU) with Andong-si in Gyeongsangbuk-do to invest in plant expansion and site development with the goal of leaping forward as a global vaccine production hub with top-tier production facilities. While expanding manufacturing facilities at Andong L House, which owns latest vaccine production facilities such as cell and bacterial cultivation, gene recombination and protein conjugation, SK Bioscience is establishing new platform facilities such as mRNA, next-generation viral vectors, etc. In addition, SK Bioscience plans to purchase an additional 99,130 m² (approximately 30,000 pyeong) of land within the Gyeongbuk Bio 2nd General Industrial Complex which is under development near the L House site to expand the size of the plant to approximately 161,000 m² (approximately 50,000 pyeong) to be used for various projects.

In addition to Andong L House, SK Bioscience signed a land sale agreement with the Incheon Free Economic Zone Authority (IFEZ) in December, 2021. With a new global R&PD (research and process development) center currently under construction on a 30,414 m² (approximately 9,000 pyeong) site at Sr14, District 7, an expanded complex of Incheon Techno Park in Songdo-dong, Incheon, it will continue to expand the R&D and production infrastructure, which is currently concentrated in Pangyo and Andong, Gyeongbuk. The new global R&PD center will include research institutes and pilot plants for basic research, process development and production in the vaccine and bio fields, through which we plan to actively expand the bio-CDMO business and secure a new platform, while strengthening the cooperation with international organizations, domestic and overseas bio-companies and research institutes.

In addition, we plan to improve and invest in expansion of the existing L House facilities in line with the clinical progress of the next-generation pneumococcal vaccine we are jointly developing with Sanofi.

[SK Multi-Utility]

SK Multi-Utility is currently making the following investments at its Ulsan plant to specialize in the industrial power and steam supply business, which are scheduled to be completed in the first half of 2025.

(Unit: year, KRW 100 million)

Classification	Period of Investment	Name of Investment	Total Investment Amount	Amount of Investment Executed	Amount of Investment to be Executed
Multi-Utility Business	2022 - 2025	LNG cogeneration facilities	6,200	1,309	4,891

※ The investment schedule and amount have changed due to significant cost increases and inflation.

4. Status of Sales & Contracts Won

A. Sales performance (based on the consolidated financial statements)

1) Performance by sales type

(Reference date: 2022.12.31)

(Unit: KRW one million)

Business division	Type of Sales	Item	The 6th Period		The 5th Period		The 4th Period	
			Sales amount	Ratio	Sales amount	Ratio	Sales amount	Ratio
Green Chemicals Biz	Products	Copolyester, DMT, etc.	1,315,039	71.9%	933,572	44.7%	783,015	65.3%
	Goods		9,220	0.5%	12,484	0.6%	17,699	1.5%
	Others		77,687	4.2%	91,003	4.4%	58,482	4.9%
	Subtotal		1,401,947	76.6%	1,037,059	49.6%	859,196	71.7%
Life Science Biz.	Products	Vaccine, tablet, patch, etc.	407,064	22.3%	837,263	40.1%	335,690	28.0%
	Goods		116,098	6.3%	122,904	5.9%	121,659	10.1%
	Others		247,498	13.5%	269,012	12.9%	32,479	2.7%
	Subtotal		770,659	42.1%	1,229,179	58.8%	489,828	40.9%
Others	Products	Others	(297,761)	-16.3%	(149,396)	-7.1%	(140,770)	-11.7%
	Goods		(2,416)	-0.1%	(2,287)	-0.1%	(1,819)	-0.2%
	Others		(43,237)	-2.4%	(24,923)	-1.2%	(7,655)	-0.6%
	Subtotal		(343,414)	-18.8%	(176,606)	-8.5%	(150,244)	-12.5%
Total			1,829,191	100.0%	2,089,632	100.0%	1,198,781	100.0%

※ Following the sale of the PPS business, the sales amount of the discontinued operations of the 5th and 4th periods were excluded, and following the sale of the bio-energy business, the sales amount of the 4th period of the business exclude the performance of the business.

※ Others are internal transaction sales amount, etc.

2) Performance by sales region

(Reference date: 2022.12.31)

(Unit: KRW one million)

Business division	Form	Classification	The 6th Period	The 5th Period	The 4th Period
Green Chemicals Biz.	Copolyester, DMT, etc.	Export	1,056,129	795,141	651,745
		Domestic consumption	345,818	241,918	207,452
		Total	1,401,947	1,037,059	859,196
Life Science	Vaccine, tablet, patch, etc.	Export	268,419	266,258	72,613

Biz.		Domestic consumption	502,241	962,921	417,215
		Total	770,659	1,229,179	489,828
Others	-	Export	(275,694)	(181,245)	(148,305)
		Domestic consumption	(67,720)	4,639	(1,939)
		Total	(343,414)	(176,606)	(150,244)
Total		Export	1,048,853	880,154	576,053
		Domestic consumption	780,338	1,209,478	622,728
		Total	1,829,191	2,089,632	1,198,781

※ Following the sale of the PPS business, the sales amount of the 5th and 4th periods of the business exclude the performance of the business, and following the sale of the bio-energy business, the sales amount of the 4th period of the business exclude the performance of the business.

※ Others are internal transaction sales amount, etc.

B. Sales channels and sales methods, etc. (including the major consolidated subsidiaries)

1) Sales organizations

Business division	Sales organizations
Green Chemicals Biz.	Copolyester Business Division, Functional Material Department, New Business Development Office, SKCA, SK Chemicals GmbH, SK Chemicals (Shanghai), Japan Branch, SK Chemicals Malaysia
Life Science Biz.	(Pharma Business Division) Marketing Division 1 - 4, (SK Bioscience) Marketing Office

2) Sales channel

- Domestic consumption, local, and direct exports

3) Sales method and conditions

Sales method	Conditions for the payment collection
Domestic consumption	Payment in cash and promissory note, etc.
Local and direct exports	Payment via letter of credit, etc.

4) Sales strategy

Business division	Sales organizations	Sales strategy
Green Chemicals Biz.	Copolyester Business Division	<ul style="list-style-type: none"> - Develop and expand sales of high performance copolyester with high transparency and moldability for heat-resistant applications - Diversify clients for eco-friendly and highly-functional plastic resins - Enhance technical service and after sales service - Expand market sales by securing and supplying stable and competitive raw materials
	Functional Materials Business Department	<ul style="list-style-type: none"> - Continuously discover new items - Expand new applications and clients - Strengthen overseas marketing
	New Business Development Office	<ul style="list-style-type: none"> - Expand applications and strengthen overseas marketing - Develop channels and expand market

		<ul style="list-style-type: none"> - Develop new applications for existing products and develop related products
Life Science Biz.	Pharma Business Division (Marketing Divisions 1 - 4)	<ul style="list-style-type: none"> - Roll out marketing activities with a focus on hospitals and clinics - Explore new channels by entering markets overseas - Conduct accurate target marketing based on market segmentation - Strengthen the organization via specialization and segmentation of the hospital organization clients - Create a new business by ensuring the quality of pharmaceutical distribution
	SK Bioscience (Marketing Division, BD Office 2, BD Office 3)	<ul style="list-style-type: none"> - Roll out marketing activities with a focus on hospitals and clinics - Conduct accurate target marketing based on market segmentation - Strengthen the organization via specialization and segmentation of the hospital organization clients - Expand to the public bidding market based on WHO PQ certification - Enter LMIC markets by cooperating with global initiatives - Lock-in existing customers by strengthening partnerships - Attract new customers by discussing technology development status, capacity expansion progress, etc.

[SK Multi-Utility]

1) Sales organizations

Business division	Sales organizations
Supply of utilities such as electricity and steam	Power Operation Team, SK Multi-Utility

2) Sales channel

- Domestic consumption

3) Sales method and conditions

Sales method	Conditions for the payment collection
Domestic consumption	Cash payment, etc.

4) Sales strategy

Business division	Sales organizations	Sales strategy
Supply of utilities such as electricity and steam	Power Operation Team, SK Multi-Utility	<ul style="list-style-type: none"> - Provide reliable and competitive heat energy (steam, etc.) within a district as a collective energy business operator

5. Risk Management and Derivatives Transactions

A. Market Risk and Risk Management

The consolidated companies are exposed to certain risks in connection with their ongoing business operations. The major risks managed using derivatives are the foreign exchange risk, commodity price risk and the interest rate risk. The consolidated companies' risk management strategies and methods are as follows.

(1) Fair value hedging for the foreign exchange risk

As of the end of the current period, the consolidated companies have currency swap contracts designated as the hedging instruments to hedge the foreign currency risk for the foreign currency bonds. The final maturity of the foreign currency bonds is expected to be June 2023.

The terms and conditions of the currency swap contract above were executed to be consistent with the redemption schedule of the foreign currency bonds. The parties to the contract have executed currency swap contracts with cash as the collateral,

which effectively reduces the credit risk associated with the contract (the counterparty's and the consolidated companies' credit risk). As a result, hedging was very effectively evaluated.

(2) Hedging cash flows for the interest rate risk

The consolidated companies borrow funds at the fixed and variable interest rates, and thus, are exposed to the interest rate risk. To manage the interest rate risk, consolidated companies maintain an appropriate balance between the fixed rate borrowings and the variable rate borrowings and have executed the interest-rate swap contracts. The consolidated companies exchange the difference calculated by applying the difference between the fixed and variable interest rates for the predetermined nominal principal under the interest-rate swap contract. Such a contract allows for the consolidated companies to mitigate the risk of fluctuations in the cash flows of variable rate liabilities due to fluctuations in the interest rates. Hedging activities are regularly evaluated to appropriately adjust the interest rate status and the defined risk appetite to ensure that the optimal hedging strategy is applied.

(3) Other risk management activities

The consolidated companies are exposed to the foreign currency risk for some of their sales and purchases in international transactions. To mitigate such risk, the consolidated companies regularly monitor the net exposures in major currencies (the dollar, euro, and yen) based on projected sales and purchases over the next 12 months. Furthermore, the consolidated companies enter into foreign currency forward contracts to avoid such exposures.

For business and sales purposes, the consolidated companies have not designated such currency forward contracts for hedging. Thus, the changes in the fair value of all forward contracts are recognized as profit or loss for the relevant period.

4) Market risk management policy

As of the end of the current period, the consolidated companies have established and are implementing fund management policies to ensure stable management activities by minimizing the risks caused by variables such as raw material and commodity prices and foreign exchange rates, the key details of which are as follows.

- ① Purpose of risk management and the basic principles
- ② Organization in charge and the tasks in charge
- ③ Transaction procedures and the reporting procedures

Notwithstanding the market risk management of the consolidated companies and the market risk management policies as described above, the Company cannot hedge all market risks and there is a limit to risk hedging.

B. Status of Transactions such as Derivatives and Put Back Options (including Major Consolidated Subsidiaries) [SK Chemicals]

Details of the derivative instruments held by the Company as of the end of the current period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Details	End of the current period	End of the previous period
Derivative instruments not designated as the hedging instruments:			

Current assets in derivative financial instruments	Currency forward contracts	823,372	1,825,609
Current liabilities in derivative financial instruments	Currency forward contracts	-	469,458
Non-current assets in derivative financial instruments	Put option	1,237,613	368,001

As of the end of the current period, the Company executed derivative contracts with KEB Hana Bank, etc., for the purpose of hedging the risk of exchange rate fluctuations arising from the foreign currency transactions. In this regard, the details of the derivative financial instruments that are not designated as hedging instruments by the Company are as follows.

<End of the current period>

(Unit: KRW one thousand)

Contracting party	Buy/Sell	Contract amount	Fair value
KEB Hana Bank, etc.	Buy	-	-
	Sell	33,812,275	823,372
Total		33,812,275	823,372

<End of the previous period>

(Unit: KRW one thousand)

Contracting party	Buy/Sell	Contract amount	Fair value
KEB Hana Bank, etc.	Buy	153,129,963	880,980
	Sell	108,023,488	475,172
Total		261,153,451	1,356,152

As of the end of the reporting period, the details of non-current derivative financial instruments which are not designated by the Company as hedging instruments are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Type	Fair value
Non-current assets in derivative instruments (Note 1)	Put option for SK Chemicals Daejung Co., Ltd.'s common stocks (Note 1)	289,589
	Put option for HDC Polyall Co., Ltd.'s stocks (Note 2)	948,024
Total		1,237,613

(Note 1) This is a put option which enables the sale of the investment shares in a subsidiary, SK Chemicals Daejung Co., Ltd., to Daejung Chemicals & Metals Co., Ltd. (Note 2) This is a put option which enables the sale of the investment shares in an affiliate, HDC Polyall Co. Ltd., to HDC Hyundai EP Co., Ltd.

[SK Bioscience]

1) Derivatives trading for hedging risks from the exchange rate fluctuations

As of the date of preparation of this report, the details of the derivatives not designated as hedging instruments by SK Bioscience are as follows.

(Reference date: 2022.12.31)

(Unit: USD, KRW one thousand)

Classification	Details
Contracting party	KEB Hana Bank, etc.

Buy/Sell	Sell	Buy
Contract amount	USD 216,237,739	USD 5,961,253
Valuation gain (loss)	4,873,056	(20,875)

2) Currency swap derivatives transaction

As of the date of preparation of this report, the details of the derivatives for which hedge accounting is applied and which SK Bioscience has designated as hedging instruments are as follows.

(Reference date: 2022.12.31)

(Unit: USD, KRW one thousand)

Classification	Details
Contracting party	KEB Hana Bank
Items subject to hedging risk	Variable interest rate foreign currency privately placed bonds (par value of USD 30,000,000)
Contract period	2018.06.29 - 2023.06.29
Buy/Sell	Buy
Purpose of transaction	Exchange rate risk and interest rate risk hedging
Contract amount	33,645,000
Fair value	4,718,222
Valuation profit and loss:	
Amount reclassified as profit or loss	2,454,000
Other comprehensive income (Note 1)	473,256

(Note 1) This amount is obtained after deducting the corporate tax.

[SK Multi-Utility]

- Not applicable

6. Major Contracts and R&D Activities

A. Major contracts in terms of management (summary)

[SK Chemicals]

As of the date of submission of the disclosure documents, the major contracts in terms of management which the Company has executed consist of the license in contracts and other contracts, whose key details are as follows.

1) Green Chemicals

Classification	Contractual counterparty	Purpose and details of the contract	Period of contract execution & contract period	Contract amount & payment method (criteria)*
License out contract	Capchem	Patent's non-exclusive license and transfer of technology for the secondary batteries' electrolyte additive	2021.08 - 2036.06	Upfront technology fee and running royalty (constant rate of contract product sales)
License out contract	Private	Technology evaluation agreement for non-exclusive licensing of patented technology for bio-PESC materials	2021.09 - 2024.03	Upfront technology fee and patent maintenance fees

2) Life Science (pharma business division)

Classification	Item	Contractual counterparty	Target region	Contract execution date	Total contract amount	Amount received/paid	Progress, etc.
License in contract	SKP204	ITALFARMACO, ITF RESEARCH	Korea	2021.01.28	(Note 1)	(Note 1)	Approved

		(Italy)					
	SKP205	Miravo Healthcare (Ireland)	Korea	2021.07.28	(Note 1)	(Note 1)	Approval in progress
	SKP221	KOREA UNITED PHARM (Korea)	Korea	2022.06.28	(Note 1)	(Note 1)	Joint research in progress
	SKP222	Synthon B.V (Netherlands)	Korea	2022.05.31	(Note 1)	(Note 1)	Approval in progress
Other contracts	Transfer of assets	TiumBio Co., Ltd.	(Note 1)	2017.02.23	(Note 1)	(Note 1)	Different phase in progress for each task
	Joint research	Standigm Inc.	Worldwide	2019.07.19	(Note 1)	(Note 1)	Joint research in progress
	Joint research	Deargen Inc.	Worldwide	2020.10.20	(Note 1)	(Note 1)	Joint research in progress
	Fund investment	Korea Investment Partners Co., Ltd.	N/A	2020.11.18	(Note 1)	(Note 1)	Fund investment in progress
	Joint research	DR. NOAH Biotech Co., Ltd.	Worldwide	2020.11.24	(Note 1)	(Note 1)	Joint research in progress
	Equity investment	Standigm Inc.	N/A	2021.05.14	(Note 1)	(Note 1)	Pre-IPO phase
	Equity investment	J2H Biotech Co., Ltd.	N/A	2021.07.29	(Note 1)	(Note 1)	Pre-IPO phase
	Fund investment	Sante Ventures	N/A	2021.09.14	(Note 1)	(Note 1)	Fund investment in progress
	Joint research	J2H Biotech Co., Ltd.	N/A	2021.11.01	(Note 1)	(Note 1)	Joint research in progress
	Equity investment	Oncobix Co., Ltd.	N/A	2021.11.18	(Note 1)	(Note 1)	Series A Bridge phase
	Joint research	Oncobix Co., Ltd.	N/A	2022.04.05	(Note 1)	(Note 1)	Joint research in progress
	Joint research	inCerebro Co., Ltd.	N/A	2022.04.07	(Note 1)	(Note 1)	Joint research in progress
	Joint research	Cyclica Inc.	N/A	2022.11.22	(Note 1)	(Note 1)	Joint research in progress

(Note 1) The details have not been entered as they are trade secrets.

[SK Bioscience]

As of the date of preparation of this report, the major contracts in terms of management which have been executed by SK Bioscience consist of the license out/in contracts, joint development contracts, C(D)MO contracts, and others, whose key details are as follows.

Classification	Item	Contractual counterparty	Target region	Contract execution date	Total contract amount	Amount received/paid	Progress, etc.
License out contract	Recombinant Factor VIII (Hemophilia treatment)	CSL	All regions except Korea	2009.05	(Note 1)	(Note 1)	Commercialization in USA, Europe (by country), Canada, etc.
License out contract	A cell culture-based high-efficiency influenza vaccine production technology	Sanofi Pasteur	USA and Europe	2018.02.12	USD 155M	USD 35M	Contract terminated
License in contract	Introduction of Novavax COVID-19 vaccine technology	Novavax	Republic of Korea	2021.02.12	(Note 1)	(Note 1)	Commercial production
Joint development contract	Next-generation pneumococcal vaccine	Sanofi	-	2014.03.19	USD 45M	USD 45M	Phase 2 clinical trial in the US
	Typhoid conjugate vaccine	IVI (International Vaccine Institute)	Worldwide	2013.04	(Note 1)	(Note 1)	Obtained export product approval
	Next-generation pediatric enteritis vaccine	PATH (Program for Appropriate Technology in Health)	Worldwide	2017.04	(Note 1)	(Note 1)	Phase 3 clinical trial completed (terminated early)
	COVID-19 vaccine (GBP510) project research/development contract	CEPI (Coalition for Epidemic Preparedness Innovations)	-	2020.12	USD 10.0M	(Note 1)	Obtained domestic product approval, additional clinical research in progress (age expansion and additional vaccination, etc.)
	Contract for additional support for COVID-19 vaccine (GBP510) project research/development	CEPI (Coalition for Epidemic Preparedness Innovations)	-	2021.05	USD 200.1M	(Note 1)	
	Vaccine (GBP511) project research/development contract to respond to a wide range of variants	CEPI (Coalition for Epidemic Preparedness Innovations)	-	2021.12	USD 50.0M	(Note 1)	Candidate screening and process development in progress
	COVID-19 mRNA vaccine (GBP550) development	BFGF (Bill & Melinda Gates Foundation)	-	2021.11	US\$ 2.0M	(Note 1)	Non-clinical

	Nasal Spray	IAVI (International AIDS Vaccine Initiative)	-	2021.11	USD 2.2M	(Note 1)	Basic research
	Japanese encephalitis virus/Lassa fever mRNA vaccine (GBP560, GBP570) development	CEPI (Coalition for Epidemic Preparedness Innovations)	-	2022.10	USD 140.0M	(Note 1)	Basic research
C(D)MO contract	COVID-19 vaccine CDMO contract	Novavax	-	2020.08.11	(Note 1)	(Note 1)	-
C(D)MO contract	COVID-19 vaccine CMO contract	AstraZeneca	-	2020.07.03	(Note 1)	(Note 1)	Contract terminated
Others	COVID-19 vaccine development and facility use contract	CEPI (Coalition for Epidemic Preparedness Innovations)	-	2020.06 2021.10 (extended)	(Note 1)	(Note 1)	-

(Note) The details have not been entered as they are trade secrets.

[SK Multi-Utility]

As of the date of submission of the disclosure documents, the details of major non-ordinary contracts in terms of management which have been executed by SK Multi-Utility are as follows.

Contractual counterparty	Purpose and details of the contract	Period of contract execution & contract period	Contract amount
SK Ecoengineering Co., Ltd.	EPC construction contract	2022. 06. 30 - 2025. 06. 30	KRW 510 billion
Kookmin Bank	Ulsan CHP Plant construction	2022. 08. 31 - 2023. 09. 20	Commitment of KRW 150 billion

※For detailed status, refer to 'Detailed Table-4. Major Contracts in Terms of Management (Details)'.

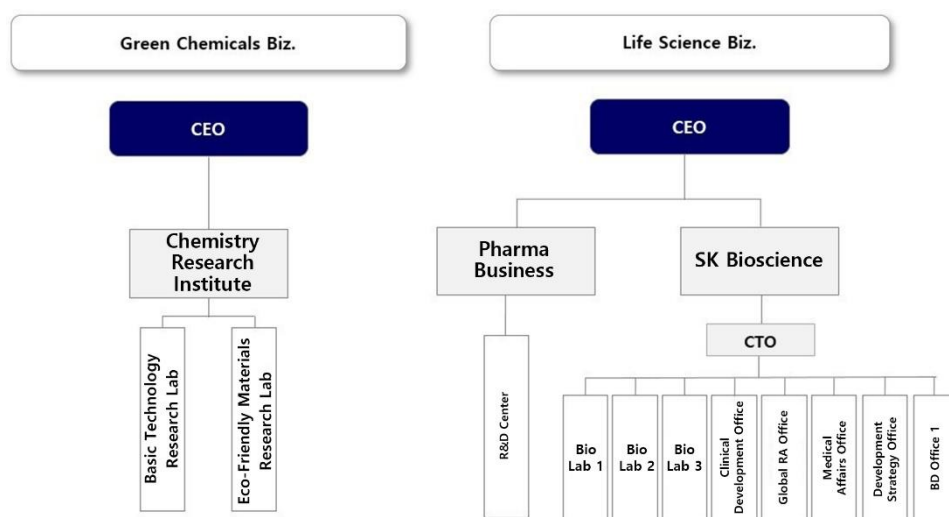
B. R&D activities (including the major consolidated subsidiaries)

1) Overview of R&D activities

The Company's R&D organizations consist of the Chemical Research Center of the Green Chemicals Biz., which is responsible for the development of chemical products, and the R&D Center of the Life Science Biz. (Pharma Business Division), which is responsible for the development of pharmaceuticals. The Company's subsidiary, SK Bioscience, also operates an individual research institute, and the Company continuously achieves development results in the fields of chemistry, pharmaceuticals, and vaccines through the research organizations of the headquarters and the subsidiary.

2) R&D organizations

(1) Organizational chart for the organizations in charge of R&D



(2) Status of personnel for the R&D organizations

[SK Chemicals]

(Reference date: 2022.12.31)

(Unit: Number of persons)

Classification	Doctoral	Master's	Bachelor's	Technician	Total
R&D Center	3	30	25	6	64
Chemistry Research Institute	5	66	16	32	119
Total	8	96	41	38	183

※ The personnel above include all R&D personnel.

(Pharmaceutical/bio related key research personnel)

Position	Name	Task in charge	Professional background	Key research performance
Executive	Yoo Hun-seung	Head of R&D Center	Seoul National University/Bachelor in Pharmacy, Master and PhD in Pharmacognosy	Not entered at request

※ The person above was newly appointed as Head of R&D Center on December 7.

[SK Bioscience]

(Reference date: 2022.12.31)

(Unit: Number of persons)

Classification	Doctoral	Master's	Others	Total
Number of persons	38	180	71	289

(Pharmaceutical/bio related key research personnel)

Position	Name	Professional background	Key research performance
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<p>Head of Global R&BD</p>	<p>Kim Hoon</p>	<p>[Papers]</p> <ul style="list-style-type: none"> - Immune persistence and response to booster dose of Vi-DT vaccine at 27.5 months post-first dose (2022년, NPJ Vaccines. 7:12) - Influenza vaccines: Past, present, and future (Review) (2022년, Rev Med Virol. 32(1):e2243) - Effective inactivated influenza vaccine for the elderly using a single-stranded RNA-based adjuvant (2021년, Sci Rep. 11(1):11981) - Immunization with RBD-P2 and N protects against SARS-CoV-2 in nonhuman primates (2021년, Science Advances. 7 : eabg7156) - Immunogenicity, safety and reactogenicity of a Phase II trial of Vi-DT typhoid conjugate vaccine in healthy Filipino infants and toddlers: A preliminary report (2020년, Vaccine. 4476-4483) - Safety and immunogenicity of Vi-DT conjugate vaccine among 6-23-month-old children: Phase II, randomized, dose-scheduling, observer-blind Study (2020년, EClinicalMedicine. 100540) - Inactivated influenza vaccine formulated with single-stranded RNA-based adjuvant confers mucosal immunity and cross-protection against influenza virus infection(Vaccine 38 (2020) 6141-6152) - Evaluation of glycoprotein E subunit and live attenuated varicella-zoster virus vaccines formulated with a single-strand RNA-based adjuvant (2020년, Volume8) - Immunogenicity and safety of a 12-valent pneumococcal conjugate vaccine in infants aged 6-10 weeks: a randomized double-blind active-controlled trial(2020년, Volume 63(7)) - Assignment of opsonic values to pneumococcal reference serum 007sp and a second pneumococcal OPA calibration serum panel (Ewha QC sera panel B) for 11 serotypes (2020년, Vaccine 38(8145-8153) - Comparison of antigenic mutation during egg and cell passage cultivation of H3N2 influenza virus (2020년, Clin Exp Vaccine Res) - Immunogenicity and safety of a new live attenuated herpes zoster vaccine (NBP608) compared to Zostavax® in healthy adults aged 50 years and older (2019년, Vaccine. 3605-3610) - A Randomized, Double-blind, Active-controlled Phase III Trial of a Cell Culture-derived Quadrivalent Inactivated Influenza Vaccine in Healthy South Korean Children and Adolescents 6 Months to 18 Years of Age (2019년, Pediatr Infect Dis J. e209-e215) - Cricket paralysis virus internal ribosome entry site-derived RNA promotes conventional vaccine efficacy by enhancing a balanced Th1/Th2 response (2019년,Vaccine 37(5191-5202)) - Heterologous prime-boost vaccination with adenoviral vector and protein nanoparticles induces both Th1 and Th2 responses against Middle East respiratory syndrome coronavirus (2018년, Vaccine. 3468-3476) - Vaccines, inspiring innovation in health (2018년, Vaccine. 7430-7437) - Effect of apoptosis-associated speck-like protein containing a caspase recruitment domain on vaccine efficacy: Overcoming the effects of its deficiency with aluminum hydroxide adjuvant (2018년, Microbiol Immunol 1348-0421) - Development of a diagnostic system for detection of specific antibodies and antigens against Middle East respiratory syndrome coronavirus (2018년, Microbiol Immunol. 574-584) - A Randomized, Double-blind, Active-controlled Clinical Trial of a Cell Culture-derived Inactivated Trivalent Influenza Vaccine (NBP607) in Healthy Children 6 Months Through 18 Years of Age (2018년, Pediatr Infect Dis J. 605-611) - Sahastrabudde S2. Safety and immunogenicity of a Vi-DT typhoid conjugate vaccine: Phase I trial in Healthy Filipino adults and children., 10.1016 J (2018년, Vaccine.05.038) - Creation, characterization, and assignment of opsonic values for a new pneumococcal OPA calibration serum panel (Ewha QC sera panel A) for 13 serotypes(2018년, Medicine (Baltimore)) - Comparative evaluation of a newly developed 13-valent pneumococcal conjugate vaccine in a mouse model (2017년, Hum Vaccin Immunother. 1169-1176) - Immunogenicity and safety of a cell culture-derived inactivated quadrivalent influenza vaccine (NBP607-QIV) HUMAN VACCINES & IMMUNOTHERAPEUTICS. (2017년, VOL. 13, NO. 7, 1653-1660) - Immunogenicity and safety of a cell Culture-derived inactivated trivalent influenza vaccine(NBP607). (Vaccine 33. 5437-5444, 2015) - The effect of lipopolysaccharide-induced obesity and its chronic inflammation on influenza virus-related pathology. (2015년, Environmental Toxicology and Pharmacology. 40, 924-930) and others - Prophylactic and therapeutic vaccines for obesity. <p>[National assignment] Supervisor of research</p> <ul style="list-style-type: none"> - Development of mass production process and sample production for the COVID-19 vaccine based on genetic recombination technology (Korea Evaluation Institute Of Industrial Technology, 2020 - 2021) - Commercialization of human papillomavirus quadrivalent vaccine and development of human papillomavirus 10-valent vaccine (Ministry of Science, ICT and Future Planning - Biomedical Technology Development, 2015 - 2020) - Development of typhoid polysaccharide-protein conjugate vaccine production technology (Ministry of Health and Welfare - Infectious disease crisis response technology development, 2013 - 2018)
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			<ul style="list-style-type: none"> - Commercialization of an influenza vaccine using cell culture technology (New Influenza universal ministerial project group (Korea Health Industry Development Institute), 2010 - 2016) - A study on virus vaccine development using the cell culture technology (rotavirus vaccine) (Ministry of Knowledge Economy, 2009 - 2013) - Development of early production technology for H1N1 influenza vaccine using animal cell culture technology (Ministry of Health and Welfare - Human Infection Response Study for Zoological Infectious Diseases, 2009 - 2010) - Smallpox vaccine development assignment (2007 - 2009) - Anthrax vaccine development assignment (2006 - 2008) and others <p>[Notable patents]</p> <ul style="list-style-type: none"> - Vero cell lines suspension-cultivated without serum and methods for preparing vaccine virus with those cell lines (date of registration: 2018-02-14) - MDCK cell lines suspension-cultivated without serum and methods for preparing vaccine virus with those cell lines (date of registration: 2015-12-09) - Manufacturing method for capsular polysaccharide having pneumococcal serotype (date of registration: 2019-01-28) - Multivalent pneumococcal polysaccharide-protein conjugate composition (date of registration: 2019-12-12)
Head of Development Strategy Office	Jo Tae-joon	Sahmyook University, Pharmacy, Bachelor's; Kyung Hee University, Clinical Pharmacy, Master's; Hanyang University, Global Medical Management (MBA)	-
Head of Clinical License Development Office	Ryu Ji-hwa	Duksung Women's University, Pharmaceutical Science, Bachelor's; Duksung Women's University, Pharmacy, Master's; Sungkyunkwan University, Pharmacy, Doctoral in progress	<p>[Papers]</p> <ul style="list-style-type: none"> - Safety and immunogenicity of Vi-DT conjugate vaccine among 6-23-month-old children: Phase II, randomized, dose-scheduling, observer-blind Study. EClinicalMedicine. 2020 - Immunogenicity and safety of a 12-valent pneumococcal conjugate vaccine in infants aged 6-10 weeks: a randomized double-blind active-controlled trial. Clin Exp Pediatr. 2020 - Immunogenicity, safety and reactogenicity of a Phase II trial of Vi-DT typhoid conjugate vaccine in healthy Filipino infants and toddlers: A preliminary report. Vaccine. 2020 - Safety and immunogenicity of a Vi-DT typhoid conjugate vaccine: Phase I trial in Healthy Filipino adults and children. Vaccine. 2018 - Activation of phosphatidylinositol 3-kinase by oxidative stress leads to the induction of microsomal epoxide hydrolase in H4IIE cells. Toxicol Lett. 2001 - The essential role of phosphatidylinositol 3-kinase and of p38 mitogen-activated protein kinase activation in the antioxidant response element-mediated rGSTA2 induction by decreased glutathione in H4IIE hepatoma cells. Mol Pharmacol. 2000 - Role of glucose utilization in the restoration of hypophysectomy-induced hepatic cytochrome P450 2E1 by growth hormone in rats. Chem Biol Interact. 2000 <p>[Related experience]</p> <ul style="list-style-type: none"> - Performed approximately 20 phase 1 clinical trials, 10 phase 2 clinical trials, and 20 phase 3 clinical trials - 2016 Member of TFT for development of the Vaccine Clinical Evaluation Guidelines of the Ministry of Food and Drug Safety - 2016-2017 Served as the head of the research department of the Korea Society for Clinical Development
Head of Bio Office 1	Park Yong-wook	Hanyang University, Biochemistry/Molecular Biology, Bachelor's; Gwangju Institute of Science and Technology, Life Science, Master's	<p>[Papers]</p> <ul style="list-style-type: none"> - Park, Y.W.; Kim, Y.H.; Jung, H.U.; Jeong, O.S.; Hong, E.J.; Kim, H.; Lee, J. Comparison of antigenic mutation during egg and cell passage cultivation of H3N2 influenza virus. Clin. Exp. Vaccine Res. 2020, 9, 56-63. <p>[Patents]</p> <ul style="list-style-type: none"> - MDCK-derived cell lines adapted to serum-free culture and suspension culture and method for preparing vaccine virus using the cells. (KR10-1577745, 2015-12-09)
Head of Bio Office 2	Lee Soo-jin	Cheongju University, Genetic Engineering, Bachelor's; Cheongju University, Genetic Engineering, Master's; Catholic University, Biotechnology, Doctoral	<p>[Papers]</p> <ul style="list-style-type: none"> - Evaluation of glycoprotein E subunit and live attenuated varicella-zoster virus vaccines formulated with a single-strand RNA-based adjuvant. Immun Inflamm Dis. 2020 Jun;8(2):216-227. doi: 10.1002/iid3.297. <p>[Patents]</p> <ul style="list-style-type: none"> - 8 domestic applications, 17 overseas applications, 2 domestic registrations (10-1577745, 10-1831284), 7 overseas registrations (2614140, 6067560, 323937, 2011299761, IDP000053063, 104862267 B, 9447383) <p>[Performance of assignment] Supervisor of assignment</p> <ul style="list-style-type: none"> - RIGHT FUND, Development of a cost-effective Hepatitis A vaccine on a low-footprint, low-cost platform, (2020)

Head of Bio Office 3	Shin Jin-hwan	Korea University, Genetic Engineering, Bachelor's; KAIST, Molecular Genetics, Master's; Sungkyunkwan University, Molecular Pharmaceuticals, Doctoral	<p>[Papers]</p> <p>Immunogenicity and safety of a 12-valent pneumococcal conjugate vaccine in infants aged 6-10 weeks: a randomized double-blind active-controlled trial. Clinical and experimental pediatrics. 2020; 63 (7), 265</p> <p>Comparative evaluation of a newly developed 13-valent pneumococcal conjugate vaccine in a mouse model. Human vaccines & immunotherapeutics. 2017; 13 (5), 1169-1176</p> <p>[Patents]</p> <p>- 19 domestic applications, 177 overseas applications, 3 domestic registrations, and 72 overseas registrations</p> <p>- Notable patents: US 9,981,029, US 9,636,392, US 10,058,607, US 10,034,949</p>
Head of Medical Affairs Office	Kim Hye-yeong	Seoul National University, Medicine, Bachelor's and Master's; Seoul National University, Medicine, Doctoral	-
Head of Approval & Clinical Division	Sally Choe	Univ. of Michigan, College of Pharmacy (Ph. D. in Pharmaceutics) Univ. of Michigan, College of Pharmacy (MS in Pharmaceutics) Virginia Polytechnic Institute and State Univ., College of Engineering (BS in Electrical Engineering)	<p>[Proceedings]</p> <p>- Keynote Speaker, FDA Generic Drugs Forum by CDER Small Business and Industry Assistance (SBIA), 2019-2022.</p> <p>- Keynote Speaker, Generics + Biosimilar Conference by Association for Accessible Medicines, 2019-2021.</p> <p>- Invited Speaker, "Complex Generics & the Prescription Drug Landscape", Hill Events, February, 2021.</p> <p>- Invited Speaker, "OSIS Perspective on the Impact of Inspectional Observations on Regulators Determinations on the Reliability of Your Data" ?DIA 2018, Boston, June 2018.</p> <p>- Invited Speaker, "The Journey of APAC Company Globalization" -2015 International Bioeconomy Conference (BioEconomy), Tenjin, China, July 2015.</p> <p>- S Choe, "Strategic Considerations for Developing an Initial Pediatric Study Plan for a Proposed Biosimilar" Oral Presentation at 2015 DIA, Washington D.C., June 2015.</p> <p>- Invited Speaker, "Accelerating Time to Market through Regulatory Strategies ?Developed and Emerging Markets" -2015 PAREXEL China Road Show, Taipei, Taiwan, Beijing and Shanghai, China, May 2015.</p> <p>- A Grignolo and S Choe, Meetings with the FDA, In: FDA Regulatory Affairs, 3rd Edition, Mantus D and Pisano DJ (Ed), CRC Press, Taylor & Francis Group, Boca Raton, FL.</p> <p>[Related experience]</p> <p>- Director of Office of Generics at US FDA (2019-2022)</p> <p>- Deputy Director of Office of Study Integrity and Surveillance at US FDA (2016-2019)</p> <p>- Senior Director at Parexel International Regulatory Consulting (2011-2016)</p>

[SK Multi-Utility]

- Not applicable

(3) R&D expenses

[SK Chemicals]

(Reference date: 2022.12.31)

(Unit: KRW one million)

Account	The 6th Period	The 5th Period	The 4th Period	
Raw material expenses	2,294	1,822	2,096	
Labor cost	17,302	15,794	14,098	
Depreciation	5,259	4,950	4,036	
Consignment service cost	5,312	4,165	2,690	
Others	12,101	12,568	10,412	
Total R&D expense	42,267	39,300	33,332	
Accounting	Selling, general and administrative expenses	41,582	38,635	33,332
	Cost of sales	685	665	-
	Development cost (intangible assets)	-	-	-
R&D expenses / sales amount ratio (%)	3.4	3.6	3.7	

[Total R&D expense ÷ Sales amount for the current period × 100]			
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※ The R&D expense and sales amount related to the discontinued businesses are excluded for the previous period, and the period before the previous period.

[SK Bioscience]

(Reference date: 2022.12.31)

(Unit: KRW one million)

Account		The 5th Period	The 4th Period	The 3rd Period
Raw material expenses		18,404	24,688	8,577
Labor cost		31,589	22,848	12,142
Selling, general and administrative expenses, etc.		63,002	52,043	11,764
Total R&D expense		112,995	99,579	32,483
Government subsidies		(627)	(477)	(1,034)
External subsidies		(53,244)	(51,672)	(5,462)
Total subsidies		(53,871)	(52,149)	(6,496)
Amount after deducting the subsidies		59,124	47,430	25,987
Accounting	Selling, general and administrative expenses	57,960	47,250	25,987
	Development cost (intangible assets)	1,164	180	
	Total amount accounted	59,124	47,430	25,987
R&D expenses / sales amount ratio (%) [Total R&D cost ÷ Sales amount for the current period × 100]		24.7	10.7	14.4

※ The ratio was calculated based on the total amount of R&D expenses before the deduction of external subsidies, etc.

[SK Multi-Utility]

- Not applicable

3) R&D and the patent application performance

(1) R&D performance

<Green Chemicals Biz.>

Year	Research task	Research results and the expected effects
2022	Established a dedicated facility for PO3G and started mass production	Established a dedicated facility for PO3G, a 100% bio-based eco-friendly polyol, and started mass production after successful commissioning in May 2022. PO3G, which is estimated to reduce greenhouse gas emissions by 40% compared with the existing petrochemical-based polyol production process in a life cycle assessment (LCA), can provide an eco-friendly solution for polyurethane materials and has been adopted for automotive interior, fashion and sports materials.
	Commercialized TPEE material for SKYPEL moisture permeable waterproof film	With the expansion of the outdoor market influenced by COVID 19, the demand for moisture permeable films is also expanding, and SKYPEL TX products are sold as military and general functional apparel materials due to their high moisture permeability, water pressure and color fastness to washing compared to competitive materials.
2021	Commercialized PO3G for main applications	It has been applied in various fields such as spandex, waterproof and moisture permeable clothing, synthetic leather, 3D printing, and cushioning material for shoes, and has been adopted and planned for use in the products of companies such as global fashion sports brands and domestic automobile manufacturers.
	Completed development of ECOTRIA Claro-CR50 & PN-CR50 grade	The development of products containing 50% chemically recycled raw materials for grades (Claro-CR50 & PN-CR50) sold in the cosmetic packaging sector with high recycling requirements has been completed. A high level of technology has been secured to allow applications in cosmetic grades with strict quality control standards. The production and sales are scheduled for the second half of 2021 at continuous process commercial facilities.

	ECOTRIA Claro-CR50 batch reaction commercial production was successful and the commercial sales began	For the cosmetic grade (Claro-CR50) containing 50% of chemically recycled raw materials, the production was successful for the batch type commercial facilities, which led to the immediate sales in response to the customers' urgent request for recycled products. Commercial order became possible without the additional evaluation of products to be produced in continuous process facilities in the second half of 2021.
	Obtained 2 types of recycling certification for ECOTRIA products	By obtaining both the GRS and ISCC Plus recycling certifications, it is possible to respond selectively to the needs of the customer, as the GRS certification provides a clear guarantee of the recycled content in the product, and the ISCC certification allows the recycled content used in the manufacturing process to be allocated to different products, thus offering the advantage of flexible use.
	Received biodegradability certification for 2 grades of SK's highly flexible PLA	Biodegradability certification has been obtained for 2 grades of biodegradable biopolymer (Flexible PLA) developed in 2020. Flexible PLA is a new material developed based on SK Chemicals' patented technology and has been confirmed to be superior in terms of biomass content, transparency, flexibility and physical properties. It is planned to develop and commercialize the material for use in biodegradable film packaging materials, such as high-end shopping bag packaging materials.
	Developed Recycle Grade flame retardant PET and received UL material certification	Enhanced the eco-friendliness of PET compound products by developing eco-friendly flame-retardant PET compound products. - Developed the flame retardant PET compound products applied with PCR (Post-Consumer Recycled), obtained UL material certification, and entered the customer evaluation phase.
	Successfully completed the commercialization of ECOZEN Plus	Developed a new Ecozen Plus product using alloying technology and SK Chemicals' ECOZEN heat-resistant copolyester resin and PCT resin. Ecozen Plus developed this time significantly reduced the residual stress in the molded part and improved the toughness of the material. Began selling into a market for transparent, washable containers, such as airtight containers and personal water bottles, that existing materials could not enter.
	Developed PPS Compound for automobile parts and began commercial sales	Developed PPS compound products for automotive parts using SK PPS (Ecotran) manufactured by a new solvent-free polymerization process. Passed quality evaluation of domestic and overseas auto parts market and started sales (for thermostat housing, electric water pump, impeller, lighting parts).
2019	Developed polyester elastomer for use in artificial leather	Developed and commercialized the artificial leather skin's film-forming technology. The existing artificial leather, which used solvent-type PU and plasticizer-containing PVC, will be replaced with solvent-free and plasticizer-free polyester elastomer. Planned for application to automobile interior materials, furniture, and bags.
	PPS Base Resin R&D	Developed the PPS Monofilament. Developed the PPS resin for high-strength monofilament.
2018	Composite materials for automobile parts	Developed the carbon fiber prepreg for automotive exterior parts. The exterior quality after molding the CFRP parts was excellent compared to the existing products, and thus, it succeeded in applying the automotive exterior parts for the first time in Korea. Started domestic sales and plans to expand to markets including China in the future.
	Developed flame-retardant PET for motor insulator	Developed the flame-retardant PET compound material for the motor parts of home appliances with excellent strength and moldability. Successfully applied to direct-drive method insulators in large home appliance motors, which previously applied only world-class products (Dupont's Rynite, etc.). Expanded applications to electrical and electronic insulating parts such as motor insulators, bobbins, and relays, and localized materials for the direct-drive method insulators in motors, which were previously supplied exclusively by overseas manufacturers.
	Developed and commercialized the PPS compound for Hyundai Motor's lamp parts	Developed the new product of PPS compound with a significantly lower out-gas content. Addressed the haze issue for the volatile out-gas components of automobile lamp parts, applied for the Hyundai Mobis' automobile head lamp parts, and began the commercial sales.
	Developed and commercialized the PCT compound for microwave-safe cooking containers	Developed the first high heat-resistant material for the microwave-safe cooking containers in Korea with the improved heat resistance and impact resistance compared to the existing materials and secured the FDA certification. Began the domestic sales. Plans to enter into the global market by expanding high-temperature applications such as oven-safe cooking containers in the future.

<Life Science Biz.>

Classification	Assignment name	Indicant	Development phase	Note
Pharma Business	SID710	Dementia	Released in the US, approved in Brazil	Released Europe's first generic
	SID1806	Arthritis	Phase 3 clinical trial	-
	SID1901	Hypertension	Phase 1 clinical trial	Generic
	SID1903	Diabetes	Phase 1 clinical trial	Incrementally modified drug
	SID2001	Hypertension	Released	Generic
	SID2101	Migraine	Formulation research	Generic
	SID2102	Thrombocytopenia	Formulation research	Generic
	NCE201	Non-alcoholic steatohepatitis	Non-clinical	New drug

	NCE202	Non-alcoholic steatohepatitis	Non-clinical	New drug
	NCE204	Non-alcoholic steatohepatitis	Discovery	New drug
	NCE205	Idiopathic pulmonary fibrosis	Discovery	New drug
	NCE223	Anti-cancer	Discovery	New drug
	NCE224	Anti-cancer	Discovery	New drug
	SKR206	Non-alcoholic steatohepatitis	Non-clinical	New drug
	SKR207	Idiopathic pulmonary fibrosis	Non-clinical	New drug
	SKP201	Arthritis	Approved	Generic
	SKP203	Hyperlipidemia	Released	Generic
	SKP204	Lou Gehrig's disease	Approved	-
	SKP205	Migraine	Approved	Incrementally modified drug
	SKP221	Dyslipidemia	Phase 1 clinical trial	Incrementally modified drug
	SKP222	Serum phosphorus regulation	Approved	Generic
	SK Bioscience	GBP510	COVID-19	Obtained domestic product approval Overseas approval in progress
NBP618		Typhoid (TCV)	Obtained export product approval WHO PQ in progress	Jointly developed
GBP410		Pneumococcus (PCV)	Phase 2 clinical trial	Jointly developed
NBP615		Cervical cancer (HPV)	Phase 1/2 clinical trial	-
NBP613		Rotavirus	Phase 1/2 clinical trial	-
NBP1803		Immuno-oncology	Basic research	-
Vaccine		Acute respiratory disease (RSV)	Basic research	-
NBP1801		Hepatitis A	Non-clinical	-
NBP1802		Recombinant herpes zoster	Basic research	-
NBP623		Obesity	Basic research	-
NBP622		COVID-19 variants	Non-clinical	-
Combo vaccine		COVID-19 + flu	Basic research	-
GBP511		Universal COVID-19	Basic research	Jointly developed
GBP540		Mini-binder (Nasal spray)	Basic research	Jointly developed
GBP550		mRNA COVID-19	Non-clinical	Jointly developed
GBP560		Japanese encephalitis	Basic research	Jointly developed
GBP570		Lassa fever	Basic research	Jointly developed
GBP430	NRRV (for underdeveloped countries)	Phase 3 clinical trial	Development discontinued	

※For the detailed status, refer to 'Detailed Table-5. R&D Performance (Details) - <Life Science Biz.>'.

[SK Multi-Utility]

- Not applicable

(Performance of the completed R&Ds)

The status of new drugs whose development has been completed over the last 5 years is as follows.

[Pharmaceutical business (Pharma Business)]

(Reference date: 2022.12.31)

Classification	Product name	Indicant	Released	Status	Note
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Generic	Cosca Tab. 25mg	Hypertension medication	2021	Sold domestically	Released (2021.07.01)
Natural product	Ginexin F Tab. 240mg	Improved blood circulation	2021	Sold domestically	High content tablet, improved intake convenience
Generic	Laton PR Tab.	Insomnia	2020	Sold domestically	-
New drug	Ongentys	Parkinson's disease	2020	Sold domestically	-
Incrementally modified drug	Renexin CR Tab.	Inhibited the recurrence of chronic arterial occlusion and cerebral infarction	2020	Sold domestically	Incrementally modified drug (sustained release)
Generic	Romelain Enteric Coated Tab.	Edema after trauma or surgery	2020	Sold domestically	-
Incrementally modified drug	Vimsk Inj.	Epilepsy treatment	2019	Sold domestically	Lacosamide ingredient Inj., first release in Korea
Incrementally modified drug	Qudexy XR	Epilepsy treatment	2018	Sold domestically	Incrementally modified drug (sustained release)
Generic	Cosca EX Tab.	Hypertension medication	2018	Sold domestically	-

[Vaccine business (SK Bioscience)]

(Reference date: 2022.12.31)

Item	Indicant	Year of development completion	Current status	Note
SKYCellflu 3 prefilled syringe Inj.	Flu prevention	2014	Sold in Korea; overseas approval in progress	-
SKYCellflu 4 prefilled syringe Inj.	Flu prevention	2015	Sold in Korea; overseas approval in progress	WHO PQ obtained
SKYPneumo prefilled syringe Inj.	Prevention of Pneumococcus	2019 (Children) 2016 (Adults)	Approval obtained	Not sold in the market due to patent issues
SKYZoster Inj.	Prevention of herpes zoster	2017	Sold in Korea; overseas approval in progress	-
SKYVaricella Inj.	Prevention of chickenpox	2018	Sold in Korea; overseas approval in progress	WHO PQ obtained
SKYTyphoid Multi Inj.	Prevention of typhoid (TCV)	2022	Export product approval obtained; WHO PQ in progress	-
SKYCovione Multi Inj.	Prevention of COVID-19	2022	Domestic approval obtained; overseas approval in progress	-

In August 2022, we prematurely terminated the development of GBP430 (Pediatric enteritis vaccine (NRRV) for underdeveloped countries) based on a phase 3 clinical trial step 1 futility interim evaluation result, which presented insufficient evidence of the effective protection of our candidate against severe rotavirus gastroenteritis compared to currently approved oral rotavirus vaccines.

[SK Multi-Utility]

- Not applicable

(2) Patent application performance results

(Reference date: 2022.12.31)

(Unit: cases)

Year	Domestic		Overseas	
	Applied	Registered	Applied	Registered
2022	48	33	99	80

2021	71	34	113	103
2020	42	19	135	103

※ The performance results above include the performance of the consolidated subsidiaries.

(3) Other R&D performance

SK Bioscience, the Company's subsidiary, focuses on the development of vaccine formulations with high potential to lead the vaccine industry in the future, based on its successful experience in the development and commercialization of various vaccine products to date. We plan to expand our vaccine product portfolio by securing a pipeline consisting of cervical cancer vaccine, childhood enteritis vaccine, typhoid vaccine and next-generation pneumococcal vaccine, and, based on SK Bioscience's R&D capabilities, we are strengthening our global position in the vaccine industry by actively building a global vaccine network through co-development and collaboration with global multinational companies, international organizations, and biotech companies. In addition, we are developing COVID-19 vaccines by leveraging its experience in vaccine development and technology it has accumulated over the years to overcome the COVID-19 pandemic. In particular, the Company's proprietary COVID-19 vaccine SKYCovione, whose development was funded by BMGF/CEPI, received approval for a Phase 3 clinical trial (IND) from and by the Ministry of Food and Drug Safety in August 2021. We conducted global phase 3 clinical trials in various regions, such as Europe and Southeast Asia, and achieved excellent clinical trial results and received product approval from the Korean Ministry of Food and Drug Safety in June 2022.

The results of the major R&D assignments carried out by SK Bioscience are as follows. For the cell-cultured influenza vaccine, which is the foundation and core product of SK Bioscience's vaccine business, we successfully developed a trivalent vaccine for the first time in Korea and a quadrivalent vaccine for the first time in the world. In addition, we launched our premium vaccine 'SKYZoster' into the previously monopolized herpes zoster vaccine market, followed by a successful launch of 'SKYVaricella', a chickenpox vaccine. Based on the success of these products in Korea, we are planning to expand into overseas markets.

Among SK Bioscience's R&D assignments in progress, the most notable project is the next-generation pneumococcal vaccine development project with Sanofi, a global vaccine company. Launched in 2014, the project is currently undergoing global phase 2 clinical trials and, once commercialized, is expected to enter the global pneumonia vaccine market valued at approximately 9.5 trillion* as of 2022. In addition, SK Bioscience is conducting joint research with overseas institutions with the aim of entering the global market. For the typhoid vaccine we co-developed with IVI, we received export product approval from the Korean MFDS in May 2022 and plan to obtain WHO PQ certification for global supply.

*Source: Evaluate Pharma, 2022

7. Other Matters of Reference

A. Related to intellectual property rights

1) Patent

In connection with the business we are engaged in, as of the date of preparation of the disclosure documents, we have registered 1,306 patents domestically and 1,717 patents internationally.

In the business areas of Green Chemicals Biz., we acquired a number of patents related to materials, and with the Life Science Biz, we registered patents related to our major pharmaceutical products such as Joins and Promac. The Company's subsidiary SK Bioscience also acquired patents related to our influenza vaccines and pneumococcal vaccines.

However, the number of intellectual property rights owned changes from time to time due to new acquisitions of rights, expiration of rights, abandonment and sale of rights, etc.

(Status of the patent acquisitions (cumulative))

(Reference date: 2022.12.31)

(Unit: cases)

Classification	Domestic	Overseas
Green Chemicals Biz.	1,068	1,113
Life Science Biz.	238	604

(Status of the patent acquisition for the last 3 years)

(Unit: cases)

Classification	2022	2021	2020
Domestic	33	34	19
Overseas	80	103	103

2) Trademark

In connection with the business we are engaged in, we have a total of 163 domestic and 173 overseas registered trademarks as of the date of preparation of these disclosure documents.

B. Matters of regulation related to environment

In connection with our business, we strive to protect the environment by strictly complying with legal requirements, such as environmental regulations for various products and workplaces. In particular, in response to the government's low-carbon green growth policy, we report the 'greenhouse gas emissions and energy consumption' at our workplaces to the government as required by relevant laws and regulations, and also transparently provide relevant information to stakeholders through sustainability reports, etc. In 2016, we established and implemented the SHE (Safety, Health, Environment) system for systematic environmental management, and we continue to do our best to reduce harmful and hazardous factors to the environment for the future.

1) Air and water quality

To systematically manage our emissions of air pollutants, we have installed an automated atmospheric measurement network (TMS) and conducted continuous environmental monitoring activities. In addition, environmental protection such as compliance with emission standards continues to be our top management priority when operating air emission facilities. We manage the discharge of water pollutants by operating wastewater treatment facilities at our sites. To minimize the emission of pollutants, we have installed environmental pollution prevention facilities, including air and water pollution prevention facilities, and operate them to minimize the impact on the surrounding environment.

2) Hazardous chemicals

To respond to the laws and regulations related to hazardous chemicals and enhance the workplace safety, we have prepared the 'Chemical Accident Prevention Management Plan' which analyzes the extent of the impact on people and the environment caused by chemical accidents outside of the workplace. In addition, we have prepared and implemented programs for accident prevention, off-site impact assessment, and emergency response, and have also notified local residents of the related information. On this basis, we strive to minimize damage in the event of a chemical accident by establishing our own control plan and taking measures such as notifying local residents near our workplaces.

3) Product environmental regulations compliance

With the tightening of regulations on hazardous chemicals around the world, SK Chemicals produces and sells SKYGREEN, a copolyester material that does not contain bisphenol derivatives (BPA, etc.), which can be harmful to the human body, or phthalate plasticizers regulated by EURoHS, and meets the requirements for food contact materials in Korea, the United States, Europe, China, and Japan, as well as ECOZEN, which achieves improved heat resistance by introducing biomass-derived ingredients (1-15% based on biomass-derived carbon elements).

4) Greenhouse gas reduction and energy saving

Since 2015, we have been designated as the company qualified for the allocation of greenhouse gas emission rights under Article 8 of the Act on the Allocation and Trading of Greenhouse Gas Emission Permits. Therefore, in accordance with Article 24 of the same law and the guidelines of the authorities, our greenhouse gas emissions and energy consumption, which have been verified by a third party with an external verification agency, have been reported to the government authorities and disclosed to our stakeholders, and we have engaged in numerous activities to reduce our greenhouse gas emissions and energy consumption.

C. Relevant laws and regulations or government regulations

The pharmaceutical industry is directly related to public health and is therefore subject to strict regulations under the Pharmaceutical Affairs Act and other relevant laws and regulations. The relevant regulations are implemented in various areas, including the approval review of clinical trial plans, approval, re-examination after release, sanctions for use outside the scope of approval, and maintenance of the order of sales. In particular, in the drug approval process, the Ministry of Food and Drug Safety effectively manages safety and efficacy, as well as testing methods, production-related information on key drug ingredients, risk management plans, etc., to ensure that only thoroughly verified products are released to the market.

To ensure fair competition in the industry and improve sales practices, the government has introduced the double punishment system for rebates to punish both the illegal recipients of rebates and the providers to promote transparency in the drug transaction and drug pricing system, and has strengthened the penalties for offering and accepting rebates, such as ensuring that the insurance price of drugs for which the act of offering rebates has been caught can be reduced. In addition, by revising the Pharmaceutical Affairs Law, the government is striving to maintain fair sales practices by enacting a series of laws on the economic profit and expense reporting system and regulations against sales agents.

The government's efforts to stabilize the pharmaceutical industry include various drug price reduction policies for the financial soundness of health insurance. In the pharmaceutical industry, unlike other industries, the government directly controls drug prices, which means that the government's drug pricing policy has a direct impact on the sales and profitability of individual companies. Drug pricing policy is managed at an appropriate level depending on the financial situation of the national health insurance finance at the time. The policy focuses on minimizing drug expenditures, a major component of insurance financial expenditures, by adjusting and lowering drug prices based on the price and use of drugs, and preventing the use of health insurance funds beyond what is necessary.

Currently, the government recognizes the pharmaceutical and biotechnology industries as key strategic industries that will create a national growth engine in the future, and is systematically promoting and supporting the two industries. In order to ensure their international competitiveness, the government has drawn up a five-year comprehensive plan for the promotion and support of the pharmaceutical industry in accordance with the relevant special law and implemented the plan from 2013 to 2017. In addition, by selecting excellent companies and registering them as innovative pharmaceutical companies, the government has provided various incentives, including R&D investment expansion, tax support, policy funding support, tax reduction and exemption, and deregulation, and has continued to invest in R&D excellence and endeavored to promote the development of the pharmaceutical industry. In addition, in line with its pledge to promote the pharmaceutical and biotech industries as the future growth engine for achieving health security and creating national wealth, the government has announced and continuously implemented additional policies to promote the development of the pharmaceutical industry, including the establishment of the 'Pharmaceutical and Biotech Innovation Committee' directly under the Prime Minister, a control tower for pharmaceutical and biotech R&D, and a pledge to double the government R&D support cost from KRW 2.8 trillion to KRW 5.6 trillion.

[SK Multi-Utility]

1) Related to intellectual property rights

- Not applicable

2) Environmental regulations and related laws or governmental regulations

(1) Compliance with government regulations related to discharge of environmental substances or environmental protection
In order to meet legal requirements for environmental protection, SK Multi-Utility thoroughly manages emission facilities such as air and water emission facilities. To continuously strengthen management and comply with relevant laws and regulations, we conduct environmental audits at our sites to proactively discover and improve risk factors.

① Air pollutant management

To minimize air pollutant emissions, we operate a 24-hour remote monitoring system using monitors and detectors at major emission facilities to ensure compliance with emission standards and to prioritize environmental protection in the operation of air emission facilities.

In addition, SK Multi-Utility has been selected as a designated site for the Greenhouse Gas Energy Target Management System since 2015. As such, we are setting and complying with greenhouse gas reduction targets and energy conservation targets required by various laws and regulations, and actively responding to climate change by establishing a roadmap to achieve carbon neutrality by 2050 and improving energy efficiency at facilities.

② Water pollutant management

SK Multi-Utility thoroughly manages facilities to minimize the discharge of water pollutants and jointly treats wastewater at SK Chemicals' wastewater treatment facility. To manage non-point pollutants discharged from business sites due to rainfall, we have installed non-point pollution reduction facilities to prevent water pollution by the water pollutant.

③ Waste management

Waste generated at business sites is managed in accordance with the Waste Management Procedure, and waste that has been properly segregated and disposed of is temporarily stored in a storage facility before being removed, and it is legally transported, treated, and managed in connection with the government's Allbaro system. In addition, we are establishing a positive waste cycle by enhancing the recycling rate of waste generated at our facilities.

D. Status for each business division

1) Green Chemicals Biz.

(1) Characteristics of the industry, etc.

The chemical industry is exposed to a variety of external environmental factors, including fluctuations in currency exchange rates, the global economy, and oil price volatility due to geopolitical risks in the Middle East. In particular, due to stagnant domestic demand, the Korean chemical industry has relied on exports for growth, but its growth engine has been weakened by further intensifying competition, such as approaching self-sufficiency in China, the main export destination, and increased supply in the Middle East and the United States.

However, by focusing on the production and sale of high-value-added specialty products, the Company has enjoyed steady growth due to the steady increase in global demand for environmentally friendly products and lightweight materials, and its new businesses are also expected to enter the stabilization phase in the near future.

(2) Domestic and overseas market conditions, etc.

[Highly functional copolyester resin]

In East Asia, including Korea, China and Japan, we have secured a market share of over 50% and our business is very stable. In North America and Europe, our local marketing subsidiaries are providing customer services to expand our market share, while demand continues to grow through the development of new markets, including Southeast Asia and Latin America.

Trends in the share of the global copolyester resin market

Product	2022	2021	2020
Copolyester	41%	41%	36%

※ Source: Estimated in-house

[DMT]

In Korea and Japan, we have secured a stable sales base through long-term contracts with our major customers, maintaining a market share of over 90%. In addition, as the only manufacturer in East Asia, we have maintained a very large market share throughout Asia, including China, Taiwan and India.

Trends in the market share of the DMT market of China, the main market

Product	2022	2021	2020
SKYDMT	90%	90%	90%

※ Source: Estimated in-house

[Copolyester adhesive]

Copolyester binders for bonding and coating are used in food can coatings, steel sheet coatings for home appliances, garments, and packaging adhesives, etc., and the industry is maintaining stable growth at an average annual rate of 3%. Particularly in food can coating, copolyester binders are replacing epoxy, which was widely used in developed countries such as the United States and Europe after the issue of exposure to the environmental hormone BPA arose, and are growing rapidly at a rate of more than 10% per year. With competitive prices and excellent quality, the products are gaining market share in the US and European markets. In steel coatings for home appliances, we have over 80% of the domestic market share and are expanding sales to Asian regions including China.

Trends in the market share of the global polyester adhesive market

Product	2022	2021	2020
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SKYBON (based on the solid's sales)	10%	9%	7%
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※ Source: Estimated in-house

(3) Overview of business, etc.

[Highly functional copolyester]

Copolyester is used in a wide range of applications, from packaging materials to home appliances and construction materials, due to its safety, excellent physical performance, chemical resistance and transparency, as well as the absence of bisphenol A (BPA), an environmental hormone. Based on our stable production technology, we are expanding the market by developing various products to meet customer needs ranging from high heat resistance to high strength. For high-heat resistant products, we are expanding sales by releasing the new Ecozen Pro, which has improved physical performance, and demand for the Ecotria series, which contains 30 - 50% recycled materials, is also growing steadily. We plan to continue to expand our market share by newly investing in and developing products to address recycling challenges.

[DMT]

Despite its excellent quality, in recent years the industry has moved away from DMT and towards PTA as an alternative in polyester and hot melts such as PET and PBT due to its relatively high price and limited supply. Our DMT is used as a raw material for CHDM in copolyester production to ensure production stability, and by providing world-class quality products, we continue to expand our market share even in the face of declining demand.

[Copolyester adhesive]

The adhesives and coatings market has a wide variety of applications and application materials. Therefore, developing a variety of products that meet customer needs in a timely manner and establishing a product portfolio for each application is key to competitiveness. Given these characteristics, there are barriers to entry for new companies. The traditionally strong players in each region, such as Evonik in Europe, Bostik in the United States, and Toyobo in Japan, have dominated the market in each region. Recently, however, major customers such as paint companies are promoting dualization of supply to ensure low-cost purchasing and stable raw material supply, which means there are opportunities for regional expansion. We have been steadily increasing our market share in overseas markets by leveraging our competitive advantages, including the technological strength we have accumulated in this business over the past 30 years and the price competitiveness we can offer thanks to our in-house production of monomers such as DMT and CHDM. The adhesives and coatings market is a mature industry that has maintained stable growth, but there are applications that require the replacement of existing technologies or have high growth potential due to external environmental changes such as regulations and technologies. In particular, our products that do not contain the environmental hormone BPA are attracting attention for can coating applications, while the solvent-free hot melts that do not use organic solvents have excellent wash resistance and are used as adhesives for thermal transfer films for clothing.

(4) New businesses, etc.

Due to the governments around the world strengthening their eco-friendly policies and increased consumer awareness of environmental pollution, existing petroleum-based plastic materials will be converted to recycled, eco-friendly, and bio-based materials in the future. Through steady investment and research in the field of eco-friendly and bio materials for more than 20 years, we have secured pure domestic technology centered on copolyester, and have shown continuous growth in the global market and acquired unrivaled business competitiveness. Utilizing these accumulated competencies, we will complete an eco-friendly material business model centered on chemical recycling and bio material businesses. In addition, we aim to achieve Carbon Net Zero by 2040 by actively increasing the use of green energy.

In accordance with this business direction, on November 07, 2022, the Company announced a mid to long-term strategy (eco-transition) for sustainable management, and the detailed strategy is as follows.

① Establishment of Circular Economy Business Portfolio Centered on Green Materials

By taking the lead in establishing an eco-friendly circular economy for PET, we aim to create a positive cycle in which ecosystem development is also linked to business success. We will contribute to solving social problems by turning PET bottle waste generated in Korea into resources and establish a stable foundation for business operations through domestic supply and demand of recycled raw materials. In 2021, we commercialized the copolyester produced using the chemical recycling method for the first time in the world. Starting with commercial production of corn-based PO3G in 2022, we are planning to expand investment in business value-chains and promising biomaterials based on our biomaterial technology, such as highly flexible PLA, and grow into a global leader in the copolyester business by 2026 through continuous application and technological development of related technologies, while expanding the weight of recycled copolyester production to 100% by 2030.

② Net Zero and Life Cycle Assessment (LCA)

The Company is currently promoting a fuel transition from coal to LNG, and plans to prepare for a transition to zero-carbon energy by establishing a hydrogen economy in the future. We will achieve net zero greenhouse gas emissions by converting our current product portfolio to green materials and using green energy to reduce greenhouse gas emissions by 2040. In addition, we plan to generate additional revenues through carbon credits based on greenhouse gas reduction performance.

2) Life Science Biz.

(1) Characteristics of the industry, etc.

The pharmaceutical and biopharmaceutical industry, which produces and sells the medicines that are the key to human health, is an industry that is directly related to the health of the nation and its people, and takes on the characteristics of a regulated industry with strict management and control. In this context, corporate responsibility and ethics are of paramount importance. In particular, the vaccine industry not only takes the lead in public health through disease prevention, but also contributes to the promotion of the health of all mankind through overseas exports, thus contributing to the promotion of public interest.

The pharmaceutical and biopharmaceutical industry is a high value-added industry with high technology and research intensity, and is also attracting attention as a key industry for the future. In particular, biopharmaceuticals represent a high value-added business compared to traditional synthetic drugs, and their share of the overall pharmaceutical market is steadily increasing. After the COVID-19, the importance of a stable vaccine supply in terms of national and social safety nets has become increasingly important around the world, and drug regulators of each country have recently called on pharmaceutical companies to strengthen the reliability of the drug supply

The biopharmaceutical market is estimated to be worth approximately USD 266 billion in 2019 and is expected to grow at a CAGR of 9% until 2026, driving the growth of the pharmaceutical/biopharmaceutical industry. In addition, not only is the domestic vaccine market expected to grow, but the international vaccine market is also expected to grow rapidly centering on developing countries, as the government plans to become self sufficient in vaccine supply and expand national vaccination support projects.

Total production of domestic pharmaceuticals, etc.

(Unit: KRW one billion, %)

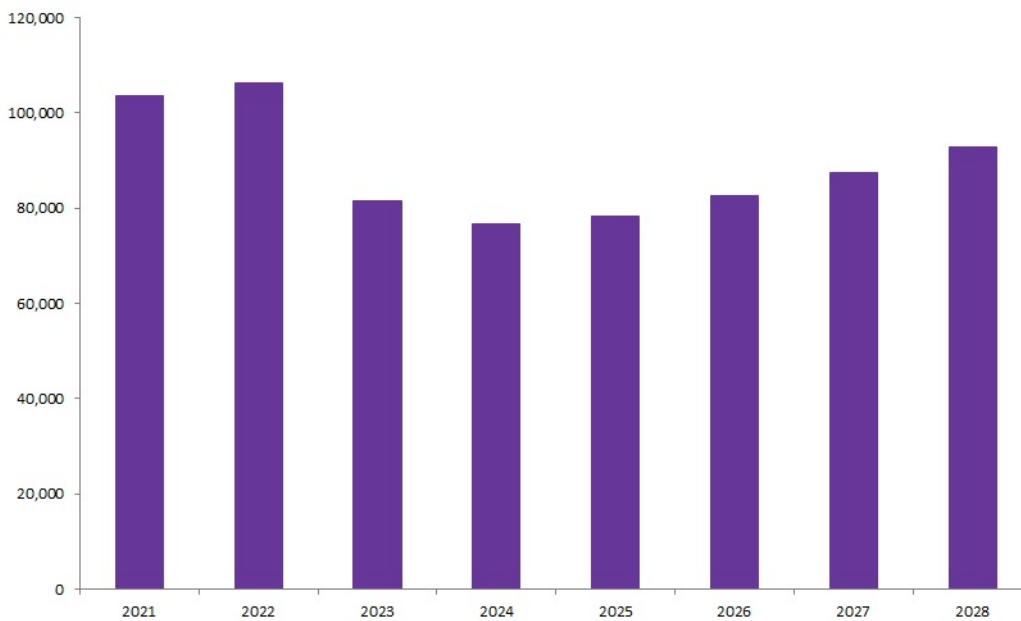
Year	Total production amount of pharmaceuticals, etc.	GDP		Weight Relative to GDP	
		All Industries	Manufacturing	All Industries	Manufacturing
2017	216,660	18,356,982	4,946,449	1.18%	4.38%

2018	223,787	18,981,926	5,056,502	1.18%	4.43%
2019	237,985	19,244,981	4,854,012	1.24%	4.90%
2020	280,284	19,407,262	4,809,174	1.44%	5.83%
2021	276,181	20,716,580	5,274,841	1.33%	5.24%

Source: Korea Pharmaceutical and Bio-Pharma Manufacturers Association, <2022 Pharmaceutical and Biotechnology Industry Databook>

Global vaccine market status and forecast (2021–2028)

(Unit: USD one million)



Source: Evaluate Pharma (2023.03)

(2) Domestic and overseas market conditions, etc.

[Pharmaceutical business (Pharma Business)]

The domestic pharmaceuticals market has continued to grow, yet the competition within the market is expected to intensify further. Competition among pharmaceutical companies is intensifying as a result of government drug price controls and the strengthening of various regulatory, ethical and compliance activities. Each pharmaceutical company is implementing a range of business strategies, including expanding product portfolios through partnerships and entering overseas markets to complement them. In particular, the movement of 'open innovation strategy' to secure new drug candidates from outside to improve the R&D efficiency and performance has increased recently. In addition, in the face of drug price reductions and increased competition, internal operational efficiencies are being increased to diversify businesses and improve profitability. Mergers, acquisitions and equity investments among pharmaceutical companies are also expected to be active.

[Vaccine business (SK Bioscience)]

① C(D)MO market growth

C(D)MO is an abbreviation of “Contract Development & Manufacturing Organization”, which refers to the contract development and manufacturing of pharmaceuticals. Through contracts with pharmaceutical and biotech companies, new drug development processes such as candidate material development, manufacturing process development, and clinical marketing are outsourced beyond the CMO area for contract development and manufacturing. According to Evaluate Pharma, the global biopharmaceuticals market is expected to grow from USD 287.2 billion in 2020 to USD 416.7 billion in 2024, at a CAGR of 9.8%. Accordingly, the bio-CMO market is expected to grow from USD 11.9 billion in 2019 to USD 25.3 billion in 2025, a CAGR of 13.4% over the next 10 years.

② Mergers and acquisitions facilitation

In 2022, there were a total of 539 biopharmaceutical M&A deals worldwide, with a deal value of USD 99.8 billion.* Companies are paying attention to new drugs with high profitability and are pursuing mergers and acquisitions in order to dominate the new drug market in advance. The recent strategy to retrieve venture investment in the pharmaceutical and biotechnological sectors is also expected to stimulate M&A activity. Bio ventures have technologies and ideas, but they lack ongoing capital, whereas Big Pharma has both the capital and the technical expertise. By acquiring bio ventures, it can develop new products by applying them to its own pipelines.

*Source: GlobalData

③ Government policy support

After the 2009 H1N1 influenza pandemic, the importance of vaccines was highlighted and the government declared the goal of ‘vaccine sovereignty’ to support the expansion of domestic vaccine self-sufficiency starting in 2010. The government has designated and managed nationally essential vaccines under the Infectious Disease Control and Prevention Act, the number of which has steadily increased from 8 types in 2009 to 17 types in 2017. To ensure vaccine sovereignty, the government aims to localize 21 out of 28 national essential vaccines by 2023. To this end, various ministries are making efforts to support vaccine development through measures such as the Ministry of Food and Drug Safety’s operation of Global Vaccine Commercialization Support Group, WHO vaccine prequalification (PQ), and export support projects.

[Changes in the domestic vaccine self-sufficiency plan]

Classification	2009	2010	2012	2014	2016	2017	2020	2023
Self-sufficiency vaccines	7/28 types	8/28 types	8/28 types	9/28 types	13/28 types	14/28 types	16/28 types	21/28 types
Vaccine self-sufficiency rate	25%	29%	29%	32%	46%	50%	57%	75%

Source: Ministry of Food and Drug Safety, The 2019 Vaccine Self-Sufficiency Plan

Market share trends of Life Science Biz.’s key products in the domestic market

Business Division	Key Products	Market Share			Note
		2022	2021	2020	
Pharmaceutical business (Pharma Business)	Joins	28%	28%	28%	Source: UBIST
	Ginexin	39%	38%	39%	Source: UBIST
Vaccine business (SK Bioscience)	Flu vaccine	- (Note 1)	- (Note 1)	31%	Source: Estimated in-house (refer to the Ministry of Food and Drug Safety, The National Shipping Approval Data and the CDC Inoculation Rate)
	Herpes zoster vaccine	54%	49%	48%	Source: IMS data

	Chickenpox vaccine	46%	75%	43%	Source: IMS data
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(Note 1) Influenza vaccine production has been temporarily suspended for COVID-19 vaccine production in 2011 - 2022 and was resumed in 2023.

(3) Overview of business

[Pharmaceutical business (Pharma Business)]

Our pharmaceutical business (Pharma Business), which is primarily focused on the production and sale of natural and synthetic pharmaceuticals, is growing through the continuous achievement of R&D results and the establishment of strategic partnerships with leading global pharmaceutical companies. In 1999, we successfully developed Korea's first new drug 'Sunpla', opening a new chapter in synthetic drug research and development. Subsequently, we developed and launched 'Joins', the first natural treatment for arthritis in Korea; 'Mvix', an erectile dysfunction treatment ranked first in the International Index of Erectile Function (IIEF); and 'Mvix S', the world's first film-type erectile dysfunction treatment. In addition, we have become a notable brand in Korea by launching 'Trast', a patch-type arthritis treatment that maximizes the therapeutic effect and duration through the Trans-dermal Drug Delivery System (TDDS) technology, which effectively delivers the required amount of drug at a constant concentration. Together with the world's first generic version of rivastigmine patch, SK Chemicals is expanding its presence in advanced overseas markets, entering markets in 17 countries around the world by obtaining sales approval in Europe in 2012, the United States in 2019 and Brazil in 2021.

In addition, AFSTYLA, our recombinant hemophilia treatment whose technology was exported to CSL (Australia) in 2009, was selected as one of the top 10 new technologies in Korea at the 2012 Korea Technology Awards and received the Minister of Knowledge Economy Award. In 2016, it successfully completed global clinical trials, becoming the first domestic biopharmaceutical to enter the US and European markets.

To further strengthen the Company's accumulated new drug development research capabilities, an open innovation task force organization was formed in 2019, and to effectively discover more diverse candidate substances based on our accumulated new drug development capabilities, we partnered with leading domestic big data researchers, artificial intelligence (AI) companies, and venture companies specializing in new drug development to conduct joint research. Currently, we are conducting joint research based on artificial intelligence technology with global companies such as Standigm, Dr. Noah Biotech, and Deargen, and jointly researching new anti-cancer drugs and antifibrotic disease treatments with companies such as J2H and Oncobix. In the future, we plan to continue developing new drugs for intractable diseases through open innovation with companies and research centers in various fields.

[Vaccine business (SK Bioscience)]

The Company laid the foundation for its growth as a life science company by acquiring a stake in Dongshin Pharmaceutical, a vaccine company, in March 2001. Thereafter, on November 1, 2006, Dongshin Pharmaceutical, which had been incorporated as an affiliate in 2003, was officially merged. The merger with Dongshin Pharmaceutical is significant in that it was the starting point for taking a leap into becoming a world-class life science company through organic R&D and marketing, and it was also an expression of our ambition to become a leader in the biopharmaceutical industry by further developing the business through synergies based on the merger with Dongshin Pharmaceutical, which has unrivaled competitiveness in Korea. We paid attention to the fact that the paradigm in the world's life sciences was shifting from 'treatment' to 'prevention' in 2006, though at the time, the vaccine business in Korea was an unknown field. From 2008 to present, we have executed large-scale investments of about KRW 500 billion for infrastructure construction and R&D. In 2012, we completed the construction of the L House vaccine plant to prepare a base for the production of most of the vaccines developed in Korea.

Andong L House not only achieves flexibility in production with the single-use system, but also promotes the best quality control with a perfect aseptic system. Each processing room maintains a clean working environment with a verified HEPA filter and blocks cross-contamination with an air lock system and independent air conditioning for each region. In addition, the stock solution produced in the stock solution area is stored in refrigerated rooms in the finished product area, and the final undiluted solution is packaged in a sealed disposable sterile bag to ensure consistent quality even in a mass production system. The loading area, which must be completely sealed off from contamination, is under special management with the restricted access barrier system (RABS). We also have a future expansion plan for future exports or pandemics.

Based on Andong L House, we have taken another step toward vaccine sovereignty by achieving remarkable results such

as Korea's first trivalent cell culture influenza vaccine approval in 2014, the world's first quadrivalent cell culture influenza vaccine approval in 2015, the world's second shingles vaccine approval in 2017, and Korea's second varicella vaccine approval in 2018. Based on these achievements, we newly established 'SK Bioscience' through a physical split-off in 2017. In recognition of its world-class R&D capabilities, SK Bioscience entered into a collaboration with global vaccine company Sanofi Pasteur in 2014 to develop a next-generation pneumococcal vaccine. In addition, AFSTYLA, a type A hemophilia treatment licensed to CSL through technology transfer, received marketing approval from the U.S. and Canadian FDA in 2016, the European Medicines Agency (EMA) in 2017, and Australia, becoming the first Korean technology-based new drug in the U.S. and EU and further expanding approved markets. In 2018, we signed an agreement with Sanofi Pasteur to export our cell-cultured influenza vaccine production platform technology and launched 'SKYVaricella', a chickenpox vaccine, in Korea.

The next-generation pneumococcal vaccine development project, which was initiated in 2014 (in collaboration with Sanofi), is currently undergoing global phase 2 clinical trials using the clinical drug produced at Andong L House in Andong, which was approved by the FDA (US) in December 2018. If the vaccine is successfully commercialized, it is expected to enter the global pneumonia vaccine market, which is valued at approximately KRW 8 trillion. In addition, SK Bioscience is conducting joint research with overseas institutions with the aim of entering the global market. For the typhoid vaccine, which we co-developed with IIVI, we have obtained product approval for export and are planning to obtain WHO PQ certification for global sales. In addition, our BMGF/CEPI-funded COVID-19 vaccine, 'SKYCovione (GBP 510)', received encouraging phase 3 clinical trial data and obtained product approval from the Korean Ministry of Food and Drug Safety. SK Bioscience also plans to build a global R&D center in Songdo International City to expand its global bio-CDMO business and secure a new platform, and will strengthen its cooperation with international organizations, domestic and overseas bio-companies and research institutes.

(4) New businesses, etc.

[Pharmaceutical business (Pharma Business)]

The biotechnology business is expected to grow exponentially as the global population and the number of elderly people increases. We aim to maintain our current operational excellence and expand our business areas by discovering pipelines and promoting business cooperation with external partners.

We will also promote the development of new drugs through open innovation in collaboration with external bio ventures, and secure new drug discovery capabilities using AI. The Company is currently conducting a joint research in the development of new drugs with a number of bio ventures and is seeking additional partnerships both domestically and internationally.

We are also continuously reviewing future businesses and keeping all options open to explore new areas, not only in relation to existing businesses, but also in new bio-fields such as gene therapy and cell therapy, which are future growth engines.

[Vaccine business (SK Bioscience)]

① Expansion of the preventive vaccine pipeline

A pipeline refers to a new drug development project that is being researched and developed (R&D) by a company. SK Bioscience plans to make continuous efforts, such as R&D investment and manpower input, to develop a new preventive vaccine pipeline from the existing domestic premium vaccine-centered portfolio. In particular, as the COVID-19 pandemic increased overall interest in vaccines for prevention, and global interest in securing vaccine supply against major diseases, the momentum is building for additional pipelines. We have already accumulated experience in global joint development projects through the next-generation pneumococcal vaccine, COVID-19 vaccine, and typhoid vaccine projects, and we expect to discover many leading global cooperation projects in the future.

② Expansion of the new bio/platform

In the vaccine and bio industry, the significance of the platform is that it can be applied to multiple pipelines based on the same technology, and the mRNA platform that emerged rapidly during the COVID-19 pandemic is a prime example. A key characteristic of SK Bioscience's R&D and production capabilities is that it can own multiple platforms at the same time and flexibly and quickly switch as needed. We have already demonstrated its capabilities in various platforms, including synthetic antigens (SKYCovione and Novavax COVID-19 vaccine), cell culture (SKYCellflu), and virus carriers (AstraZeneca

COVID-19 vaccine). Currently, we are working on a project to secure an mRNA technology and production platform through collaboration with global initiatives, and we will also strive to secure a new innovation platform through continuous networking and cooperation within the bio ecosystem.

In addition, the significance of the platform is that it can promote synergies in bio fields other than vaccines. For example, SK Bioscience can consider expanding into the bio field by utilizing its virus carrier production capacity, etc., and it is continuously planning to enter the CGT business by promoting M&A in this direction, etc.

③ Promotion of the CDMO/CMO business

SK Bioscience's CDMO contract plays the role of receiving antigen manufacturing technology from a company with original vaccine technology to make products or supply vaccines around the world by developing additional processes. SK Bioscience expanded its business areas to CDMO by carrying out contract manufacturing of COVID-19 vaccine with existing synthetic antigen and viral vector technology, and plans to start business in earnest by expanding its business to COVID-19 vaccine production contracts and Non COVID-19 CDMO in individual countries in Asia.

There are many companies around the world that are developing vaccines such as the COVID-19 vaccine, but only a limited number of companies have the capacity to commercialize vaccines and secure production facilities that require a lot of cost and a long time. Therefore, the vaccine CDMO/CMO market is expected to grow centering on global base vaccine producers. In fact, recently, a significant number of global biopharmaceutical companies are increasingly carrying out production process development and mass production on consignment, and partnerships with CDMO companies are actively taking place, centering on bio ventures that lack in-house development and production capabilities.

④ Promotion of the Sky Shield business

In the face of the COVID-19 pandemic, several governments have pushed for localization of vaccine-related capabilities, such as production. Accordingly, SK Bioscience is working to localize vaccine development/production infrastructure in each country through partnerships with overseas governments and local companies. We intend to promote the localization of vaccine capabilities through our know-how of vaccine-related products, technologies, and facilities, institutional support of overseas governments, technology transfer to local companies, and operational synergies. We are conceiving and promoting business models that specialize in regional characteristics, centering on the base countries of each region around the world.

[SK Multi-Utility]

Based in Ulsan Head Office, SK Multi-Utility is engaged in the power and steam supply business, producing steam and electricity from raw materials such as bituminous coal and selling them steadily to customers in the supply area. In addition, we plan to further develop the business by investing in LNG cogeneration facilities in Ulsan and promoting specialization in the power and steam utility supply business.

E. Summarized financial status for each business division (based on the consolidated financial statements)

The financial information of each business division during the period subject to disclosure is as follows.

(Unit: KRW one thousand)

Division	Classification	The 6th Period		The 5th Period		The 4th Period	
		Amount	Weight	Amount	Weight	Amount	Weight
Green Chemicals Biz.	Sales amount	1,401,946,579	77%	1,037,059,042	50%	859,196,301	72%
	Operating income	88,746,511	39%	76,514,410	14%	67,404,290	43%
	Depreciation (Note 1)	51,871,909	57%	48,936,429	62%	44,897,135	62%
	Total assets	1,471,789,456	37%	1,253,284,966	32%	1,174,375,615	55%
Market share trends of Life Science Biz.'s	Sales amount	770,659,186	42%	1,229,179,081	59%	489,828,116	41%
	Operating income	148,611,013	64%	520,208,920	94%	90,065,304	58%
	Depreciation (Note 1)	34,400,077	38%	26,301,619	33%	23,563,336	33%
	Total assets	2,335,193,550	59%	2,308,476,688	58%	737,346,582	35%
Consolidation adjustments, etc.	Sales amount	(343,414,442)	-19%	(176,606,246)	-8%	(150,243,647)	-13%
	Operating income	(6,876,851)	-3%	(41,537,420)	-7%	(2,111,620)	-1%
	Depreciation (Note 1)	5,193,111	6%	4,239,036	5%	3,936,305	5%
	Total assets	138,699,874	4%	393,870,740	10%	208,244,760	10%

(Note 1) It is the sum of the depreciation for tangible assets, depreciation for investment real estate properties, depreciation for right-of-use assets, and the amortization cost for intangible assets.

※ Following the sale of the PPS business, the sales amounts and the operating incomes for the 5th and 4th periods of the business exclude the performance of the PPS business, and following the sale of the bio-energy business, the sales amount and the operating income for the 4th period of the business exclude the performance of the bio-energy business.

III. Matters Concerning Finance

1. Summary of Financial Information

A. Summarized consolidated financial information

(Unit: KRW one million)

Account	The 6th Period	The 5th Period	The 4th Period
[Current assets]	2,518,694	2,784,059	923,286
- Quick assets	2,035,941	2,434,759	670,356
- Inventories	482,753	349,299	252,930
[Non-current assets]	1,426,989	1,171,574	1,196,681
- Affiliates and joint ventures investments	13,309	16,328	9,104
- Tangible assets	1,193,131	999,246	1,070,000
- Intangible assets	51,777	44,422	36,956
- Other non-current assets	168,772	111,577	80,621
Total Assets	3,945,683	3,955,632	2,119,967
[Current liabilities]	1,058,819	1,086,649	645,679
[Non-current liabilities]	177,958	302,246	515,355
Total liabilities	1,236,777	1,388,895	1,161,034
[Shares owned by the controlling company]	2,146,699	2,053,542	952,878
- Capital stock	98,794	98,681	66,000
- Consolidated capital surplus	1,199,035	1,192,769	264,315
- Other items of consolidated capital	(21,645)	(21,346)	(18,118)
- Accumulated other comprehensive income on a consolidated basis	1,918	2,937	(2,624)
- Consolidated retained earnings	868,597	780,501	643,305
[Non-controlling interest]	562,207	513,196	6,055
Total equity	2,708,906	2,566,737	958,933
Total liabilities and stockholders' equity	3,945,683	3,955,632	2,119,967
Number of companies included in the consolidation	10	9	9
	2022.01.01 - 2022.12.31	2021.01.01 - 2021.12.31	2020.01.01 - 2020.12.31
Sales amount	1,829,191	2,089,632	1,198,781
Operating income	230,481	555,186	155,358
Net income (loss) from continuing operations before income tax expense	236,701	538,622	125,872
Consolidated net income	231,476	268,743	255,161
Reversion of consolidated net income			
Equity attributable to the owners of the controlling company	191,266	168,140	254,321
Non-controlling interest	40,210	100,604	840
Earnings per share (EPS) for the equity attributable to the owners of the controlling company			
Basic EPS for common stocks (unit: KRW)	9,910	8,586	12,947
Basic EPS for preferred stock (unit: KRW)	9,960	13,921	12,901

Diluted EPS (unit: KRW)	9,880	8,636	12,981
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※ Following the sale of the PPS business, the sales amounts and the operating incomes for the 5th and 4th periods of the business exclude the performance of the PPS business, and following the sale of the bio-energy business, the sales amount and the operating income for the 4th period of the business exclude the performance of the bio-energy business.

※ The financial statements above have been prepared in accordance with the Korean International Financial Reporting Standards (K-IFRS).

Regarding the Notes to the Consolidated Financial Statements, refer to "III. Matters Concerning Finance - 3. Notes to the Consolidated Financial Statements."

B. Summarized financial information

(Unit: KRW one million)

Account	The 6th Period	The 5th Period	The 4th Period
[Current assets]	645,373	850,386	542,387
- Quick assets	401,088	673,715	390,369
- Inventories	244,285	176,670	152,018
[Non-current assets]	1,165,105	1,136,764	1,202,198
- Affiliates and joint ventures investments	12,592	13,176	5,091
- Subsidiaries' investments	371,328	369,310	248,206
- Tangible assets	661,774	663,485	878,396
- Intangible assets	32,020	25,582	18,815
- Other non-current assets	87,391	65,212	51,690
Total Assets	1,810,477	1,987,150	1,744,585
[Current liabilities]	535,148	608,416	461,441
[Non-current liabilities]	155,731	223,150	398,071
Total liabilities	690,879	831,566	859,511
[Capital]	98,794	98,681	66,000
[Capital surplus]	157,915	155,974	188,347
[Other capital]	(12,644)	(12,345)	(9,117)
[Retained earnings]	875,533	913,274	639,843
Total equity	1,119,598	1,155,584	885,073
Total liabilities and stockholders' equity	1,810,477	1,987,150	1,744,585
Valuation method for the investment stocks for subsidiaries, affiliates, and joint ventures	Cost method	Cost method	Cost method
	2022.01.01 - 2022.12.31	2021.01.01 - 2021.12.31	2020.01.01 - 2020.12.31
Sales amount	1,256,030	1,093,357	905,275
Operating income	107,527	82,293	97,695
Net income (loss) from continuing operations before income tax expense	88,401	540,885	78,834
Net income	69,270	302,503	215,743
Basic and diluted EPS			
Basic EPS for common stocks (unit: KRW)	3,586	15,451	10,983
Basic EPS for preferred stock (unit: KRW)	3,636	20,531	10,943
Diluted EPS (unit: KRW)	3,575	15,501	11,016

※ Following the sale of the PPS business, the sales amounts and the operating incomes for the 5th and 4th periods of the business exclude the

performance of the PPS business, and following the sale of the bio-energy business, the sales amount and the operating income for the 4th period of the business exclude the performance of the bio-energy business.

※ The financial statements above have been prepared in accordance with the Korean International Financial Reporting Standards (K-IFRS).

Regarding the Notes to the Financial Statements, refer to "III. Matters Concerning Finance - 5. Notes to the Financial Statements."

2. Consolidated Financial Statements

Consolidated Statement of Financial Position

The 6th Period as of December 31, 2022

The 5th Period as of December 31, 2021

The 4th Period as of December 31, 2020

(Unit: KRW)

	The 6th Period	The 5th Period	The 4th Period
Assets			
Current assets	2,518,693,783,957	2,784,058,669,420	923,286,317,987
Cash and cash equivalents	400,028,232,546	255,615,367,155	86,764,151,843
Short-term financial assets	1,319,742,323,271	1,794,156,437,313	339,928,469,816
Trade and other receivables	260,401,304,200	366,865,111,272	233,192,607,955
Inventories	482,753,081,114	349,299,225,904	252,930,309,986
Contract assets			979,914,679
Other current assets	28,995,934,504	18,122,527,776	9,490,863,708
Non-current assets held for sale	26,772,908,322		
Non-current assets	1,426,989,095,787	1,171,573,724,836	1,196,680,638,899
Long-term financial assets	27,500,000	21,142,500,000	32,500,000
Long-term trade and other receivables	863,517,000		
Long-term investment assets	38,628,272,096	35,081,486,249	24,492,063,443
Affiliates and joint ventures investments	13,309,152,533	16,328,276,602	9,104,020,171
Tangible assets	1,193,131,058,845	999,245,763,243	1,069,999,627,343
Right-to-use assets	28,609,183,615	15,386,726,242	16,101,459,538
Intangible assets	51,777,238,900	44,422,323,845	36,955,864,384
Investment real estate properties	17,339,365,662	17,212,277,612	17,055,665,021
Other non-current assets	55,312,652,922	11,327,379,952	2,344,511,421
Deferred income tax assets	27,991,154,214	11,426,991,091	20,594,927,578
Total Assets	3,945,682,879,744	3,955,632,394,256	2,119,966,956,886
Liabilities			
Current liabilities	1,058,819,027,627	1,086,649,251,139	645,679,130,159
Trade and other payables	219,159,227,892	452,892,821,032	232,021,734,019
Short-term borrowings	436,109,819,164	11,671,373,163	107,636,902,688
Current portion of long-term liabilities	103,986,943,744	207,864,113,268	96,947,494,138
Current portion of lease liabilities	11,685,097,812	2,788,637,923	3,038,108,909
Current portion of contract liabilities	159,925,939,743	114,455,430,866	96,226,901,452

Current portion of provisioning liabilities	22,137,940,676	22,437,979,100	
Current income tax liabilities	36,222,667,153	174,009,868,314	69,339,226,370
Other current liabilities	62,031,064,860	100,529,027,473	40,468,762,583
Non-current liabilities held for sale	7,560,326,583		
Non-current liabilities	177,958,022,961	302,245,734,599	515,355,033,495
Debenture	154,787,348,542	256,063,406,698	460,480,569,890
Long-term borrowings	7,172,698,962		31,135,000,000
Lease liabilities	13,185,242,385	8,343,522,232	9,392,925,411
Defined benefit liabilities		4,869,971,132	7,643,269,177
Provisioning liabilities	2,278,409,185		
Other non-current liabilities	534,323,887	2,629,873,359	4,085,315,565
Deferred income tax liabilities		30,338,961,178	2,617,953,452
Total liabilities	1,236,777,050,588	1,388,894,985,738	1,161,034,163,654
Equity			
Shares owned by the controlling company	2,146,698,895,591	2,053,541,812,523	952,877,954,864
Capital	98,793,505,000	98,681,045,000	66,000,330,000
Capital surplus	1,199,035,135,551	1,192,768,791,273	264,314,596,680
Other capital	(21,644,726,463)	(21,346,012,463)	(18,117,669,311)
Accumulated other comprehensive income	1,917,975,389	2,937,290,315	(2,624,096,023)
Retained earnings	868,597,006,114	780,500,698,398	643,304,793,518
Non-controlling interest	562,206,933,565	513,195,595,995	6,054,838,368
Total equity	2,708,905,829,156	2,566,737,408,518	958,932,793,232
Total liabilities and stockholders' equity	3,945,682,879,744	3,955,632,394,256	2,119,966,956,886

Consolidated Statement of Comprehensive Income

The 6th Period From January 01, 2022 to December 31, 2022

The 5th Period From January 01, 2021 to December 31, 2021

The 4th Period From January 01, 2020 to December 31, 2020

(Unit: KRW)

	The 6th Period	The 5th Period	The 4th Period
Sales amount	1,829,191,322,924	2,089,631,876,416	1,198,780,770,389
Cost of sales	1,214,096,459,201	1,208,252,148,242	810,782,693,273
Gross profit	615,094,863,723	881,379,728,174	387,998,077,116
Selling and administrative expenses	384,614,190,356	326,193,817,735	232,640,102,759
Operating income	230,480,673,367	555,185,910,439	155,357,974,357
Other income	9,572,233,627	27,409,549,709	12,567,892,627
Other expenses	24,926,448,399	44,231,104,316	27,815,467,546
Financial income	174,295,170,527	62,588,844,094	44,134,696,501
Financial cost	151,958,375,452	63,950,494,455	60,130,736,952

Gain (Loss) on equity method valuation	(762,536,109)	1,618,945,234	1,757,212,860
Net income from continuing operations before income tax expense	236,700,717,561	538,621,650,705	125,871,571,847
Income tax expense on continuing operations	5,224,847,889	168,012,085,990	35,924,417,422
Net income from continuing operations	231,475,869,672	370,609,564,715	89,947,154,425
Net income (loss) from discontinued operations before income tax expense		(134,418,662,607)	218,381,756,938
Income tax expense on discontinued operations		(32,552,435,910)	53,167,701,588
Net income (loss) from discontinued operations		(101,866,226,697)	165,214,055,350
Net income before income tax expense	236,700,717,561	404,202,988,098	344,253,328,785
Income tax expense	5,224,847,889	135,459,650,080	89,092,119,010
Net income (loss)	231,475,869,672	268,743,338,018	255,161,209,775
Other comprehensive income	14,124,172,585	(251,006,594)	(2,877,570,874)
Items subsequently reclassified as net income or loss	(929,574,283)	5,500,157,039	(32,846,968)
Capital change in equity method	(4,017,338)	66,701,118	307,469,584
Gains on overseas operations translation	(1,460,722,533)	4,238,697,803	(194,585,531)
Gains on valuation of derivatives	535,165,588	1,194,758,118	(145,731,021)
Items subsequently not reclassified as net income or loss	15,053,746,868	(5,751,163,633)	(2,844,723,906)
Remeasurement factors of defined benefit liabilities	15,053,746,868	(5,751,163,633)	(2,844,723,906)
Total comprehensive income for the current period	245,600,042,257	268,492,331,424	252,283,638,901
Reversion of net income from continuing operations	231,475,869,672	370,609,564,715	89,947,154,425
Equity attributable to the owners of the controlling company	191,266,054,717	270,006,042,994	89,106,714,563
Non-controlling interest	40,209,814,955	100,603,521,721	840,439,862
Reversion of net income (loss)			
Equity attributable to the owners of the controlling company	191,266,054,717	168,139,816,297	254,320,769,913
Non-controlling interest	40,209,814,955	100,603,521,721	840,439,862
Reversion of total comprehensive income for the current period			
Equity attributable to the owners of the controlling company	203,496,793,939	168,640,349,018	251,484,529,872
Non-controlling interest	42,103,248,318	99,851,982,406	799,109,029
Earnings per share (EPS)			
EPS for common and preferred stocks (unit: KRW)			
Basic EPS for common stocks from continuing operations (unit: KRW)	9,910	14,007	4,533
Basic earnings (loss) per share for common stocks from discontinued operations (unit: KRW)		(5,421)	8,414
Basic EPS for preferred stocks from continuing operations (unit: KRW)	9,960	13,921	4,523
Basic earnings (loss) per share for preferred stocks from discontinued operations (unit: KRW)			8,378
Diluted earnings (loss) per share (unit: KRW)			
Diluted earnings per share for common stocks from continuing operations (unit: KRW)	9,880	11,909	4,576
Diluted EPS for common stocks from discontinued operations (unit: KRW)		(3,273)	8,405

Consolidated Statement of Changes in Equity

The 6th Period From January 01, 2022 to December 31, 2022

The 5th Period From January 01, 2021 to December 31, 2021

The 4th Period From January 01, 2020 to December 31, 2020

(Unit: KRW)

	Equity		
	Controlling interest	Non-controlling interest	Total equity

	Capital	Capital surplus	Other capital	Accumulated other comprehensive income	Retained earnings	Total controlling interest		
2020.01.01 (capital at beginning of period)	66,000,330,000	264,314,596,680	9,889,506,203	2,594,106,840	397,797,289,663	715,628,603,300	3,077,689,559	718,706,292,859
Net income (loss)					254,320,769,913	254,320,769,913	840,439,862	255,161,209,775
Capital change in equity method				307,469,584		307,469,584		307,469,584
Profit or loss on overseas operations translation				(194,585,531)		(194,585,531)		(194,585,531)
Gains on valuation of derivatives				(142,873,236)		(142,873,236)	(2,857,785)	145,731,021
Remeasurement factors of defined benefit liabilities					(2,806,250,858)	(2,806,250,858)	(38,473,048)	(2,844,723,906)
Capital increase without consideration								
Stock option granted			561,602,700			561,602,700	575,453,503	1,137,056,203
Exercise of stock option			(4,354,860,000)			(4,354,860,000)		(4,354,860,000)
Cash dividend					6,007,015,200	6,007,015,200		6,007,015,200
Retirement of treasury stock								
Purchase of treasury stock			(4,434,905,808)			(4,434,905,808)		(4,434,905,808)
Changes in non-controlling stockholders' interest							1,602,586,277	1,602,586,277
2020.12.31 (capital at end of period)	66,000,330,000	264,314,596,680	18,117,669,311	2,624,096,023	643,304,793,518	952,877,954,864	6,054,838,368	958,932,793,232
2021.01.01 (capital at beginning of period)	66,000,330,000	264,314,596,680	18,117,669,311	2,624,096,023	643,304,793,518	952,877,954,864	6,054,838,368	958,932,793,232
Net income (loss)					168,139,816,297	168,139,816,297	100,603,521,721	268,743,338,018
Capital change in equity method				66,701,118		66,701,118		66,701,118
Profit or loss on overseas operations translation				4,238,697,803		4,238,697,803		4,238,697,803
Gains on valuation of derivatives				988,795,267		988,795,267	205,962,851	1,194,758,118
Remeasurement factors of defined benefit liabilities					(4,793,661,467)	(4,793,661,467)	(957,502,166)	(5,751,163,633)
Capital increase without consideration	32,630,715,000	(33,234,375,813)				(603,660,813)		(603,660,813)
Stock option granted			125,936,990			125,936,990		125,936,990
Exercise of stock option	50,000,000	861,558,500	(186,537,501)			725,020,999		725,020,999
Cash dividend					26,150,249,950	26,150,249,950		26,150,249,950
Retirement of treasury stock								
Purchase of treasury stock			(3,167,742,641)			(3,167,742,641)		(3,167,742,641)
Changes in non-controlling stockholders' interest		960,827,011,906		267,192,150		961,094,204,056	407,288,775,221	1,368,382,979,277
2021.12.31 (capital at end of period)	98,681,045,000	1,192,768,791,273	21,346,012,463	2,937,290,315	780,500,698,398	2,053,541,812,523	513,195,595,995	2,566,737,408,518
2022.01.01 (capital at beginning of period)	98,681,045,000	1,192,768,791,273	21,346,012,463	2,937,290,315	780,500,698,398	2,053,541,812,523	513,195,595,995	2,566,737,408,518
Net income (loss)					191,266,054,717	191,266,054,717	40,209,814,955	231,475,869,672
Capital change in equity method				(4,017,338)		(4,017,338)		(4,017,338)
Profit or loss on overseas operations translation				(1,400,684,377)		(1,400,684,377)	(60,038,156)	(1,460,722,533)
Gains on valuation of derivatives				385,472,161		385,472,161	149,693,427	535,165,588
Remeasurement factors of defined benefit liabilities					13,249,968,778	13,249,968,778	1,803,778,091	15,053,746,869

Capital increase without consideration								
Stock option granted			9,816,200			9,816,200		9,816,200
Exercise of stock option	112,460,000	1,940,945,008	(308,530,200)			1,744,874,808		1,744,874,808
Cash dividend					66,437,113,800	66,437,113,800	800,000,000	67,237,113,800
Retirement of treasury stock					(49,982,601,979)	(49,982,601,979)		(49,982,601,979)
Purchase of treasury stock								
Changes in non-controlling stockholders' interest		4,325,399,270		85,372		4,325,313,898	7,708,089,253	12,033,403,151
2022.12.31 (capital at end of period)	98,793,505,000	1,199,035,135,51	21,644,726,463	1,917,975,389	868,597,006,114	2,146,698,895,591	562,206,933,565	2,708,905,829,156

Consolidated Statement of Cash Flows

The 6th Period From January 01, 2022 to December 31, 2022

The 5th Period From January 01, 2021 to December 31, 2021

The 4th Period From January 01, 2020 to December 31, 2020

(Unit: KRW)

	The 6th Period	The 5th Period	The 4th Period
Cash flows from operating activities	(186,535,765,437)	509,316,464,742	247,009,579,324
Net income (loss)	231,475,869,672	268,743,338,018	255,161,209,775
Adjustments	135,908,098,051	352,160,892,583	(64,789,335,580)
Changes in assets and liabilities from operating activities	(359,736,960,553)	4,941,987,393	98,345,148,713
Interest received	6,663,546,566	1,351,693,026	897,067,477
Interest paid	(17,593,235,894)	(14,746,095,160)	(24,410,198,217)
Dividends received	2,190,000,000	3,757,950,000	2,910,840,000
Income tax paid	(185,443,083,279)	(106,893,301,118)	(21,105,152,844)
Cash flows from investment activities	230,967,888,504	(1,566,583,812,837)	40,982,083,576
Transfer of business		71,472,753,210	380,919,480,691
Decrease in short-term financial assets	492,087,506,548		
Decrease in short-term security deposit	47,486,775		2,000,000
Decrease in short-term loans	358,680,253	7,648,508,237	
Decrease in long-term security deposit	52,478,288	488,043,619	303,396,000
Decrease in long-term loans	105,623,000		3,262,039,786
Recovery of long-term investment assets		25,000,000	
Decrease in long-term financial instruments	45,985,232,055	990,000,000	
Disposal of tangible assets	1,340,016,719	1,436,420,016	47,890,722
Disposal of intangible assets	1,264,591,806		3,619,299,299
Government subsidies received	3,179,262	85,756,878	1,002,110,507
Disposal of investment assets in affiliated companies	288,722,533		
Increase in short-term financial assets		(1,460,408,834,006)	(247,074,693,315)
Increase in short-term security deposit	(8,338,659)		
Increase in short-term loans	(12,047,663)		
Increase in long-term security deposit	(3,466,395,531)	(526,099,100)	(520,660,200)

Increase in long-term loans	(952,250,000)		
Increase in long-term financial instruments	(1,000,086,966)	(22,100,000,000)	(2,262,345)
Acquisition of long-term investment assets	(2,398,239,735)	(9,470,668,489)	(2,500,000,000)
Acquisition of tangible assets	(288,262,111,887)	(138,187,398,984)	(93,315,628,368)
Acquisition of tangible assets from capitalized borrowing cost	(1,885,307,386)	(1,087,644,835)	(1,532,379,847)
Acquisition of intangible assets	(12,580,850,908)	(6,650,456,470)	(2,311,777,141)
Disposal and dismantlement of tangible assets		(1,198,619,330)	
Acquisition of investments in affiliates and joint ventures		(7,699,750,000)	
Changes in the scope of consolidation		(1,400,823,583)	(916,732,213)
Cash flows from financing activities	107,152,679,535	1,223,951,948,530	(384,925,327,097)
Borrowing of short-term borrowings	372,591,669,883	14,823,630,881	116,000,000,000
Paid-in capital increase			
Net increase in foreign currency short-term borrowings	83,072,600,368		
Increase in long-term borrowings	7,573,158,841		
Exercise of stock option	1,744,874,808	725,021,000	
Cash inflow from consolidated capital transactions	2,617,945,592	1,481,370,713,920	
Repayment of short-term borrowings	(27,845,557,184)	(79,550,000,000)	(177,780,844,282)
Net decrease in foreign currency short-term borrowings		(31,636,902,688)	(21,478,169,612)
Repayment of current portion of long-term borrowings		(1,003,200,000)	(104,401,400,000)
Repayment of current portion of bonds payable	(160,000,000,000)	(96,000,000,000)	(146,000,000,000)
Repayment of current portion of lease liabilities	(7,387,337,795)	(2,774,229,357)	(5,843,597,695)
Repayment of long-term borrowings	(48,000,000,000)	(32,059,000,000)	(30,625,000,000)
Settlement of derivatives transactions		(628,085,085)	
Acquisition of treasury stock	(49,982,601,978)	(3,167,742,641)	(4,434,905,808)
Cash outflow from the exercise of stock options			(4,354,860,000)
Payment of dividends	(67,232,073,000)	(26,148,257,500)	(6,006,549,700)
Net increase (decrease) in cash and cash equivalents	151,584,802,602	166,684,600,435	(96,933,664,197)
Cash and cash equivalents at beginning of period	255,615,367,155	86,764,151,843	183,975,936,156
Effect of exchange rate fluctuations such as foreign currency denominated cash	(82,227,962)	2,166,614,877	(278,120,116)
Cash and cash equivalents classified as held for sale	(7,089,709,249)		
Cash and cash equivalents at end of period	400,028,232,546	255,615,367,155	86,764,151,843

3. Notes to the Consolidated Financial Statements

The 6th Period From January 1, 2022 to December 31, 2022 The 5th
Period From January 1, 2021 to December 31, 2021

SK Chemicals Co., Ltd. and its subsidiaries

1. General

1-1 Overview of the controlling company

For the purpose of manufacturing and selling synthetic resins and related products, as well as development, production and sales of pharmaceuticals and vaccines, SK Chemicals Co., Ltd. (hereinafter, “controlling company”) was established on December 1, 2017 via a split-off from SK Discovery Co., Ltd. (formerly, SK Chemicals Co., Ltd.). The controlling company re-listed its stock certificates on the Korea Exchange on January 5, 2018, and operates its Ulsan and Cheongju Plants with its head office located in Seongnam-si, Gyeonggi-do.

On May 1, 2018, the controlling company merged with SK Petrochemical Co., Ltd., a subsidiary in which it holds 100% of the stake, and on July 1, 2018, the date of split-off, established SK Bioscience Co., Ltd. for the development and production of vaccines through a physical split-off. Furthermore, the controlling company established SK Multi-Utility Co., Ltd. for the purposes of supplying utilities through a physical split-off on December 1, 2021, the date of split-off.

As of the end of the reporting period, the status of major shareholders (including preferred stocks) of the controlling company is as follows.

Name of shareholder	Common stocks		Preferred stocks	
	Number of shares held (stocks)	Equity interest (%)	Number of shares held (stocks)	Equity interest (%)
SK Discovery Co., Ltd.	7,056,899	40.90	-	-
SK Chemicals Co., Ltd. (Treasury shares)	30,857	0.18	148,133	7.00
Others	10,166,027	58.92	1,967,296	93.00
Total	17,253,783	100.00	2,115,429	100.00

The consolidated financial statements of the consolidated company were approved by the board of directors on February 9, 2023, and the final approval is expected to be made at the general meeting of shareholders on March 28, 2023.

1-2 Status of subsidiaries

(1) As of the end of the current period, the details of subsidiaries are as follows.

Name of subsidiaries	Location	Month of settlement	Equity interest (%)	Major operating activities
SK Chemicals (Suzhou) Co., Ltd. (Note 1)	China	December	100.00	Resin manufacturing
SK Environmental Materials (Yantai) Co., Ltd.	China	December	100.00	Resin manufacturing
SK Chemicals (Shanghai) Co., Ltd.	China	December	100.00	Management consulting
SK Bioscience Co., Ltd. (Note 2)	Republic of Korea	December	68.18	Pharmaceutical manufacturing
SK bioscience USA, Inc. (Note 3)	United States of America	December	100.00	Biotechnology development
SK Multi-Utility Co., Ltd. (Note 4)	Republic of Korea	December	100.00	Manufacturing
SK Chemicals Daejung Co., Ltd. (Note 5)	Republic of Korea	December	50.00	Organic solvent manufacturing
SK Chemicals America	United States of America	December	100.00	Wholesale
SK Chemicals GmbH	Germany	December	100.00	Wholesale
SK Chemicals Malaysia	Malaysia	December	100.00	Management consulting

(Note 1) During the previous period, we executed a stock purchase and sales agreement to sell 100% of the shares of SK Chemicals (Suzhou) Co., Ltd. to Sumong Foods Co., Ltd. The closing date for the transaction will be in 2023.

(Note 2) During the current period, a portion of the stock options of SK Bioscience Co., Ltd. was exercised, resulting in a change in equity interest.

(Note 3) During the current period, SK bioscience USA, Inc. was newly invested by SK Bioscience Co., Ltd. and was incorporated as a subsidiary.

(Note 4) During the previous period, it was incorporated as a subsidiary after being physically split off from the controlling company.

(Note 5) During the previous period, the controlling company sold 50% of the shares of its subsidiary of SK Chemicals Daejung Co., Ltd. to Daejung Chemicals & Metals Co., Ltd. It was determined that the controlling company has control over SK Chemicals Daejung Co., Ltd. based on the fact that the chief executive officer of the controlling company serves as the chief executive officer even after the interest was sold, and the chief executive officer has the decision-making authority given a deadlock situation.

(2) Summary of the subsidiaries' financial information

As of the end of the reporting period, the summary of the major subsidiaries' financial information among the consolidated subsidiaries is as follows.

<Current period>

(Unit: KRW one thousand)

Name of company	Assets	Liabilities	Equity	Sales	Net income (loss)
SK Chemicals (Suzhou) Co., Ltd.	26,772,908	7,560,326	19,212,582	45,840,803	1,361,690
SK Environmental Materials (Yantai) Co., Ltd.	48,880,667	14,645,528	34,235,139	-	-
SK Chemicals (Shanghai) Co., Ltd.	1,202,704	698,836	503,868	2,643,234	(141,754)
SK Bioscience Co., Ltd.	2,142,189,396	399,934,106	1,742,255,290	456,725,871	122,816,574
SK bioscience USA, Inc. (Note 1)	6,292,487	295,282	5,997,205	-	(364,624)
SK Multi-Utility Co., Ltd.	301,528,541	137,666,074	163,862,467	139,201,095	2,399,435
SK Chemicals Daejung Co., Ltd.	18,306,557	2,963,211	15,343,346	24,455,937	2,778,764
SK Chemicals America	69,064,968	60,919,851	8,145,117	122,007,603	2,433,910
SK Chemicals GmbH	60,036,366	51,797,171	8,239,195	137,840,422	3,036,307
SK Chemicals Malaysia	492,998	143,970	349,028	385,410	16,277
Total	2,674,767,592	676,624,355	1,998,143,237	929,100,375	134,336,579

(Note 1) During the current period, SK bioscience USA, Inc. was newly invested by SK Bioscience Co., Ltd., and was incorporated as a subsidiary.

<Previous period>

(Unit: KRW one thousand)

Name of company	Assets	Liabilities	Equity	Sales	Net income (loss)
SK Chemicals (Qingdao) Co., Ltd. (Note 1)	-	-	-	15,934,633	1,346,878
SK Chemicals (Suzhou) Co., Ltd.	25,465,638	7,066,615	18,399,023	35,045,230	2,461,400
SK Environmental Materials (Yantai) Co., Ltd.	24,247,233	2,245,127	22,002,106	-	-
SK Chemicals (Shanghai) Co., Ltd.	2,174,992	1,493,935	681,057	2,773,581	486,308
SK Bioscience Co., Ltd.	2,110,122,672	508,810,724	1,601,311,948	929,000,930	355,139,277
SK Multi-Utility Co., Ltd.	182,621,118	21,676,862	160,944,256	11,002,552	351,591
SK Chemicals Daejung Co., Ltd.	17,209,578	3,075,529	14,134,049	20,377,621	2,164,602
SK Chemicals America	39,381,426	33,995,418	5,386,008	68,385,738	1,289,819
SK Chemicals GmbH	53,335,110	48,126,903	5,208,207	98,190,065	2,198,288
SK Chemicals Malaysia	341,627	11,567	330,060	-	(45,419)
Total	2,454,899,394	626,502,680	1,828,396,714	1,180,710,350	365,392,744

(Note 1) During the previous period, the controlling company lost control following the sale of its interest in SK Chemicals (Qingdao) Co., Ltd., a subsidiary, and excluded it from the list of subsidiaries, and this is the profit and loss before the loss of control.

1-3 Current status of affiliates and joint ventures investments

The status of affiliates and joint ventures investments as of the end of the reporting period is as follows.

Name of company	Location	Month of settlement	Equity interest (%)	Major operating activities
Entis Co., Ltd.	Republic of Korea	December	50.00	Manufacturing
JSI Co., Ltd.	Republic of Korea	December	40.00	Resin manufacturing
HDC Polyall (Note 1)	Republic of Korea	December	20.00	Manufacturing

(Note 1) During the previous period, it was newly invested by the controlling company and was incorporated as an affiliates and joint ventures investment.

※ The consolidated companies disposed of all the shares it held in ST Green Energy during the current period.

1-4 Details of changes in the subsidiaries

The major subsidiaries excluded or added from the preparation of the consolidated financial statements during the current and previous period are as follows.

<Current period>

Classification	Name of subsidiaries	Reason
Added	SK bioscience USA, Inc.	New investment

<Previous period>

Classification	Name of subsidiaries	Reason
Added	SK Multi-Utility	Physical split-off
Excluded	SK Chemicals (Qingdao) Co., Ltd.	Sale of interest

1-5 Non-controlling interest

(1) The details of the non-controlling interest as of the end of the reporting period are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	SK Bioscience	SK Chemicals Daejung	Total
Ratio of non-controlling interest	31.82%	50.00%	
Assets	2,141,931,384	18,306,557	2,160,237,941
Liabilities	400,229,388	2,963,211	403,192,599
Net assets	1,741,701,996	15,343,346	1,757,045,342
Non-controlling interest	554,535,261	7,671,673	562,206,934

<Previous period>

(Unit: KRW one thousand)

Classification	SK Bioscience	SK Chemicals Daejung	Total
Ratio of non-controlling interest	31.57%	50.00%	
Assets	2,110,122,672	17,209,578	2,127,332,250
Liabilities	508,810,724	3,075,529	511,886,253
Net assets	1,601,311,948	14,134,049	1,615,445,997
Non-controlling interest	506,128,571	7,067,025	513,195,596

(2) The details of net income for the non-controlling interest, etc., during the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	SK Bioscience	SK Chemicals Daejung	Total
Ratio of non-controlling interest	31.82%	50.00%	
<Total comprehensive income>			
Net income	122,451,950	2,778,764	125,230,714
Other comprehensive income (loss)	5,904,989	30,533	5,935,522
Total comprehensive net income	128,356,939	2,809,297	131,166,236
Net income allocated for non-controlling interest	38,820,433	1,389,382	40,209,815
Total comprehensive income allocated for non-controlling interest	40,743,025	1,404,648	42,147,673
<Cash flows>			
Cash flows from operating activities	(39,763,944)	1,101,792	(38,662,152)
Cash flows from investment activities	86,649,203	(166,262)	86,482,941
Cash flows from financing activities	(6,322,084)	(834,627)	(7,156,711)
Effect of exchange rate fluctuations	(67,045)	(49)	(67,094)
Net change in cash and cash equivalents	40,496,130	100,854	40,596,984

<Previous period>

(Unit: KRW one thousand)

Classification	SK Bioscience	SK Chemicals Daejung	Total
Ratio of non-controlling interest	31.57%	50.00%	
<Total comprehensive income>			
Net income	355,139,277	2,164,602	357,303,879
Other comprehensive income (loss)	(1,813,403)	23,539	(1,789,864)
Total comprehensive net income	353,325,874	2,188,141	355,514,015
Net income allocated for non-controlling interest	99,693,785	909,737	100,603,522
Total comprehensive income allocated for non-controlling interest	98,930,476	921,507	99,851,983
<Cash flows>			
Cash flows from operating activities	169,395,262	1,424,980	170,820,242
Cash flows from investment activities	(448,887,031)	(169,359)	(449,056,390)
Cash flows from financing activities	302,547,502	(531,523)	302,015,979
Effect of exchange rate fluctuations	7,025	-	7,025
Net change in cash and cash equivalents	23,062,758	724,098	23,786,856

1-6 Stock options granted by the subsidiaries

- (1) A subsidiary of the consolidated companies, SK Bioscience has granted stock options to its key executives, and the major issues are as follows.

Date of grant	Number of stocks to be issued	Period of exercise	Exercise price	Fair value on the date of grant
2018.12.11	262,224 shares	2021.12.12 - 2028.12.11	KRW 9,154/stock	KRW 1,649/stock

- (Note 1) Following the capital increase without consideration and the stock split prior to the previous period, the number of stocks to be issued was adjusted from 18,209 to 546,270, the exercise price was adjusted from KRW 274,621/stock to KRW 9,154/stock, and the fair value of the date of grant was adjusted from KRW 49,465/stock to KRW 1,649/stock.

(2) The fair value of stock options granted by SK Bioscience, a subsidiary of the consolidated companies, was calculated as per the binary option pricing model, and the variables applied for the model are as follows.

Classification	Portion granted on 2018.12.11
Stock price on the date of grant (Note 1)	KRW 9,154/stock
Exercise price (Note 1)	KRW 9,154/stock
Expected volatility	11.90%
Risk-free interest rate	1.94%

(Note 1) Following the capital increase without consideration and the stock split prior to the previous period, the stock price and the exercise price of the date of grant were adjusted from KRW 274,621/stock to KRW 9,154/stock.

(3) The details of the changes in stock options during the current and previous periods for the stock options granted by SK Bioscience, a subsidiary of the consolidated companies, are as follows.

<Current period>

(Unit: stocks, KRW one thousand)

Date of grant	Number of stocks to be issued			Valuation amount		
	Granted	Exercised	End of period	Beginning of period	Exercised	End of period (Note 1)
2018.12.11	546,270	(284,046)	262,224	900,710	(468,345)	432,365

(Note 1) The stock options granted by SK Bioscience are included in the non-controlling interest of the consolidated companies.

<Previous period>

(Unit: stocks, KRW one thousand)

Date of grant	Number of stocks to be issued		Valuation amount		
	Granted	End of period	Beginning of period	Exercised	End of period (Note 1)
2018.12.11	546,270	546,270	900,710	-	900,710

(Note 1) The stock options granted by SK Bioscience are included in the non-controlling interest of the consolidated companies.

2. Significant accounting policies and standards for the preparation of financial statements

2-1 Standards for the preparation of consolidated financial statements

The consolidated companies have prepared the consolidated financial statements on a historical cost basis, excluding the derivatives, debts and equity interest's financial assets, and the contingent consideration valued at fair value. The book amounts of the assets and liabilities designated as hedging targets for fair value hedging are not recorded at amortized cost, but are recorded by reflecting the changes in the fair value corresponding to the risks hedged within an effective hedging relationship. These consolidated financial statements are presented in Korean won, and other amounts are also expressed in Korean won unless otherwise specified. The consolidated financial statements are prepared on a historical cost basis, excluding the liabilities and shares' financial assets valued at fair value.

2-2 Applicable accounting standards

The financial statements of the consolidated companies have been prepared in accordance with the Korean International Financial Reporting Standards (K-IFRS) enacted in accordance with the Act on External Audit of Stock Companies, Etc.

2-3 Consolidation standards

The consolidated financial statements consist of the financial statements of the controlling company and its subsidiaries as of December 31 of each fiscal year. Control is acquired if and when they are exposed to, or have rights to, the variable gains from their involvement with the investee and when they have the ability to influence such gains through their power over the investee. Specifically, the consolidated companies control the investee only if and when they have all of the following:

- Power over the investee (that is, the existing right that gives it the present ability to direct the relevant activities of the investee)
- Exposure or right to the variable gains from involvement with the investee
- Ability to use its power over the investee to influence the amount of the investor's gains

When holding less than a majority of voting rights in the investee, the consolidated companies consider any and all facts and circumstances when assessing whether they have power over the investee, including the following:

- A contractual arrangement between the investor and other voting right holders
- Other rights arising from contractual agreements
- Voting rights and potential voting rights of the consolidated companies

The consolidated companies reassess whether they control the investee if any facts and circumstances indicate a change in one or more of the 3 elements of control. The consolidation of subsidiaries is carried out from the point in time at which the consolidated companies acquire the control over the subsidiary until they lose the control. The assets, liabilities, income, and expenses of the subsidiaries acquired or disposed of during the period are included from the date on which the consolidated companies gain the control until the date on which the consolidated companies no longer control the subsidiary.

Each component of the net income and other comprehensive income is reverted to the owners of the controlling company and the non-controlling interest even if the non-controlling interest becomes a negative balance. If necessary, the subsidiary's financial statements are revised in order to match the accounting policies of the subsidiaries with the consolidated companies. The assets, liabilities, equity, income, expenses, and cash flows of all consolidated companies arising from the transactions by and between the consolidated companies are derecognized in full.

Any changes in the ownership interest of the controlling company in a subsidiary without a loss of control are accounted for as equity transactions, and if the controlling company should lose its control over the subsidiary, it is accounted for as follows.

- Derecognition of the book amount of the assets and liabilities of the subsidiaries, including goodwill
- Derecognition of the book amount of the non-controlling interest
- Derecognition of the cumulative translation differences appropriated for equity
- Recognition of fair value of the consideration received
- Recognition of fair value of the investment interest owned
- Recognition of the difference resulting from the accounting above as profit or loss
- Reclassification of the interest of the controlling company recognized as other comprehensive income in connection with the subsidiaries as profit or loss or retained earnings in the same manner as if and when the consolidated companies had directly disposed of the relevant assets or liabilities

2-4 Business combination and goodwill

The business combinations are accounted for using the acquisition method. The acquisition cost is measured as the sum of the transfer price measured at fair value on the date of acquisition, and the amount of non-controlling interest for the acquiree. For each business combination, the acquirer measures its non-controlling interest in the acquiree at fair value or proportional interest of the acquiree's identifiable net assets, and the acquisition related-costs are recognized as the expenses as incurred.

The consolidated companies determine that a business has been acquired when the group of activities and assets acquired includes input variables and substantive processes which contribute significantly to its ability to create outputs. It is considered substantive if (1) the acquired process (or set of processes) is crucial for the ability to continue to create outputs, and the acquired input variables include an organized labor with skills, knowledge or experience needed to carry out the relevant process (or set of processes), or (2) if the acquired process is deemed to significantly contribute to its ability to continue to produce an output or is considered unique or scarce, or to substitute, if any significant cost or effort is required, or if the ability to continue to produce outputs is delayed.

The consolidated companies classify or designate the acquired assets and assumed liabilities identifiable on the date of acquisition based on the contractual terms, economic conditions, the acquirer's operating and accounting policies, and any other relevant conditions available on the date of acquisition.

If the acquirer provides contingent consideration for the acquiree, the relevant consideration is measured at fair value on the date of acquisition and included in the transfer price, and any subsequent changes in the fair value of contingent consideration classified as assets or liabilities are recognized as profit or loss or other comprehensive income in accordance with Corporate Accounting Standard No. 1109. In addition, the contingent consideration classified as equity is not remeasured and is accounted for within equity at the time of settlement.

The goodwill is measured as the sum of the transfer price and the amount of non-controlling interest and the previously held interest which exceeds the net identifiable assets acquired and liabilities assumed. If the fair value of the acquired net assets should exceed the total amount of transfer price, the consolidated companies will review whether all assets acquired and liabilities assumed are accurately identified and the procedures used to measure the amount recognized on the date of acquisition. If, after such a re-review, the total amount of transfer price, etc., is still lower than the fair value of the net assets acquired, the relevant difference is recognized as profit or loss.

Following the initial recognition, the goodwill is appropriated at cost minus the accumulated impairment losses. For impairment testing purposes, the goodwill acquired from a business combination is allocated for each cash-generating unit or group of units expected to benefit from the synergies of the business combination on the date of acquisition, which is allocated for the cash-generating unit or group of units irrespective of whether other assets or liabilities of the acquiree are

allocated.

In the case of disposing of an operation within the cash-generating unit for which the goodwill has been allocated, the goodwill related to the operation to be disposed of is included in the book amount of the operation when determining the profit or loss on disposal, and is also measured based on the relative value of the portion remaining within the cash-generating unit and the portion being disposed of.

2-5 Investment in affiliates and joint ventures

Affiliates are the companies over which the controlling company has significant influence. Significant influence is the ability to participate in the investee's decision-making regarding its financial and operating policies, but is not the control or joint control of such policies.

A joint venture is a joint agreement in which the parties having joint control over the agreement are entitled to the net assets of the agreement. Joint control is a contractually agreed sharing of the control over an agreement, and exists only if and when the decisions on the relevant activities require the consent of all the parties sharing the control.

The consolidated companies account for their investments in the affiliates and joint ventures using the equity method. Investments in affiliates and joint ventures are recognized as the initial acquisition cost, and the book amount is increased or decreased to recognize the consolidated companies' corresponding amount of interest among the changes in the net assets of affiliates or joint ventures after the date of acquisition. The goodwill related to affiliates or joint ventures is included in the book amount of the investment and has not been amortized or tested for impairment on a separate basis.

Among the profits and losses of the affiliates and joint ventures, the corresponding amount of the interest of the consolidated companies is directly reflected in the consolidated statement of comprehensive income, and if and when any changes in the net assets of affiliates or joint ventures should arise from equity, the corresponding portion of the interest of the consolidated companies is reflected in equity, and where applicable, disclosed in the consolidated statement of changes in equity. Any unrealized profits and losses from transactions by and between the consolidated companies and the affiliates and joint ventures are derecognized as much as the corresponding amount of the interest of the consolidated companies.

Profits for the affiliates and joint ventures are presented in the statement of comprehensive income as the profits or losses on valuation using the equity method after the tax effects are deducted.

The reporting period for the financial statements of affiliates and joint ventures is the same as the reporting period for those of the controlling company, and if needed for the application of the same accounting policies as the consolidated companies for the same transactions and events occurring under similar circumstances, the affiliates' and joint ventures' financial statements will be adjusted.

When applying the equity method, the consolidated companies determine at the end of each reporting period whether there is any objective evidence that their investments in affiliates and joint ventures are impaired in order to determine whether they need to recognize additional impairment losses for the investments in affiliates and joint ventures. If impairment is needed, the difference between the recoverable amount and the book amount of affiliates and joint ventures is recognized as an impairment loss in the statement of comprehensive income.

2-6 Foreign currency translation

The consolidated companies present their financial statements in the Korean won, the consolidated companies' functional currency.

(1) Transactions and balance

In preparing the financial statements of the consolidated companies, transactions conducted in a currency other than the functional currency are recorded using the exchange rate on the date of transaction, and the monetary assets and liabilities denominated in foreign currencies are translated at the exchange rate of the functional currency as of the end of the reporting period. The translation differences arising therefrom are reflected in the profit or loss.

Meanwhile, the foreign currency denominated non-monetary items measured at the historical cost are recognized by applying the exchange rate on the date of the initial transaction, and the foreign currency denominated non-monetary items measured at fair value are recognized by applying the exchange rate on the date of fair value measurement. Profits or losses arising from the translation of non-monetary items are recognized as other comprehensive income or profit or loss in the same manner as the profits or losses arising from the changes in the fair value of the items.

The date of the transaction intended for determining the exchange rate to use for the initial recognition of the related assets, expenses or income (or any portion thereof) is the date on which the consolidated companies first recognize the non-monetary assets or non-monetary liabilities based on the advance payment or receipt of consideration. Where multiple advance payments or receipts are made, the consolidated companies determine the date of the transaction for the advance payment or receipt of consideration for each.

(2) Translation of the overseas workplaces

The assets and liabilities of overseas workplaces are translated into Korean won using the exchange rate as of the end of the reporting period, the items in the consolidated statement of comprehensive income are translated into Korean won by applying the average exchange rate for the relevant period, and the foreign exchange differences arising from such translations are recognized as separate items of equity. Meanwhile, the accumulated foreign exchange differences recognized in equity are reflected in profit or loss at the time of disposal of the overseas workplaces. The fair value adjustments made for the book amounts of the goodwill and assets and liabilities arising from the acquisition of overseas workplaces are considered as the assets and liabilities of overseas workplaces and are translated at the exchange rate as of the end of the reporting period.

2-7 Profits from the contracts with customers

The consolidated companies operate the two business divisions of Green Chemicals and Life Science. The Green Chemicals business division produces and sells PET resins, highly functional PETG resins, industrial adhesives, etc., while the Life

Science business division is engaged in the pharmaceutical and vaccine businesses. For contracts with customers, and when the control of goods or services is transferred to the customer, the consolidated companies recognize the profits at an amount which reflects the consideration for which they expect to be entitled for the relevant goods or services. The consolidated companies have reached the conclusion for themselves since they control each of the goods or services specified under the contracts with the customers before the goods or services are provided to the customers.

(1) Sales of goods

The sales profits of goods are generally recognized upon the delivery of the goods, where the control of the assets is transferred to the customers. The typical recovery period for receivables is 30 to 90 days after delivery. The consolidated companies shall consider whether other promises under the contracts are separate performance obligations for which a portion of the transaction consideration must be allocated. In calculating the transaction price for the sales of goods, the consolidated companies consider variable consideration, significant financing factors, non-cash consideration and the consideration payable to the customers.

- Licensing: right to use

A license agreement corresponds to the right to use the intellectual property which exists at the time the license is granted, which means that at the point in time the license is transferred, the customer can direct the use of the license and acquire most of the remaining benefits from the license. When the consolidated companies provide a license to a customer, the consolidated companies recognize it as a performance obligation carried out at a point in time.

- Licensing: right to access

The consolidated companies allow the customers to use drug licenses for a certain period and take payment for the license, and additionally provide research services during the contract period in addition to the obligation of license provision.

- Sales of vaccines and biopharmaceuticals

The sales profits from vaccines and biopharmaceuticals are generally recognized upon the delivery of the vaccines and biopharmaceuticals, when the control of the assets is transferred to the customer. The typical recovery period for receivables is 90 to 180 days after delivery. The consolidated companies shall consider whether other promises under the contracts are separate performance obligations for which a part of the consideration for the transaction must be allocated. In calculating the transaction price for the sale of goods, the consolidated companies consider variable consideration, significant financing factors, non-cash consideration and the consideration payable to the customers.

- Consigned production and development of the vaccines and biopharmaceuticals

We provide services such as the consigned production and development of the vaccines and biopharmaceuticals consigned by the customers, and the bioanalysis. There is no substitute of use for the manufactured products, and there is an enforceable right to claim payment for the completed performance. The reason is that the consolidated companies produce pharmaceuticals of the quality required by the customer, and if the contract is terminated by the customer, the consolidated companies can claim compensation for reasonable profits based on the cost input. The revenue from the contracts with customers is recognized when a portion of the performance obligations are satisfied, and is recognized over a portion of the period. The consolidated companies measure the rate of progress based on the output method or the input method by considering the characteristics of the goods or services promised to be transferred to the customer, and recognize the profits over a period. In accordance with the practical expedient method of Corporate Accounting Standard No. 1115, the transaction price allocated for the non-performed portion of the related contract was not disclosed.

- Contracts of joint type

The consolidated companies execute contracts with the companies, not for the contracting counterparty to acquire the outputs of a typical corporate activity, but to participate in an activity or process, and if the parties to the contract share the risks and benefits arising from such activity or process, they recognize them as contracts of joint type. Regarding the costs input for a collaboration agreement, the intangible assets or expenses are recognized depending on whether the conditions for identifiability, control, and future economic benefits are satisfied, while for the residual agreements, which are the agreements to provide distinguished goods or services and receive relevant consideration therefor, they are recognized as profits in accordance with the performance obligations identified under the contract. The performance obligations do not include the obligations to share under the contract the resources to be engaged in the activities or processes which form the substance of the contracts of joint type.

① Variable consideration

If the contract includes variable consideration, the consolidated companies estimate the amount they will receive in consideration for transferring the promised goods to the customer. When the uncertainties associated with the variable consideration are later addressed, the variable consideration is estimated at the point of commencement of the contract and is included in the transaction price only to the extent that it is highly probable that a significant portion of the amount of accumulated profits recognized will not be returned. Some of the contracts for the sales of goods provide the customer with the right to return. The right to return corresponds to a variable consideration.

- Right to return

Certain contracts provide the customers with the right to return goods within a certain period. To estimate the goods which will not be returned, the consolidated companies use expected values at which they are expected to better predict the consideration to which the consolidated companies will be entitled. Among the requirements of Corporate Accounting Standard No. 1115, the restrictions on the estimation of variable consideration are also applied even when the amount of variable consideration included in the transaction price is determined. The consolidated companies recognize the goods which are expected to be returned, not as profits, but as refund liabilities. The right to the returned goods and the corresponding adjustment for the cost of goods sold are recognized.

- Quantity rebate

The consolidated companies will retroactively provide a quantity rebate to a specific customer for the previous purchase quantity if the purchase exceeds the contractual limit. The rebate is deducted from the amount payable by the customer. To estimate the variable consideration for a rebate expected in the future, the consolidated companies apply the most probable method for contracts with only one quantity criterion and the expected value method for contracts with multiple quantity criteria. The consolidated companies consider the number of quantity criteria under the contract as a key factor in selecting the method which best predicts the variable consideration. The consolidated companies recognize the refund liabilities for the anticipated future rebates by applying the requirements for the variable consideration's constraints.

② Significant financial elements

The consolidated companies do not reflect the effect of a significant financial element on the promised consideration (amount) if the period between the point of transfer of the promised goods or services to the customer at the commencement of the contract and the payment of the consideration for the goods or services is expected to be less than a year.

(2) Contract balance

① Contract assets

A contract asset is the right to receive consideration for the goods or services transferred to a customer. If the consolidated companies transfer goods or services to a customer before the customer pays the consideration or before the date on which payment is due, the asset which is the company's right to take consideration and whose right is subject to conditions other than the lapse of time is a contract asset. The contract assets are assessed for impairment.

② Trade receivables

A receivable is recognized when an amount of unconditional consideration is due for payment by and from the customer (that is, where only the lapse of time is required before the consideration is paid upon maturity). For the accounting policies related to financial assets, refer to Note 2-11.

③ Contract liabilities

A contract liability is a company's obligation to transfer goods or services to a customer equivalent to the consideration which the consolidated companies have already taken from the customer (or the consideration for which the payment is due). If the customer pays the consideration before the consolidated companies transfer goods or services to the customer, the contract liabilities are recognized when it is paid or when it is due, whichever is earlier. The contract liabilities are recognized as profits when the consolidated companies carry out their performance obligations pursuant to the contract.

(3) Contractual performance cost

The contractual performance cost is the cost incurred from performing a contract executed with a customer, and if the cost is directly related to a contract or a specifically identifiable and expected contract, and if the cost creates or enhances the company's resources to be used in performing (or continuing to perform) future obligations, and is expected to be recovered, then is recognized as asset, and the assetized contractual performance cost is recognized as the cost of sales in line with the future rate of progress. The consolidated companies present the contractual performance costs as

inventories or contract assets.

(4) Assets and liabilities arising from the right to return

① Right to recover the returned product

The right to recover the returned product is the consolidated companies' right to recover a product which the customer is expected to return. The assets are measured at the existing book amount of inventories minus the expected cost of recovering the products and any potential reduction in the value of the products returned.

② Refund liabilities

The refund liability is an obligation to return a portion or all of the consideration received or receivable from the customer. It is measured as the amount the consolidated companies expect to ultimately refund to the customer. The consolidated companies update the estimates of refund liabilities and changes in the transaction price accordingly at the end of each fiscal period. For the variable consideration, refer to the accounting policies above.

Refer to Note 3 for the disclosures on significant judgments, estimates and assumptions related to the profits from contracts with the customers.

2-8 Government subsidies

Government subsidies are recognized if and when there is a reasonable assurance of the receipt of the subsidies and the fulfillment of ancillary conditions therefor. Profit-related subsidies are recognized as profits in line with a systematic standard over the period needed to match the costs associated with the subsidies intended to cover, while the assets related subsidies are recognized as deferred revenue, and the same amount is recognized as the revenue each year over the useful life of the related assets.

When non-monetary assets are received as subsidies, the consolidated companies record the assets and subsidies in nominal amounts and recognize them as revenue in the statement of income on a straight-line basis over the estimated useful lives of the related assets. When a loan or similar aid is provided and received at an interest rate lower than the market rate, the benefit from the lower interest rate is recognized as an additional government subsidy.

2-9 Corporate tax

(1) Current income tax

The current tax liabilities (assets) for the current and previous periods are measured at the amount expected to be paid to (refunded by and from) the tax authorities using the tax rates and tax laws enacted or substantively enacted by the end of the current period.

The current income tax related to the items directly reflected in equity are reflected in equity, and are not reflected in the consolidated statements of comprehensive income. The senior management regularly assesses the recoverability of the amount of corporate tax refund in connection with the interpretation of relevant tax laws, and establishes provisioning liabilities as needed.

(2) Deferred income tax

For the purposes of financial reporting of the assets and liabilities, the consolidated companies recognize the deferred income tax assets and deferred income tax liabilities for temporary differences, which are the differences between the book amount and the tax reference amount.

The consolidated companies recognize the deferred income tax liabilities for all in temporary differences, except under the following circumstances:

- Where deferred income tax liabilities arise when the goodwill is initially recognized

- Where deferred income tax liabilities arise from transactions which do not affect the accounting profits or taxable income at the time of the transaction, not a business combination transaction in which assets or liabilities are initially recognized
- Where it is highly probable that the temporary differences will not be extinct in the foreseeable future as they are taxable temporary differences in connection with the investment interest in subsidiaries, affiliates and joint ventures, and where the point in time of the extinction of the temporary difference may be controlled

Furthermore, deferred income tax assets are recognized when it is highly probable that the taxable income can be used for deductible temporary differences and unused tax credits and tax losses, except in the following cases:

- Where deferred income tax assets arise from transactions which do not affect the accounting profits or taxable income at the time of the transaction, not a business combination transaction in which assets or liabilities are initially recognized
- Where deductible temporary differences exist in connection with the investment interest in subsidiaries, affiliates and joint ventures, and where it is not highly probable that the temporary differences will be extinct in the foreseeable future, or where it is not probable that the taxable income for which the temporary difference can be used will arise

The book amount of the deferred income tax assets is reviewed at the end of each reporting period, and if it is no longer probable that a sufficient taxable income will be available to use the benefits of some or all of the deferred income tax assets, the book amount of the deferred income tax assets is reduced. Meanwhile, the reduced amount is reversed to the extent that it is highly likely that a sufficient taxable income will be generated for use. Furthermore, at the end of each reporting period, the unrecognized deferred income tax assets are reviewed, and the previously unrecognized deferred income tax assets are recognized to the extent that it is highly probable that the deferred income tax assets will be recovered based on the future taxable income.

The deferred income tax assets and liabilities are measured using the tax rates expected to be applied for the fiscal period in which the assets are realized or liabilities are settled based on the tax rates (and the tax laws) enacted or substantively enacted by the end of the reporting period.

The current and deferred tax related to the items recognized other than the profit or loss are recognized as items other than profit or loss. The deferred tax items are recognized as other comprehensive income or reflected directly in equity depending on the relevant transaction.

If the tax benefits acquired as a part of a business combination did not satisfy the separate recognition criteria at the relevant point in time, yet were recognized during the measurement period as a result of new information on the facts and circumstances existing on the date of acquisition, the relevant deferred tax benefits are recognized. The recognized acquired deferred tax benefits are applied to reduce the book amount of the goodwill related to the acquisition, and if the book amount of the goodwill is zero, the remaining deferred tax benefits are recognized as profit or loss.

The consolidated companies are entitled to legally enforce the offset of the current tax assets and current tax liabilities, and if the taxable companies are the same, or if the taxable companies are different yet is there is an intention to settle the current tax liabilities and assets in a net amount, or if there is an intention to settle the liabilities at the same time as realizing the assets for each fiscal period in the future where the deferred income tax liabilities are settled or the deferred income tax assets are recovered in a significant amount, the deferred income tax assets and deferred income tax liabilities are appropriated and presented only if and when the deferred income tax assets and deferred income tax liabilities are related to the same tax authority.

(3) Sales tax

Revenue, expenses and assets are recognized as the net amount minus applicable sales tax. However, if the sales tax related to the purchase of an asset or service cannot be refunded by and from the tax authorities, it is recognized as part of the acquisition cost or part of the expense item, and the relevant receivables and liabilities are presented as the amount including the sales tax.

The net amount of the sales tax to be refunded by or payable to the tax authority is included in the receivables or liabilities in the statement of financial position.

2-10 Retirement benefits

The consolidated companies operate a defined benefit retirement pension plan, and the benefit cost of the defined benefit plan is determined using the projected unit credit method. The remeasurement elements consisting of the actuarial profits and losses, revenue from the plan assets excluding the amount included in the net interest, and the changes in the effect of the ceiling on the asset recognition excluding the amount included in the net interest are recognized immediately as other comprehensive income and are subsequently not reclassified as profit or loss.

The past service cost is recognized as an expense based whichever is the earlier of the following:

- When the plan is revised or reduced
- When the relevant restructuring costs or termination benefits are recognized

The net interest is determined by multiplying the net defined benefit liabilities (assets) by the discount rate. The consolidated companies recognize the service cost and the net interest on the net defined benefit liabilities as profit or loss for the items of the cost of goods sold and the selling, general and administrative expenses.

Meanwhile, the consolidated companies operate a defined contribution plan for some of the executives and employees, and the contribution is recognized as an expense when the executives and employees provide service at work. In the current period, the cost recognized in the profit and loss related to the defined contribution plan is KRW 585,314,000 (previous period: KRW 1,317,926,000).

2-11 Financial instruments: initial recognition and subsequent measurements

A financial instrument is any contract which creates a financial asset for one of the parties to a transaction and a financial liability or equity instrument for the other party to the transaction.

(1) Financial assets

1) Initial recognition and measurement

Financial assets are classified into financial assets measured at amortized cost upon initial recognition, financial assets measured at fair value through other comprehensive income, and financial assets measured at fair value through profit or loss.

The classification of financial assets upon initial recognition varies depending on the contractual cash flows' characteristics of the financial assets and the business model of the consolidated companies for managing the financial assets. Excluding the trade and other receivables which do not contain a significant financial element or for which the practical expedient method is applied, the consolidated companies initially measure the financial assets at fair value, and unless they are not the financial assets measured at fair value through profit or loss, they add or subtract the transaction cost. Trade and other receivables, which do not include a significant financing element or for which the practical expedient method is applied, are measured at the transaction cost determined in accordance with Corporate Accounting Standard No. 1115.

To measure the financial assets at amortized cost or fair value through other comprehensive income, the cash flows must consist of solely payments of principal and interest (SPPI). This assessment is called the SPPI test and is performed at the level of the individual instrument.

The consolidated companies' business model for the management of financial assets relates to the management of financial assets intended to generate cash flows. The business model determines whether the source of cash flows is the receipt or sale of the contractual cash flows of the financial assets, or whether it is both.

The purchase or sale of financial assets (standardized transaction) in which the financial assets are required to be transferred within a time frame established by market agreement or regulation is recognized on the date of transaction. That is, it is recognized on the date on which the consolidated companies agree to purchase or sell the financial assets.

2) Subsequent measurements

For the subsequent measurements, the financial assets are classified into the following four categories:

- Financial assets measured at amortized cost (debt instruments)
- Financial assets measured at fair value through other comprehensive income (debt instruments) which recirculate the accumulated profit or loss as profit or loss
- Financial assets measured at fair value through other comprehensive income (equity instruments) which do not recirculate the accumulated profit or loss as profit or loss upon derecognition
- Financial assets measured at fair value through profit or loss

① Financial assets measured at amortized cost (debt instruments)

This category is most closely related to the consolidated companies. The consolidated companies measure the financial assets at amortized cost if and when all of the following terms and conditions are satisfied.

- Financial assets are held under a business model whose purpose is to receive contractual cash flows, and
- According to the contractual terms of financial assets, cash flows are generated, which consist only of principal and interest payments on the principal balance on a specific date.

The financial assets measured at amortized cost are subsequently measured using the effective interest rate (EIR) method, and the impairment is recognized. The profits and losses arising from the derecognition, change or impairment of assets are recognized as profit or loss.

② Financial assets measured at fair value through other comprehensive income (debt instruments)

The consolidated companies measure the debt instruments which satisfy all of the following terms and conditions as financial assets at fair value through other comprehensive income.

- Financial assets are held under a business model which achieves purposes through both the receipt of contractual cash flows and the sale of financial assets, and
- According to the contractual terms and conditions of financial assets, cash flows consist only of principal and interest payments which are generated on a specific date.

For the debt instruments measured at fair value through other comprehensive income, the interest income, foreign currency translation profits and losses, and impairment or reversal are calculated in the same manner as financial assets measured at amortized cost and are recognized as profit or loss. The rest of the changes in fair value are recognized as other comprehensive income. When the financial assets are derecognized, the accumulated change in fair value recognized as other comprehensive income is recirculated as profit or loss.

③ Financial assets measured at fair value through other comprehensive income (equity instruments)

Upon the initial recognition, the consolidated companies can make an irrevocable selection to measure the equity instruments which satisfy the definition of equity under Corporate Accounting Standard No. 1032 'Presentation of Financial Instruments' and which are not held for investment purposes at fair value through other comprehensive income.

The profits and losses arising from such financial assets are not recirculated as profit or loss. Dividends are recognized in the statement of income as other income and accounted for as other comprehensive income when the entitlement is confirmed, except when the consolidated companies profit by recovering a portion of the cost of the financial assets. No impairment is recognized for the equity instruments measured at fair value through other comprehensive income.

The consolidated companies can also make irrevocable selections for the unlisted equity instruments.

④ Financial assets measured at fair value through profit or loss

Financial assets measured at fair value through profit or loss include trading items, financial assets designated for measurement at fair value through profit or loss upon initial recognition, or financial assets required to be measured at fair value. Financial assets acquired for the purpose of sale or repurchase within a short period are classified as the trading items. Derivatives, including separated embedded derivatives, are classified as the trading items unless they are designated as effective hedging instruments. The financial assets whose cash flow do not consist only of the payment of principal and interest are classified and measured as financial assets measured at fair value through profit or loss, regardless of the business model. As described in the paragraph above, notwithstanding the fact that the debt instruments are classified as financial assets measured at amortized cost or fair value, if the accounting mismatch can be derecognized or significantly reduced, the debt instruments may be designated to be measured at fair value through profit or loss.

The financial assets measured at fair value through profit or loss are presented at fair value in the statement of financial position, and the net changes in fair value are recognized as profit or loss in the statement of income.

This category includes the derivatives and the traded equity instruments for which no irrevocable selection was made to account for the changes in fair value as other comprehensive income. The dividends for the traded equity instruments are recognized as profit or loss when the rights are confirmed.

As for the derivatives embedded in hybrid contracts, the economic characteristics and risks are not closely related to the main contract, and the separate instruments with the same conditions as the embedded derivative satisfy the definition of derivative, and if the hybrid contract is not measured at fair value through profit or loss, it is accounted for as derivative as a separate derivative from the main contract. The embedded derivatives are measured at fair value, and the changes in fair value are recognized as profit or loss. A reevaluation occurs only when and if there is a change in the terms and conditions of the contract which significantly changes the cash flows, or if it becomes not applicable for the category of fair value measurement through profit or loss.

In hybrid contracts for which the main contract is a financial asset, embedded derivatives are not accounted for separately. The financial assets and embedded derivatives, which are the main contracts, are classified as financial assets measured at fair value through profit or loss.

3) Derecognition

A financial asset (or a portion of a financial asset or of a group of similar financial assets) is derecognized with priority under the following circumstances:

- The right to receive cash flows from financial assets is extinct, or
- The consolidated companies have the obligation to transfer the right to receive cash flows of financial assets or pay the entire cash flows received under a pass-through contract to a third party without a material delay. In such an event, the consolidated companies neither transfer substantially most of the risks and rewards of holding the financial assets, nor transfer or hold most of the risks and rewards of holding the financial assets, yet transfer the control over the assets.

When the consolidated companies transfer the right to receive cash flows from a financial asset or execute a pass-through contract, they assess whether they maintain the risks and rewards of owning the assets. If the consolidated companies have neither held nor transferred most of the risks and rewards of a financial asset, it would continue to recognize the financial asset to the extent that it continues to be involved with it. In such an event, the consolidated companies recognize the relevant liabilities. The liabilities related to the transferred assets are measured by reflecting the rights and obligations of the consolidated companies.

The continuous involvement, which takes the form of providing guarantees, is measured either as the book amount of the assets transferred or the largest amount which may be required for repayment among the considerations received, whichever is the lesser.

4) Impairment of financial assets

The detailed disclosures made in connection with the impairment of financial assets are provided in the notes below.

- Disclosures on the significant assumptions
- Debt instruments measured at fair value through other comprehensive income
- Trade receivables including contract assets

The consolidated companies recognize the allowance for expected credit loss (ECL) for all debt instruments, except for the items measured at fair value through profit or loss. The expected credit loss is estimated by discounting the differences between the cash flows agreed to be received under contract and all cash flows expected to be received by the consolidated companies, discounted at the initial effective interest rate. The expected cash flows include the cash flows from the disposal of collateral held or from other credit enhancements which are among the essential terms and conditions of the contract.

The expected credit loss is recognized in two stages. For credit exposures with no significant increase in the credit risk since the initial recognition, the expected credit loss reflects the credit losses (expected credit loss for 12 months) arising from any events of default likely to occur within the next 12 months. For credit exposures with a significant increase in the credit risk after the initial recognition, the loss allowance is required to measure the expected credit loss over the remainder of the surviving period for the exposure regardless of when an event of default occurs (expected credit loss over the entire period).

For the trade and other receivables and contract assets, the consolidated companies may apply the simplified method for the calculation of the expected credit loss. Thus, in lieu of tracking changes in the credit risk, the consolidated companies recognize the loss allowance on each date of settlement as an amount equivalent to the expected credit loss over the entire period. The consolidated companies place a provisioning rate table based on the past credit loss experiences adjusted to reflect the future prospects for specific debtors and economic environments.

For the debt instruments measured at fair value through other comprehensive income, the consolidated companies apply the low credit risk expedient method. On each date of settlement, the consolidated companies assess whether a debt instrument is considered to have a low credit risk using all reasonable and supportable information available without undue cost or effort. For such assessment, the consolidated companies re-evaluate the internal credit ratings of the relevant debt instrument. Furthermore, the consolidated companies consider whether there is a significant increase in the credit risk when the contractual payment exceeds 30 days.

If the consolidated companies' debt instruments measured at fair value through other comprehensive income consist only of the traded bonds with the highest investment rating, they are considered to be low-credit risk investment assets. The consolidated companies' policy is to measure such instruments at the 12-month expected credit loss. However, if there is a significant increase in the credit risk after the initial recognition, the loss allowance is calculated based on the expected credit loss over the entire period. The consolidated companies use the ratings of credit rating agencies to determine whether the credit risk of debt instruments has significantly increased and measure the expected credit loss.

The consolidated companies consider it a default if any contractual payment is overdue for over 90 days. However, under certain circumstances, the consolidated companies may consider that an event of default has occurred against financial assets if and when internal or external information indicates that the consolidated companies will not be able to receive the principal in full under contract until all credit enhancements by the consolidated companies are considered. A financial

asset is derecognized if and when there is no reasonable expectation to recover the cash flows under contract.

(2) Financial liabilities

1) Initial recognition and measurement

Upon the initial recognition, financial liabilities are appropriately classified as financial liabilities measured at fair value through profit or loss, loans and borrowings, and the accounts payable or derivative instruments are designated as effective hedging instruments.

All financial liabilities are initially recognized at fair value, and the directly related transaction costs are deducted for loans, borrowings and payables.

The consolidated companies' financial liabilities include the trade payables and other accounts payable, loans and borrowings including overdrafts and the derivatives liabilities.

2) Subsequent measurements

The measurement of financial liabilities is governed by the classifications mentioned below.

① Financial liabilities measured at fair value through profit or loss

Financial liabilities measured at fair value through profit or loss include the trading financial liabilities and the financial liabilities designated to be measured at fair value through profit or loss upon the initial recognition.

Financial liabilities are classified as trading items if they are repurchased within a short period. This category also includes the derivatives which are not designated as hedging instruments in a hedging relationship as defined in Corporate Accounting Standard No. 1109. Furthermore, the separated embedded derivatives are classified as trading items unless they are designated as effective hedging instruments.

Profits or losses on financial liabilities, which are trading items, are recognized as profit or loss.

The financial liabilities designated as items measured at fair value through profit or loss are designated only upon the initial recognition if the criteria provided under Corporate Accounting Standard No.1109 are satisfied. The consolidated companies have not designated any financial liabilities interest bearing loans fair value through profit or loss.

② Loans and borrowings

After the initial recognition, interest bearing loans and borrowings are subsequently measured at amortized cost using the effective interest method. Any profits or losses arising from the derecognition of a liability or from the effective interest rate amortization procedures is recognized as net profit or loss.

The amortized cost is calculated by taking into account any discounts or premiums for the fees or costs which form an essential part of the effective interest rate.

This category is generally applied for interest bearing loans or borrowings.

3) Derecognition of financial liabilities

Financial liabilities are derecognized if and when the payment obligations are fulfilled, canceled or expired. If and where an existing financial liability is exchanged for a financial liability with the same borrower yet under substantially different terms and conditions, or where the terms and conditions of the existing liability are materially changed, such exchange or change causes the derecognition of the initial liability and the recognition of the new liability. Each difference between the book amounts is recognized as profit or loss.

(3) Offset of financial assets and financial liabilities

Financial assets and financial liabilities are appropriated and presented as the net amount in the consolidated statement of financial position if and when one currently has a legally enforceable right to offset against the recognized assets and liabilities, or has the intent to settle the difference or realize the assets while settling the liabilities.

2-12 Measurement of fair value

The consolidated companies assess the financial instruments such as derivatives at fair value as of the end of the reporting period. Disclosures made on the fair value of financial instruments measured at fair value or for which fair value is disclosed are provided under Note 35.

Fair value is the price which would be received in selling an asset or paid to transfer a liability in a normal transaction by and between the market participants on the date of measurement. The fair value measurement assumes that a transaction of selling an asset or transferring a liability takes place in one of the following markets:

- Primary market for assets or liabilities
- The most advantageous market only when there is no primary market for the assets or liabilities The consolidated companies must be able to access the primary (or the most advantageous) market.

The fair value of an asset or liability is measured based on the assumptions which the market participants use when determining the price for the asset or liability under the assumption that the market participants act to the best of their ability and in their economic interest.

When measuring the fair value of a non-financial asset, the ability of the market participant who sells the asset to another market participant who has best used or who will best use the asset to create economic benefits is considered.

The consolidated companies use the valuation techniques which are appropriate for the given circumstances and for which adequate data are available to measure the fair value while maximizing the use of relevant observable input variables and minimizing the use of unobservable input variables.

All assets and liabilities measured or disclosed at fair value in the consolidated financial statements are classified into the following fair value hierarchy based on the lowest level of input variables which are significant for fair value measurement.

- Level 1 - Quoted (unadjusted) price in an accessible and active market for the same asset or liability
- Level 2 - Fair value using an input variable for which the input variable of the lowest level significant for the fair value measurement is directly or indirectly observable
- Level 3 - Fair value using the unobservable input variable of the lowest level significant for the fair value measurement

Regarding the assets and liabilities which are repeatedly measured at fair value in the consolidated financial statements, at the end of each reporting period, the consolidated companies determine whether there is any movement between the levels of the hierarchy by undertaking a reevaluation of the classification based on the input variable of the lowest level significant for the fair value measurement.

For the fair value's disclosure purposes, the consolidated companies determine the classification of assets and liabilities and the levels of the fair value hierarchy based on their nature, characteristics, and their risks.

2-13 Financial derivatives

(1) Initial recognition and subsequent measurement

The consolidated companies use derivatives such as currency futures contracts and commodity forward contracts to hedge the foreign exchange risk, interest rate risk, and commodity price risk, and such derivatives are initially recognized at fair value on the date of contract execution, and thereafter, are subsequently remeasured at fair value. Derivatives are appropriated as financial assets if their fair value is positive, and as financial liabilities if their fair value is negative, and they are subsequently remeasured. Meanwhile, any changes in the fair value of derivatives are directly reflected in the consolidated statement of comprehensive income, and the effective portion of the cash flow hedging is reflected in other comprehensive income.

For hedge accounting, hedging is classified as follows.

- Fair value hedging: hedging against changes in the fair value of recognized assets and liabilities and unrecognized firm contracts
- Cash flow hedging: hedging against changes in the cash flows arising from the foreign currency risk of recognized assets and liabilities, highly probable expected transactions, or unrecognized firm contracts

Upon the commencement of the hedging relationship, the consolidated companies formally designate and document the hedging relationship for which they seek to apply hedge accounting, the risk management objectives and the hedging strategies.

The documentation includes the hedging instruments, the hedged items, the nature of the hedged risks, and the method of assessing whether the hedging relationship satisfies the provisions for hedging effectiveness (including the analysis of the cause of hedging ineffectiveness and the method of determining the hedging ratio). The hedging relationship shall satisfy all of the following provisions related to hedging effectiveness.

- There is an 'economic relationship' between the hedged items and the hedging instruments.
- The effect of credit risk does not account for 'most of the changes in value' resulting from the economic relationship between the hedged items and the hedging instruments.
- The hedging ratio of the hedging relationship is equivalent to the ratio between the number of hedged items which the relevant company actually hedges and the number of hedging instruments actually used by the consolidated companies to hedge the risks of the number of hedged items.

Hedging relationships satisfying the criteria for hedge accounting are accounted for as follows.

- Fair value hedging

Changes in the fair value of the hedging instruments are recognized as profit or loss. Changes in the fair value of the hedged items attributable to the hedged risks are included in the hedged items' book amounts and recognized as profit or loss.

The book amounts' adjustments for fair value hedging of the items measured at amortized cost are amortized using the effective interest method over the surviving period of the hedging. Amortization at the effective interest rate can begin immediately after the adjustment is made, and at the latest, must begin before the adjustment of the hedged items for hedging profits or losses is discontinued.

When the hedged items are derecognized, the unamortized fair value is immediately derecognized and recognized as profit or loss.

If an unrecognized firm contract is designated as a hedged item, the cumulative change in the fair value of the firm contract attributable to the hedged risk is recognized as an asset or liability, and the corresponding profit or loss thereto is recognized as profit or loss.

- Cash flow hedging

The effective portion of profit or loss from the hedging instruments is recognized as other comprehensive income within the cash flow hedge reserves, and the ineffective portion is recognized immediately as profit or loss. The cash flow hedge reserves are adjusted to the accumulated profit or loss of the hedging instruments and the accumulated fair value change of the hedged items, whichever is the smaller.

The consolidated companies may hedge based on currency forward contracts against exposure to foreign currency risks in future prospective transactions or firm contracts, and the forward contracts against the commodity prices' volatility. The ineffective portion related to the currency forward contracts is recognized as other expenses, and the ineffective portion related to the forward commodity contracts is recognized as other operating income or other operating expenses. For more details, please refer to Note 23.

The amount accumulated for other comprehensive income (cash flow hedge reserves) is accounted for in line with the characteristics of the hedging transactions. If the hedged transactions subsequently recognize a non-financial item, the cash flow hedge reserves are derecognized and included for the amount of the relevant asset or liability initially recognized. This is not a reclassification adjustment and does not affect other comprehensive income. This is also applied if and when the hedged transaction for a non-financial asset or non-financial liability becomes a firm contract for which fair value hedge accounting is subsequently applied.

With regard to the cash flow hedging, the cash flow hedge reserves are reclassified as profit or loss during the period in which the hedged cash flows affect the profit or loss.

If cash flow hedge accounting is discontinued, the cash flow hedge reserves are retained as other comprehensive income if and when the hedged expected cash flows are still expected to be generated. Otherwise, the cash flow hedge reserves are accounted for immediately as profit or loss based on the reclassification adjustment. If the hedged expected cash flows are generated following the discontinuation, the cash flow hedge reserves ought to be accounted for in line with the nature of the underlying transactions as explained in the above.

2-14 Cash and cash equivalents

The cash and cash equivalents in the consolidated statement of financial position consist of savings accounts, small amounts of cash, and short-term deposits with maturities of 3 months or less at the time of acquisition.

2-15 Inventories

The consolidated companies assess the inventories at the acquisition cost or the net realizable value, whichever is the less of the two, and the acquisition cost for each inventory asset includes the purchase cost, conversion cost, and the other costs incurred in bringing the inventory asset to its present location and condition. The unit cost of inventories is determined using the moving average method.

2-16 Tangible assets

The construction in progress is the balance of the acquisition cost minus the accumulated impairment losses,

while the tangible assets are presented as the balance of the acquisition cost minus the accumulated depreciation and the accumulated impairment losses. Such costs include the replacement costs satisfying the recognition criteria of assets and the borrowing costs for the long-term construction projects. Where a major part of tangible assets needs to be replaced regularly, the consolidated companies recognize the relevant part as an individual asset and depreciate it over the relevant useful life. Furthermore, if an asset satisfies the recognition criteria such as the comprehensive testing cost, it is included among the book amount for tangible assets, and all repair and maintenance costs are reflected in the profit or loss when incurred. In the cost estimated as required to remove, dismantle, or restore the site for the restoration of tangible assets to their original condition after their economic use has expired, the present value of the relevant expenditures is included in the acquisition cost of the tangible assets.

Meanwhile, the depreciation for tangible assets is appropriated using the straight-line method in line with the economic useful lives of each asset below.

Classification	Useful life
Building	19 - 40 years
Structure	19 - 40 years
Mechanical equipment	5 - 25 years
Vehicles and transport equipment	4 - 6 years
Other tangible assets	3 - 6 years

The tangible assets are derecognized upon disposal or when no future economic benefits are expected through their use or disposal, and the resulting difference between the net disposal value and the book amount is reflected in the profit or loss at the time of derecognition.

At the end of each reporting period, the consolidated companies review the adequacy of the estimated residual value, estimated useful life, and the depreciation method for tangible assets, and where any changes are needed, apply them in a forward-looking manner, and at this time, the impacts of health, safety and environmental laws and regulations are reviewed.

2-17 Borrowing cost

Borrowing costs directly related to the acquisition, construction or production of an asset which requires a significant period to be used for the intended use or ready for sale are capitalized as part of the cost of the relevant asset. Other borrowing costs are appropriated as expenses when incurred.

2-18 Investment real estate properties

Investment real estate properties are measured at acquisition cost plus the relevant transaction costs, and include the replacement cost that meets the recognition criteria for the assets when incurred. However, costs incurred in day-to-day management activities are recognized as expenses when they are incurred. Following the initial recognition, the investment real estate properties are appropriated at fair value reflective of the market conditions as of the end of the reporting period, and the profit or loss resulting from any changes in the fair value are reflected in profit or loss when incurred.

When it is expected that future economic benefits can no longer be profited from the disposal or use of the investment real estate properties, the consolidated companies derecognize them from the consolidated financial statements, and the resulting difference between the net amount of disposal and the book amount is reflected in profit or loss when derecognized. The consideration (amount) to be included in the profit or loss arising from the derecognition of investment real estate properties is calculated in accordance with the requirements on the calculation of transaction price as provided under Corporate Accounting Standard No. 1115.

In addition, if and only if the purpose of use of the relevant asset is changed, it is transferred from the investment real estate properties to another account or from another account to the investment real estate properties. When it is transferred from the investment real estate properties to tangible assets, the fair value at the point where the purposes of use are changed is applied as the deemed cost. Furthermore, when the tangible assets are replaced with investment real estate properties, the relevant real estate properties are accounted for in the same manner as the tangible assets until the purposes of use are changed.

2-19 Lease

At the point of a contractual commitment, the consolidated companies determine whether the contract itself is a lease or

includes a lease by considering whether the contract transfers control over the use of the identified asset for a certain period in exchange for consideration under contract.

(1) Consolidated companies as the lessee

The consolidated companies apply the single recognition and measurement approach for all leases, with the exception of short-term leases and leases for the underlying assets of small amounts. The consolidated companies recognize a lease liability presenting an obligation to make lease payments and the right-to-use assets presenting the right to use the underlying assets.

1) Right-to-use assets

The consolidated companies recognize the right-to-use assets on the date of commencement of the lease (that is, when the underlying assets are available for use). The right-to-use assets are measured at cost, and a cost model was applied for the subsequent measurement. To apply the cost model, the accumulated depreciation and accumulated impairment losses are deducted, and the adjustments following the remeasurement of lease liabilities are reflected. The cost of the right-to-use asset includes the amount of the recognized lease liability, initial direct cost, and the lease payments made on or before the date of commencement of the lease minus any lease incentives received. The right-to-use assets are depreciated on a straight-line basis over the lease term or the estimated useful lives of the assets, whichever is the shorter.

If the ownership of the underlying assets transfers to the consolidated companies at the end of the lease term, or if the cost of the right-to-use assets reflects the fact that the consolidated companies will exercise the purchase option, the depreciation is calculated using the estimated useful lives of the underlying assets.

The right-to-use assets are also subject to impairment, and are explained under Note 2-23 concerning the accounting policy on the impairment of non-financial assets.

2) Lease liabilities

On the date of commencement of the lease, the consolidated companies measure the lease liability at the present value of the lease payments to be paid over the lease term. Lease payments consist of fixed lease payments (including the substantive fixed lease payments minus the lease incentives to be received), variable lease payments that depend on an index or rate, and the amount expected to be paid under the residual value guarantee. Lease payments also include the exercise price of the purchase option if it is reasonably certain that the consolidated companies will exercise the purchase option and the amount they would pay to terminate the lease if the lease term reflects the consolidated companies' exercise of the termination option.

Variable lease payments other than those that depend on an index or rate are recognized as expenses for the period in which the event or condition giving rise to the lease payment occurs (unless it is incurred to produce inventories).

When calculating the present value of lease payments, the consolidated companies use the incremental borrowing rate on the date of commencement of the lease since the implied interest rate of the lease cannot be calculated with ease. After the date of commencement of the lease, the amount of the lease liability increases by reflecting the interest and decreases by reflecting the lease payments made. Furthermore, the book amount of the lease liability is remeasured if there is any change in the lease term, change in the lease payments (for example, changes in future lease payments resulting from changes in the index or rate used to calculate the lease payments) or change in the assessment of options to purchase the underlying assets.

3) Short-term leases and the underlying asset leases of small amount

The consolidated companies apply the provisions on recognition exemption for short-term leases of machinery and equipment (that is, such leases operate on a lease term of 12 months or less from the date of commencement and do not include a purchase option). In addition, the consolidated companies apply the provisions on recognition exemption for leases of assets of small amounts for the leases of office supplies that are considered assets of small amounts. Lease

payments for the short-term leases and leases of assets of small amounts are recognized as expenses on a straight-line basis over the lease term.

(2) Accounting as lessor

The consolidated companies classify the leases which do not substantially transfer all of the risks and rewards of ownership of the underlying asset as operating leases. The revenue from lease payments is recognized on a straight-line basis over the lease term and is included in the sales in the income statement depending on the nature of the business. The direct cost of establishing an operating lease is added to the book amount of the underlying assets and recognized as an expense over the lease term on the same basis as the lease payment income. Conditional rent payments are recognized as sales when the rent payment is received.

2-20 Classification of liquidity and illiquidity

The consolidated companies present assets and liabilities separately in the statement of financial position as current and non-current.

Assets are classified as current assets where any of the following apply.

- Where the asset is expected to be realized within the normal operating cycle, or intended to be sold or consumed within the normal operating cycle
- Where the asset is primarily held for trading purposes
- Where the asset is expected to be realized within 12 months after the reporting period
- Where, as cash or cash equivalents, the period of restriction on the use of the asset for exchange or debt repayment purposes is not more than 12 months after the reporting period

Any and all other assets are classified as the non-current assets.

Liabilities are classified as current liabilities where any of the following apply.

- Where it is expected that payment will be made within the normal operating cycle
- Where the asset is primarily held for trading purposes
- Where the payment is due within 12 months after the reporting period
- Where the unconditional right to defer the settlement of liabilities for more than 12 months after the reporting period is not granted

Any and all other liabilities are classified as the non-current liabilities.

2-21 Cash dividend

The consolidated companies recognize liabilities when the distribution is authorized to pay the dividends out and the company no longer has discretion. Distribution for the shareholders requires approval by the shareholders. The corresponding amount is reflected directly in equity.

2-22 Intangible assets

The consolidated companies appropriate the intangible assets acquired individually at acquisition cost, and appropriate the intangible assets acquired in a business combination at fair value at the point of purchase, and following the initial acquisition, directly deduct the accumulated amortization and accumulated impairment losses and present them accordingly. Meanwhile, the internally created intangible assets, excluding the development costs, are reflected in profit or loss as expense items when created.

The intangible assets are classified into intangible assets with a finite useful life and intangible assets with an indefinite useful life. The former are amortized over their useful lives, and are reviewed to determine whether there are any signs of impairment. Furthermore, the adequacy of the useful lives and amortization method is reviewed at the end of each reporting period, and if any changes are needed due to changes in the expected period of use or changes in the consumption patterns of economic benefits, they are accounted for through changes in estimates. Amortization of intangible assets is reflected in the profit or loss as an expense item consistent with the function of the relevant intangible asset.

Meanwhile, the intangible assets with indefinite useful lives are not amortized, yet are each tested for impairment individually or included for the cash-generating units each year. Furthermore, each year, whether it is appropriate to apply an indefinite

useful life for the intangible asset is reviewed, and if not appropriate, it is changed to a finite useful life in a forward-looking manner.

Upon the derecognition of intangible assets, the consolidated companies reflect any profit or loss arising from the differences between the net sales amount and the book amount of the intangible assets when derecognized.

- Research and development (R&D) expenses

The consolidated companies recognize research expenses as an expense when incurred. However, for development costs related to individual projects, they are appropriated as intangible assets if and where i) it is possible to demonstrate the technical feasibility of completing the intangible asset for use or sale; ii) there is the intention and ability to complete and use or sell the intangible assets; iii) adequate resources are secured towards that end; iv) it is possible to demonstrate how the intangible assets can generate future economic benefits; and v) the expenditures related to the intangible assets incurred during the development phase can be reliably measured.

The new drug development project of the consolidated companies proceeds through stages such as preclinical studies, phase 1 clinical trials, phase 2 clinical trials, phase 3 clinical trials, government approval application, government approval completion, and commencement of product sales for each candidate substance for the new drug.

Typically, the consolidated companies recognize expenditures incurred after a project has entered the phase 3 clinical trial stage as intangible assets, and consider expenditures incurred in earlier stages as R&D expenses, treating them as expenses of the current period.

Meanwhile, the development costs recognized as assets are directly deducted from the acquisition cost by deducting the accumulated amortization and the accumulated impairment losses through applying the cost model. They are also amortized over the expected period of continuity for the economic benefits from the time development is completed and available for use and are appropriated as the cost of sales. The consolidated companies conduct an annual impairment test for the development costs recognized as assets during the development period.

- Patents and licenses

Patents are licensed by the government for a period of 10 years, with the right to renew granted at the end of the term.

The amortization expenses for the consolidated companies' intangible assets are appropriated using the straight-line method in line with the economic useful lives of each asset below.

Classification	Useful life
Industrial property rights	5 - 10 years
Software	5 years
Development costs	10 years
Memberships	Not subject to amortization

2-23 Impairment of non-financial assets

At the end of each reporting period, the consolidated companies review whether there are any signs of the impairment of assets. Where such signs exist or when an annual impairment test is required for the assets, the consolidated companies estimate the assets' recoverable amount. The recoverable amount of the assets is net fair value of the assets or the cash-generating unit or the value in use, whichever is the larger, and it is determined for each individual asset; however, if the cash inflow of the individual asset is not generated almost independently of the cash inflow of the other assets or groups of assets, it is determined by the cash-generating unit to which the individual asset belongs. If the asset's book amount exceeds its recoverable amount, the asset is deemed to be impaired and its book amount is reduced to its recoverable amount.

The value in use is determined by discounting the estimated future cash flows of the asset at a pre-tax discount rate reflective of the market's assessment of the time value of money and the risk of the asset. As for the net fair value, a most recent transaction price is considered. If no such transaction is identified, it is determined using an appropriate valuation model. Valuation multiples, market prices of listed stocks, or other fair value indicators are used for such calculations.

The consolidated companies calculate the impairment amount based on the specific financial budgets and forecasts prepared for each cash-generating unit for which the individual assets are allocated. The financial budgeting and forecasting generally cover a period of 5 years, while for longer periods, the long-term growth rates are calculated and applied for the period over 5 years.

Impairment loss is reflected in the profit or loss as an expense item consistent with the function of the impaired asset. However, if there is a previously recognized reevaluation surplus as an asset for which the reevaluation model is applied, it is offset against the reevaluation surplus with the previous reevaluation amount as the ceiling.

For assets other than goodwill, at the end of each reporting period, an assessment is made as to whether there are any signs that an impairment loss on any previously recognized assets is no longer present or has decreased, and if such signs exist, the recoverable amount is estimated. The impairment loss on an asset, other than the goodwill recognized in the past, increases the book amount to the recoverable amount for the amortized balance of the asset's book amount if no recognition of the impairment loss is made; however, this is limited to cases in which there is any change in the estimates used to determine the recoverable amount of the relevant asset after the point of recognition of the immediately previous impairment loss. However, for the assets for which the reevaluation model is applied, the relevant reversal amount is accounted for an increase in the reevaluation surplus.

For the following assets, each criterion is additionally applied for the asset impairment testing.

(1) Goodwill

The consolidated companies conduct an impairment test for goodwill on December 31 of each year and whenever any signs of impairment are present.

The impairment test for goodwill is carried out by estimating the recoverable amount of each cash-generating unit or group of cash-generating units related to the goodwill, and if the recoverable amount of the cash-generating unit should be less than the book amount, the impairment loss is recognized, and the impairment loss recognized for goodwill is not reversed thereafter.

(2) Other intangible assets

As for the other intangible assets with indefinite useful lives, the consolidated companies conduct the impairment testing for each individual asset or cash-generating unit on December 31 of each year and whenever any signs of impairment are present.

The consolidated companies assess the areas where climate-related issues may have a significant impact, such as the introduction of legislation to regulate greenhouse gas emissions which may increase the manufacturing costs. Such issues related to climate change are included as the key assumptions if they have a material impact on the measurement of the recoverable amount.

2-24 Provisioning liabilities

The consolidated companies recognize the provisioning liabilities if and where a present obligation (legal or constructive obligation) exists as a result of any past event, and it is probable that an outflow of resources embodying economic benefits will be released to settle the obligation, and where it is possible to reliably estimate the amount required to fulfill the obligation. Where it is expected that a third party will pay for some or all of the expenses needed to settle the provisioning liabilities, provided that it is almost a certainty that the consolidated companies will receive reimbursement if the consolidated companies fulfill the obligations, they are accounted for as separate assets. The expenses recognized in the consolidated statements of comprehensive income in connection with the provisioning liabilities are presented by offsetting the amount recognized in connection with the reimbursement by a third party.

Where the time value effect of money is material, the provisioning liabilities are discounted at the current pre-tax interest rate reflective of the risk specific to the liabilities. Where the provisioning liabilities are assessed at the present value, any increase in the book amount over time is recognized as a financial cost.

2-25 Greenhouse gas emission rights and emission liabilities

The consolidated companies received free emission rights as a result of the greenhouse gas emission trading system. These emission rights are paid for each year, and the same number of emission rights must be used in response to the actual emissions. The consolidated companies account for the emission rights received using the net debt approach, and accordingly, they are recognized as the provisioning liabilities if and only if the actual amount of carbon emitted exceeds the given emission rights, and the emission costs are recognized as the operating costs. Where the emission rights are purchased from a third party, they are appropriated at acquisition cost, and thereafter, remeasured at fair value in line with the emission liabilities, as they are considered as the right of repayment, and the changes in fair value are appropriated in the consolidated statements of comprehensive income.

2-26 Treasury stocks

The consolidated companies account for the treasury stocks as a deduction from the equity. Profit or loss on the acquisition, sale, issuance, or cancellation of treasury stocks is not reflected in the consolidated statements of comprehensive income, and the differences between the book amount and the consideration for disposal are accounted for as the other capital surplus.

2-27 Convertible preferred stocks

Convertible preferred stocks are recognized separately as the liability component and the equity component based on the contractual terms and conditions.

In the issuance of convertible preferred shares, the fair value of the liability component is determined using the market interest rate of non-convertible bonds of a similar nature, and the relevant amount is classified as a financial liability measured at amortized cost until it is derecognized by conversion or redemption.

The residual value after deducting the fair value of the liability component from the issuing price is allocated for the conversion right recognized as the shareholders' interest after the transaction costs are deducted. The book amount of the conversion right is not reassessed after the initial recognition.

The transaction costs are allocated in proportion to the issuance amount allocated for the liability component and the equity component at the time the relevant liability is initially recognized.

2-28 Share-based payment transaction

The consolidated companies operate a system (share-settled, share-based payment transaction) in which stock options are granted for the executives' and employees' labor and services.

The share-settled, share-based payment costs are measured at fair value of the date of granting using an appropriate valuation model.

The share-based payment costs are recognized as employee benefits over the period in which the service provision related terms and conditions (or performance condition) are satisfied (hereinafter, 'vesting period'), and the corresponding increase in equity is recognized. At the end of each reporting period, the measurement of the cumulative cost of compensation reflects an estimate of whether the vesting period is completed and the final number of equity instruments to be granted. Changes in the accumulated compensation costs at the beginning of the reporting period and at the end of the reporting period are added to or subtracted from the consolidated statements of comprehensive income.

The service provision terms and conditions and the non-market conditions are not considered if and when estimating the fair value of share options as of the date of grant, yet are reflected in the estimation of the number of equity instruments which ultimately are vested, and the market conditions are reflected when measuring the fair value as of the date of granting. The other conditions granted for the share-based payments (unless there are relevant service conditions) are considered to be non-vesting conditions. Non-vesting conditions are reflected when the fair value of share-based payment costs is measured, and if there are no service provision terms and conditions (or performance conditions), they are recognized as expenses immediately thereby.

No expense is recognized for share-based payments which ultimately are not vested. However, the stock-settled

transactions with market conditions or non-vesting conditions are accounted for as vested regardless of whether the market conditions or non-vesting conditions are satisfied if and where all other performance and service conditions are satisfied.

Changes in the conditions of the share-settled share-based payment are recognized at the minimum cost which would have been recognized if and where the conditions were not changed, except where the equity instruments are not vested as the specified vesting conditions are not met. An additional effect of the change is recognized when it increases the total fair value of the share-based payment agreement or changes the terms to the benefit of employees. When the share-settled compensation is canceled, it is deemed as vested on the date of cancellation and the unrecognized compensation costs are recognized immediately thereby.

The dilutive effect of the issued options is reflected as the diluted shares when calculating the diluted earnings per share.

2-29 Non-current assets held for sale and discontinued operations

The consolidated companies classify the non-current assets (or groups of assets for disposal) as held for sale if their book amount will be recovered primarily through the sale transaction or distribution rather than the continued use. The non-current assets and disposal groups classified as held for sale are measured at the fair value or the book amount, whichever is the lesser, after the deduction of the costs to sell. The costs to sell are the incremental costs (excluding the financial cost and the income tax expenses) directly reverted to the disposal of assets (or disposal group).

The condition for classification as held for sale is deemed to be satisfied if and when the sale is highly probable and the non-current asset (or disposal group) is available for immediate sale in its present condition. The measures required to complete the sale ought to demonstrate the fact that the sale is unlikely to be significantly altered or withdrawn, and the sale must be expected to be completed within 1 year of the asset being classified as held for sale.

Tangible and intangible assets classified as held for sale are neither depreciated nor amortized. Assets and liabilities classified as held for sale or for distribution are presented as separate current items in the statement of financial position.

The consolidated companies exclude the after-tax income from discontinued operations from the results of continuing operations, and present it as a single amount in the statement of income. Any additional matters related to the discontinued operations are disclosed under Note 36, and the amounts of discontinued operations are included unless otherwise provided under other notes to the financial statements.

3. Significant accounting judgments, estimations and assumptions

When preparing the consolidated financial statements, the senior management of the consolidated companies is required to make and offer judgments, estimates and assumptions which may affect the reported amounts of income, expenses, assets and liabilities as of the end of the reporting period and the disclosures for the notes to the contingent liabilities. However, the uncertainties of such estimates and assumptions could cause material adjustments to the book amounts of the assets and liabilities that will be affected in the future.

3-1 Important accounting judgments

In the process of applying the consolidated companies' accounting policies, the senior management's judgments which have had the most significant impact on the amounts recognized in the consolidated financial statements are as follows.

(1) Calculation of the lease term of contracts with options for extension and termination

The consolidated companies calculate the lease term inclusive of the non-cancellable period of the lease and the term of the option if and when it is reasonably certain to exercise the option to extend the lease, or the period over which the option to terminate the lease is reasonably certain not to be exercised.

The consolidated companies have the lease agreements which include the extension and termination options. The consolidated companies apply judgments when assessing whether it is reasonably certain to exercise the option to extend or terminate the lease. That is, they consider any and all relevant facts and circumstances which give rise to an economic incentive to exercise an extension option or not to exercise a termination option. After the date of commencement, the consolidated companies reassess the lease term if any significant events or changes in circumstances under the consolidated companies' control affect the ability to exercise an extension or not to exercise an option to terminate.

The consolidated companies include extended periods as part of the lease term for the leases of equipment and machinery with short non-cancellable periods. The consolidated companies generally exercise the option to extend the lease, as there is a significant negative impact on the production if replacement assets are not readily available. The extended periods for the long non-cancellable leases of equipment and machinery are not included as part of the lease term since it is not significantly certain that the extension option will be exercised. Furthermore, the consolidated companies generally lease vehicles for 5 years or less and do not exercise the option to extend the lease, and thus, the option to extend the vehicle lease is not included as part of the lease term. Moreover, the period covered by the termination option is included as part of the lease term if and only if it is reasonably certain that it will not be exercised.

3-2 Accounting estimates and changes

The other major sources of uncertainties for material assumptions and estimates on the future as of the end of the reporting period that have a significant risk of causing a material adjustment to the book amounts of assets and liabilities in the next fiscal year are as follows. Assumptions and estimates are based on the variables available at the time the consolidated financial statements are prepared. The current circumstances and assumptions about the future may change given changes in the market or circumstances beyond the control of the consolidated companies. When such changes occur, they are reflected in the assumptions.

(1) Impairment of non-financial assets

The consolidated companies assess all non-financial assets for any signs of impairment at the end of each reporting period. Goodwill and intangible assets with indefinite useful lives are tested for impairment each year or when there are signs of impairment, and the other non-financial assets are tested for impairment when there are signs that their book amount will not be recoverable. To calculate the value in use, the senior management must estimate the expected future cash flows from the asset or the cash-generating unit, and select an appropriate discount rate to calculate the present value of the expected future cash flows.

(2) Retirement benefit plan

The present value of the defined benefit liability is determined based on the actuarial valuation method. To apply the actuarial valuation method, it is necessary to establish various assumptions, and the establishment of such assumptions includes the discount rate, rate of future wage increase, and the mortality rate. Given the complexity of the valuation method and the underlying assumptions and the long-term nature of the valuation method, the defined benefit liability fluctuates sensitively according to these assumptions. All assumptions are reviewed at the end of each reporting period.

(3) Provisions for expected loss on trade and other receivables and contract assets

The consolidated companies use the provision setting table to calculate the expected credit loss (ECL) for trade and other receivables and contract assets. The provision setting rate is based on the number of delinquent days in a bundle for different customer segments with similar loss patterns (i.e., geographic location, product type, customer type and credit rating, collateral or transactional credit insurance).

(4) R&D expenses

The consolidated companies appropriate development expenses as assets as described in Note 2 'Significant accounting policies and the standards for the preparation of financial statements.' The development costs recognized as assets of the consolidated companies are based on the senior management's judgment that there is technical and economic feasibility, which means that a certain level of target selected according to project management techniques has been reached. New development projects are carried out in stages such as discovery of new drug candidates, preclinical studies, phase 1 clinical trials, phase 2 clinical trials, phase 3 clinical trials, government approval application, government approval completion, and commencement of product sales. In general, the consolidated companies recognize as intangible assets the expenses incurred after the project enters into a phase 3 clinical trial, and the expenses incurred in the previous phase are treated as R&D expenses for the current period. The development costs subject to assetization were calculated based on senior management's assumptions about the expected future cash flow, discount rate, and period of economic benefits from the respective asset. As of the end of the current period, the book amount of development cost recognized as assets based on the best estimate was KRW 11,882,434,000.

(5) Deferred income tax assets

Where it is highly likely that future taxable income for which the tax loss can be used will occur, the deferred income tax assets are recognized for the unused tax loss within the scope. The consolidated companies' senior management makes major judgments to determine the amount of deferred income tax assets that can be recognized based on the future tax strategies and the timing and extent of tax income. The relevant details are provided under Note 31.

(6) Fair value of financial instruments

The fair value of financial instruments without an active market was calculated by applying valuation techniques including the discounted cash flow method. When the observable market information is not available for the input factors used for such valuation techniques, the determination of fair value requires a considerable estimation. Such judgments include the consideration of input variables such as liquidity risk, credit risk and volatility. Changes in such factors may affect the fair value of financial instruments.

(7) Share-based compensation

The consolidated companies measure the compensation cost of share-settled, share-based payment transactions based on the fair value on the date of granting of equity instruments, and the fair value is estimated by applying an appropriate valuation model in consideration of the conditions for granting equity instruments. Furthermore, it is necessary to determine the most appropriate pricing factors for the valuation model, including the expected lifetime of stock options, volatility, and dividend rate, and to establish assumptions for these factors. The assumptions and valuation models used to estimate the fair value of share-based payment transactions are provided under Note 26-3.

(8) Calculation of the incremental borrowing rate of a lease

The consolidated companies use the incremental borrowing rate to measure the lease liability, as the implicit interest rate of the lease cannot be easily determined. The incremental borrowing rate is the interest rate which the consolidated companies would be required to pay if the consolidated companies borrow the funds needed to acquire an asset of similar value to the right-to-use asset with similar collateral over a similar period in a similar economic environment. Accordingly, the incremental borrowing rate reflects the matters which the consolidated companies 'must pay' for which measurement is required if and when there is no observable rate, or when it has to be adjusted to reflect the terms of the lease. The consolidated companies must measure the incremental borrowing rate using observable input variables where possible, and prepare company-specific estimates.

(9) Inventory valuation allowance

The consolidated companies must estimate the conversion cost and other costs incurred in bringing the inventory to its present location and condition for the net realizable value assessment of the inventories. The balance of the inventory valuation allowance may change depending on the estimation of operational cost and cost of goods sold.

(10) Provisioning liabilities

If there exist legal obligations and constructive obligations as a result of past events as of the end of the reporting period, the consolidated companies must estimate the likelihood and amount of resource outflow required to fulfill such obligations. For this estimation, the consolidated companies take all available evidence into consideration, and significant estimation and judgment are required.

4. Standards for which enactment or revision has been announced or enforced

4-1 Application of the enacted or revised standards

The consolidated companies applied the standards and revisions for the first time for the first fiscal year beginning on January 1, 2022. The consolidated companies have not applied early the standards, interpretations or revisions which have been announced yet have not been enforced.

(1) Revision of Corporate Accounting Standard No. 1037, 'Provisioning Liabilities, Contingent Liabilities and Contingent Assets' - Fulfillment Cost of an Onerous Contract An onerous contract is one in which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received from it. The revision requires that, when determining whether a contract is onerous, the costs directly related to providing the goods or services under the contract include incremental costs of fulfillment (e.g., material costs and labor costs) and an allocation of other costs that relate directly to contract fulfillment (e.g., an allocation of the depreciation charge for an tangible assets used in contract fulfillment, or an allocation of costs of contract management and supervision). General administrative costs that do not relate directly to the contract and that cannot explicitly be charged to the counterparty under the contract are excluded.

As the consolidated companies do not have any onerous contracts within the scope of this revision, there are no impacts on the consolidated financial statements.

(2) Revision of Corporate Accounting Standard No. 1103, 'Business Combinations' - Reference for the Conceptual Framework for Financial Reporting

This revision ensures there are no significant changes in requirements when the previously published 'Conceptual Framework for the Preparation and Presentation of Financial Statements' is changed to the reference for 'Conceptual Framework for Financial Reporting' published in March 2018.

An exception has been added to the recognition principles of Corporate Accounting Standard No. 1103, 'Business Combinations', to prevent the occurrence of day 2 profit or loss in liabilities and contingent liabilities that fall within the scope of Corporate Accounting Standard No. 1037, 'Provisioning Liabilities, Contingent Liabilities, and Contingent Assets', or Interpretations of Corporate Accounting Standard No. 2121, 'Levies'. This exception requires the application of the standards of Corporate Accounting Standard No. 1037, 'Provisioning Liabilities, Contingent Liabilities, and Contingent Assets', or Interpretations of Corporate Accounting Standard No. 2121, 'Levies', instead of the Conceptual Framework to determine whether there is a present obligation on the acquisition date.

The revision also adds a new paragraph to Corporate Accounting Standard No. 1103, 'Business Combinations', to clarify that contingent assets cannot be recognized on the acquisition date.

As the consolidated companies do not have any contingent assets, liabilities, or contingent liabilities within the scope of this revision during the current period, there are no impacts on the consolidated financial statements.

(3) Revision of Corporate Accounting Standard No. 1016, 'Tangible Assets' - Sales Amount before Intended Use

This revision prevents the deduction of the net sales amount of the valuables that occurred while bringing the asset to the location and condition necessary for it to operate in a manner intended by management from the cost. Instead, the company recognizes the revenue received from selling such items and the cost of producing the items in profit or loss, respectively.

As the consolidated companies do not have any sales of valuables produced from tangible assets that became available on or after the earliest date of commencement presented, this revision does not affect the consolidated financial statements.

(4) Corporate Accounting Standard No. 1101 'First-time Adoption of Korean International Financial Reporting Standards' – A Subsidiary that Adopted the Standard for First Time

This revision allows subsidiaries that have elected to apply paragraph D16 (1) of Corporate Accounting Standard No. 1101 'First-time Adoption of Korean International Financial Reporting Standards' to measure accumulated translation differences based on the consolidated company's transition date to Korean International Financial Reporting Standards using the amounts reported by the consolidated company. This revision also applies to related companies or joint ventures that have elected to apply paragraph D16 (1) of the same Standard.

Since the subsidiaries of the consolidated companies are not first-time adopters, this revision has no impact on the consolidated financial statements.

(5) Corporate Accounting Standard No. 1109 'Financial Instruments' - Fees Related to 10% Test for the Derecognition of Financial Liabilities This revision clarifies the fees to be included by the company when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the existing financial liability. These fees only include those paid or received between the creditor and the debtor, as well as those paid or received on behalf of

each other by the creditor and debtor. There are no similar limited revisions to Corporate Accounting Standard No. 1039 'Financial Instruments: Recognition and Measurement'.

As there were no changes to the financial instruments within the consolidated companies, this revision has no impact on the consolidated financial statements.

4-2 Accounting standards announced but not yet enforced

The details of the enacted or revised standards and interpretations which have been enacted or announced as of the date of approval for issuance of the financial statements of the consolidated companies, yet which have not been applied early since the date of enforcement has not yet arrived, are as follows.

(1) Revision to Corporate Accounting Standard No. 1001 'Presentation of Financial Statements' - Classification of Liabilities as Current/Non-current Liabilities

They are classified as current or non-current based on the actual rights that exist as of the end of the reporting period, not taking into account the possibility of exercising rights to defer the settlement of the liability or management's expectations. Furthermore, settlement of liability includes the transfer of equity instruments, but it excludes cases where the option to settle with equity instruments in a compound financial instrument has been recognized separately because it meets the definition of equity. This revision is applied from the fiscal year beginning on January 1, 2024, and early application is permitted. The consolidated companies are currently reviewing the impact of this revision on their consolidated financial statements.

(2) Corporate Accounting Standard No. 1001 'Presentation of Financial Statements' - Disclosure of 'Accounting Policies'

This defines key accounting policy information and mandates its disclosure. This revision is applied from first fiscal year beginning on January 1, 2023, and early adoption is permitted. The consolidated companies are currently reviewing the impact of this revision on their consolidated financial statements.

(3) Corporate Accounting Standard No. 1008 'Accounting Policies, Changes and Errors in Accounting Estimates' - Definition of 'Accounting Estimates'

This defines accounting estimates and clarifies how to distinguish them from changes in accounting policies. This revision is applied from the first fiscal year beginning on January 1, 2023, and early application is permitted. The consolidated companies do not anticipate significant effects on the consolidated financial statements due to this revision

(4) Corporate Accounting Standard No. 1012 'Income Taxes' - Deferred Income Taxes for Assets and Liabilities Arising from a Single Transaction

A requirement stipulating that the transaction should not generate taxable temporary differences and deductible temporary differences and should have the same time of transaction was added to the exception requirement for the initial recognition of the transaction where the assets or liabilities are initially recognized. This revision is applied from the fiscal year beginning on January 1, 2023, and early application is permitted. The consolidated companies do not anticipate significant effects on the consolidated financial statements due to this revision.

(5) Enactment of Corporate Accounting Standard No. 1117 'Insurance Contracts'

Corporate Accounting Standard No. 1117 'Insurance Contracts' replaces Corporate Accounting Standard No. 1104 'Insurance Contracts'. It requires that all cash flows under insurance contracts be estimated, and insurance liabilities be measured using a discount rate that reflects the assumptions and risks at the reporting date. Moreover, it requires that revenues are recognized on an accrual basis, reflecting the services (insurance coverage) provided to the policyholder for each fiscal year. It also excludes investment elements (surrender/maturity refunds) paid to policyholders regardless of the occurrence of insurance events from insurance income and clearly distinguishes between insurance profit and investment profit to allow information users to verify the sources of profit. This standard is applied from the first fiscal year beginning on January 1, 2023. Companies that have applied Corporate Accounting Standard No. 1109 'Financial Instruments' are allowed to apply this standard early. The consolidated companies do not anticipate significant effects on the consolidated financial statements due to this revision.

Companies applying Corporate Accounting Standard No. 1117 for the first time due to the revision of the standard may apply

an optional classification adjustment ('overlay') to comparative periods. Such classification adjustment can be applied to all financial assets, including those that have no connection with contracts included in the scope of Corporate Accounting Standard No. 1117. Companies applying the classification adjustment to financial assets present comparative information as they have applied the classification and measurement requirements of Corporate Accounting Standard No. 1109 to those financial assets, and this classification adjustment can be applied by each product.

(6) Corporate Accounting Standard No. 1001 'Financial Statement Presentation' - Disclosure of the Valuation Profit and Loss of Financial Liabilities with an Exercise Price Adjustment Condition (currently a draft and applied when the K-IFRS revision is announced)

In cases where all or part of financial instruments with conditions that adjust the exercise price according to the issuer's stock price fluctuations are classified as financial liabilities, it is stipulated that the book amount of the financial liability and the related profit or loss should be disclosed. This revision is applied from the fiscal year beginning on January 1, 2023, and early application is permitted. The consolidated companies do not anticipate significant effects on the consolidated financial statements due to this revision.

5. Financial instruments

5-1 Financial assets

The category specific amounts of the financial assets as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Financial assets measured at fair value through profit or loss	Financial assets measured at amortized cost	Financial assets measured at fair value through other comprehensive income	Derivatives assets of hedging accounting	Total
Current assets:					
Short-term financial assets (Note 1)	1,314,442,323	5,300,000	-	-	1,319,742,323
Trade and other receivables	5,742,705	249,940,377	-	4,718,222	260,401,304
Other current assets (Note 2)	-	132,481	-	-	132,481
Subtotal	1,320,185,028	255,372,858	-	4,718,222	1,580,276,108
Non-current assets:					
Long-term financial assets	-	27,500	-	-	27,500
Long-term investment assets	34,628,158	-	4,000,114	-	38,628,272
Trade and other receivables	-	863,517	-	-	863,517
Other non-current assets (Note 2)	1,237,613	4,640,745	-	-	5,878,358
Subtotal	35,865,771	5,531,762	4,000,114	-	45,397,647
Total	1,356,050,799	260,904,620	4,000,114	4,718,222	1,625,673,755

(Note 1) Included are the money market financial instruments deposited with financial institutions.

(Note 2) Included are the derivatives and the short- and long-term security deposits.

<End of the previous period>

(Unit: KRW one thousand)

Classification	Financial assets measured at fair value through profit or loss	Financial assets measured at amortized cost	Financial assets measured at fair value through other comprehensive income	Derivatives assets of hedging accounting	Total
Current assets:					
Short-term financial assets (Note 1)	1,794,156,437	-	-	-	1,794,156,437
Trade and other receivables	2,277,046	364,588,065	-	-	366,865,111
Other current assets (Note 2)	-	178,067	-	-	178,067
Sub total	1,796,433,483	364,766,132	-	-	2,161,199,615
Non-current assets:					
Long-term financial assets	-	21,142,500	-	-	21,142,500
Long-term investment assets	32,081,459	-	3,000,027	-	35,081,486
Other non-current assets (Note 2)	368,001	1,274,378	-	1,639,873	3,282,252
Subtotal	32,449,460	22,416,878	3,000,027	1,639,873	59,506,238
Total	1,828,882,943	387,183,010	3,000,027	1,639,873	2,220,705,853

(Note 1) Included are the money market financial instruments deposited with financial institutions.

(Note 2) Included are the short- and long-term security deposits.

5-2 Financial liabilities

The category specific amounts of the financial liabilities as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Financial liabilities measured at fair value through profit or loss	Financial liabilities measured at amortized cost	Total
Current liabilities:			
Trade and other payables	67,152	219,092,076	219,159,228
Short-term borrowings	-	436,109,819	436,109,819
Current portion of long-term liabilities	-	103,986,944	103,986,944
Current portion of lease liabilities (Note 1)	-	11,685,098	11,685,098
Other current liabilities (Note 2)	-	4,940,675	4,940,675
Sub total	67,152	775,814,612	775,881,764
Non-current liabilities:			
Debenture	-	154,787,349	154,787,349
Long-term borrowings	-	7,172,699	7,172,699
Lease liabilities (Note 1)	-	13,185,242	13,185,242
Subtotal	-	175,145,290	175,145,290
Total	67,152	950,959,902	951,027,054

(Note 1) Lease liabilities correspond to the liabilities recognized in accordance with Corporate Accounting Standard No. 1116.

(Note 2) Included are the deposits received and the dividends payable.

<End of the previous period>

(Unit: KRW one thousand)

Classification	Financial liabilities measured at fair value through profit or loss	Financial liabilities measured at amortized cost	Total
Current liabilities:			
Trade and other payables	1,364,347	451,528,474	452,892,821
Short-term borrowings	-	11,671,373	11,671,373
Current portion of long-term liabilities	-	207,864,113	207,864,113
Current portion of lease liabilities (Note 1)	-	2,788,638	2,788,638
Other current liabilities (Note 2)	-	11,830,767	11,830,767
Sub total	1,364,347	685,683,365	687,047,712
Non-current liabilities:			
Debenture	-	256,063,407	256,063,407
Lease liabilities (Note 1)	-	8,343,522	8,343,522
Other non-current liabilities (Note 2)	-	2,110,026	2,110,026
Subtotal	-	266,516,955	266,516,955
Total	1,364,347	952,200,320	953,564,667

(Note 1) Lease liabilities correspond to the liabilities recognized in accordance with Corporate Accounting Standard No. 1116.

(Note 2) Included are the deposits received and the dividends payable.

5-3 Profit and loss by the category of financial instruments

The breakdown of profit and loss by financial instrument category for the current period and previous period is as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Financial assets measured at fair value through profit or loss	Financial assets measured at amortized cost	Derivative liabilities of hedging accounting	Financial liabilities measured at amortized cost	Total
Profit or loss:					
Interest income (expense)	-	7,255,858	-	(15,461,271)	(8,205,413)
Profit or loss on the valuation of financial instruments measured at fair value through profit or loss	(5,614,828)	-	-	-	(5,614,828)
Profit or loss on the transaction of financial instruments measured at fair value through profit or loss	45,433,828	-	-	-	45,433,828
Dividend income	1,190,000	-	-	-	1,190,000
Profit or loss on foreign currency translation	-	(7,640,449)	-	989,853	(6,650,596)
Profit and loss on foreign currency transactions	-	35,637,343	-	(16,680,990)	18,956,353
Profit or loss on the valuation of derivatives	6,545,164	-	2,454,000	-	8,999,164
Profit or loss on the transaction of derivatives	(31,771,712)	-	-	-	(31,771,712)
Bad debt expenses	-	(478,766)	-	-	(478,766)
Other bad debt expenses	-	(91,789)	-	-	(91,789)
Subtotal	15,782,452	34,682,197	2,454,000	(31,152,408)	21,766,241
Other comprehensive income:					
Profit or loss on the valuation of derivatives (Note 1)	-	-	535,165	-	535,165
Subtotal	-	-	535,165	-	535,165
Total	15,782,452	34,682,197	2,989,165	(31,152,408)	22,301,406

(Note 1) This amount is obtained from deducting the corporate tax.

<Previous period>

(Unit: KRW one thousand)

Classification (Note 1)	Financial assets measured at fair value through profit or loss	Financial assets measured at amortized cost	Derivative liabilities of hedging accounting	Financial liabilities measured at amortized cost	Total
Profit or loss:					
Interest income (expense)	-	2,273,356	-	(10,600,102)	(8,326,746)
Profit or loss on the valuation of financial instruments measured at fair value through profit or loss	(6,357,019)	-	-	-	(6,357,019)
Profit or loss on the transaction of financial instruments measured at fair value through profit or loss	12,615,764	-	-	-	12,615,764
Dividend income	1,190,000	-	-	-	1,190,000
Profit or loss on foreign currency translation	-	(130,179)	-	(4,900,003)	(5,030,182)
Profit and loss on foreign currency transactions	-	11,025,512	-	(10,615,873)	409,639
Profit or loss on the valuation of derivatives	1,280,700	-	2,925,000	-	4,205,700
Profit or loss on the transaction of derivatives	(114,720)	-	45,915	-	(68,805)
Reversal of allowance for bad debts	-	137,774	-	-	137,774
Reversal of allowance for other bad debts	-	170,716	-	-	170,716
Subtotal	8,614,725	13,477,179	2,970,915	(26,115,978)	(1,053,159)
Other comprehensive income:					
Profit or loss on the valuation of derivatives (Note 2)	-	-	1,194,758	-	1,194,758
Subtotal	-	-	1,194,758	-	1,194,758
Total	8,614,725	13,477,179	4,165,673	(26,115,978)	141,599

(Note 1) The profits and losses from discontinued operations are not included.

(Note 2) This amount is obtained from deducting the corporate tax.

5-4 Deposits of restricted use

The details of the deposits of restricted use as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period	Details of the restriction
Short-term financial assets	5,300,000	-	Provision of loan collateral of the treasury share association
Long-term financial assets	27,500	32,500	Security deposit for opening current deposit account
	-	21,110,000	Provision of loan collateral of the treasury share association
Total	5,327,500	21,142,500	

6. Trade and other receivables

6-1 As of the end of the current period, the details of the subsidiaries are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Trade and other receivables:		
Trade receivables	188,942,419	184,875,238
Allowance for bad debts for trade receivables	(4,714,759)	(4,767,211)
Accounts receivable	64,068,419	183,517,371
Allowance for bad debts for accounts receivable	(144,517)	(232,871)
Short-term loans	3,400,877	3,750,000
Allowance for bad debts for short-term loans	(3,400,000)	(3,750,000)
Accrued revenue	1,787,938	1,195,538
Derivative financial assets	10,460,927	2,277,046
Subtotal	260,401,304	366,865,111
Long-term trade and other receivables:		
Long-term loans	863,517	-
Subtotal	863,517	-
Total	261,264,821	366,865,111

6-2 The changes in allowance for bad debts for trade and other receivables for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Beginning of period	8,750,082	9,894,380
Placement (reversal) (Note 1)	570,555	(214,347)
Removal, exchange rate fluctuations, etc.	(679,634)	28,829
Business transfer (Note 2)	-	(958,780)
Held for sale classification	(381,727)	-
End of period	8,259,276	8,750,082

(Note 1) The allowance for bad debts of KRW 94,144,000 arising from the discontinued division during the previous period was reclassified as the profit or loss from discontinued operations.

(Note 2) During the previous period, the composite material business division and the PPS business division were each sold to Toray Advanced Materials Korea Inc. and HDC Polyall Co., Ltd.

6-3 As of the end of the current period, the details of the subsidiaries are as follows.

(Unit: KRW one thousand)

	End of the current period	End of the previous period
Unmatured	194,813,921	329,933,375
Within 90 days	46,160,540	40,867,330
Within 180 days	21,843,756	250,000
Over 180 days	6,705,880	4,564,488
Subtotal	269,524,097	375,615,193
(Deducted: allowance for bad debts)	(8,259,276)	(8,750,082)
Deductions	261,264,821	366,865,111

6-4 If the transferred or discounted trade receivables do not satisfy the requirements for the derecognition of financial instruments, the consolidated companies continue to recognize them as the trade and other receivables, whose details are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period	Reason
Trade receivables (Note 1)	78,359,823	-	Resource obligation

(Note 1) The consolidated companies recognize the short-term borrowings as much as the nominal amount of the transferred or discounted trade receivables (refer to Note 17-2).

7. Inventories

7-1 The details of the inventories as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Acquisition cost	Assessment allowance	Book amount
Goods	24,328,964	(2,673,766)	21,655,198
Products	171,502,022	(4,547,730)	166,954,292
Processed products	31,293,747	(1,018,094)	30,275,653
Half finished products	75,945,901	(10,519,829)	65,426,072
Goods in process	17,445,220	-	17,445,220
Raw materials	107,045,895	(11,152,871)	95,893,024
Stored goods	87,444,483	(26,542,443)	60,902,040
Goods to arrive	23,286,515	-	23,286,515
Other inventories	915,067	-	915,067
Total (Note 1)	539,207,814	(56,454,733)	482,753,081

(Note 1) Included are KRW 37,092,497,000 for the amount of contract assets related to the CMOs and CDMOs (refer to Note 21).

<End of the previous period>

(Unit: KRW one thousand)

Classification	Acquisition cost	Assessment allowance	Book amount
Goods	19,738,982	(1,089,881)	18,649,101
Products	113,932,193	(2,380,003)	111,552,190
Processed products	28,932,174	(1,542,724)	27,389,450
Half finished products	73,216,391	(2,385,624)	70,830,767
Goods in process	12,519,681	-	12,519,681
Raw materials	71,938,574	(3,052,841)	68,885,733
Stored goods	32,683,672	(855,723)	31,827,949
Goods to arrive	7,055,291	-	7,055,291
Other inventories	589,064	-	589,064
Total (Note 1)	360,606,022	(11,306,796)	349,299,226

(Note 1) Included are KRW 36,960,182,000 for the amount of contract assets related to the CMOs and CDMOs (refer to Note 21).

7-2 During the current period, the loss on the valuation of inventories recognized in connection with the inventories was KRW 45,147,937,000 (previous period: reversal of loss on the valuation of inventories: KRW 11,868,000), which was added or subtracted from the cost of sales.

8. Other assets

8-1 The details of other assets as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Other current assets:		
Security deposits	132,481	178,067
Advance payments	21,020,251	12,217,621
Prepaid expenses	6,536,242	4,905,473
Prepaid corporate taxes	339,349	436,645
Prepaid VATs	612,027	317,678
Carbon emission right assets	220,926	45,025
Other assets	134,659	22,019
Total	28,995,935	18,122,528
Other non-current assets:		
Derivatives assets	1,237,613	2,007,874
Long-term security deposits	4,640,745	1,274,378
Long-term prepaid expenses	6,473,357	5,902
Defined benefit assets (Note 1)	41,946,809	7,103,496
Other assets	1,014,129	935,730
Total	55,312,653	11,327,380

(Note 1) These are the net defined benefit assets which resulted from the accumulation of the defined benefit plan in excess of liabilities. There is no restrictive effect due to the ceiling on asset recognition for the current period.

9. Long-term and short-term financial assets

The details of the long-term and short-term financial assets as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Short-term financial assets:		
Financial assets measured at fair value through profit or loss (Note 1)	1,314,442,323	1,794,156,437
Time deposits (Note 2)	5,300,000	-
Subtotal	1,319,742,323	1,794,156,437
Long-term financial assets:		
Security deposit for opening current deposit account	27,500	32,500
Time deposits (Note 2)	-	21,110,000
Subtotal	27,500	21,142,500
Total	1,319,769,823	1,815,298,937

(Note 1) Included are the money market financial instruments deposited with financial institutions and the overseas bonds.

(Note 2) They are provided as a collateral for the treasury share association's loans (refer to Note 5-4).

10. Long-term investment assets

The changes in long-term investment assets for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Assessed	End of period
Financial assets measured at fair value through profit or loss:					
Unmarketable equity securities					
Eastman Fiber Korea Ltd. (EFKL) (Note 1)	23,506,094	-	-	1,621,930	25,128,024
Yongyeon Industrial District 4 Industrial Water Management Association	419,199	-	-	-	419,199
Standigm Inc. (Notes 2)	3,000,008	-	-	-	3,000,008
Subtotal	26,925,301	-	-	1,621,930	28,547,231
Debt securities					
Korea Investment Bio Global Fund	4,185,525	-	-	(1,473,471)	2,712,054
Sante Health Ventures IV, LP (Note 3)	970,633	2,398,240	-	-	3,368,873
Subtotal	5,156,158	2,398,240	-	(1,473,471)	6,080,927
Financial assets measured at fair value through other comprehensive income:					
Unmarketable equity securities					
J2H Biotech Co., Ltd.	1,500,052	-	-	-	1,500,052
Oncobix Co., Ltd.	999,980	-	-	-	999,980
Citi Cells Co., Ltd. (Note 3)	499,995	500,081	-	-	1,000,076
Clips BNC Co., Ltd. (Note 3)	-	500,006	-	-	500,006
Subtotal	3,000,027	1,000,087	-	-	4,000,114
Total	35,081,486	3,398,327	-	148,459	38,628,272

(Note 1) The consolidated companies hold a put option for the interest in the preferred stocks of Eastman Fiber Korea Co., Ltd. and granted a call option of the same amount for Eastman Chemical Korea B.V., the largest shareholder, and considering the option, reflected the assessment of the investment assets at fair value.

(Note 2) These are redeemable convertible preferred stocks (RCPS) with the right to convert to common stocks for 10 years from the date of completion of the transaction and the right to require redemption from the consolidated companies 3 years after the date of completion of the transaction.

(Note 3) During the current period, the consolidated companies made a new investment in Clips BNC Co., Ltd., and made additional investments in Citi Cells Co., Ltd. and Sante Health Ventures IV, LP.

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Assessed	End of period
Financial assets measured at fair value through profit or loss:					
Unmarketable equity securities					
Eastman Fiber Korea Ltd. (EFKL) (Note 1)	21,572,864	-	-	1,933,230	23,506,094
Yongyeon Industrial District 4 Industrial Water Management Association	419,199	-	-	-	419,199
Standigm Inc. (Notes 2, 3)	-	3,000,008	-	-	3,000,008
Subtotal	21,992,063	3,000,008	-	1,933,230	26,925,301
Debt securities					
Korea Investment Bio Global Fund (Note 4)	2,500,000	2,500,000	(25,000)	(789,475)	4,185,525
Sante Health Ventures IV, LP (Note 2)	-	970,633	-	-	970,633
Subtotal	2,500,000	3,470,633	(25,000)	(789,475)	5,156,158
Financial assets measured at fair value through other comprehensive income:					
Unmarketable equity securities					
J2H Biotech Co., Ltd. (Note 2)	-	1,500,052	-	-	1,500,052
Oncobix Co., Ltd. (Note 2)	-	999,980	-	-	999,980
Citi Cells Co., Ltd. (Note 2)	-	499,995	-	-	499,995
Subtotal	-	3,000,027	-	-	3,000,027
Total	24,492,063	9,470,668	(25,000)	1,143,755	35,081,486

(Note 1) The consolidated companies hold a put option for the interest in the preferred stocks of Eastman Fiber Korea Co., Ltd. and granted a call option of the same amount for Eastman Chemical Korea B.V., the largest shareholder, and considering the option, reflected the assessment of the investment assets at fair value.

(Note 2) During the current period, the consolidated companies newly acquired redeemable convertible preferred stocks of Standigm Inc., common stocks of J2H Biotech Co., Ltd., common stocks of Oncobix Co., Ltd., and common stocks of Citi Cells Co., Ltd., and newly invested in Sante Health Ventures IV, LP.

(Note 3) These are redeemable convertible preferred stocks (RCPS) with the right to convert to common stocks for 10 years from the date of completion of the transaction and the right to require redemption from the consolidated companies 3 years after the date of completion of the transaction.

(Note 4) During the current period, the consolidated companies made additional investments in the Korea Investment Bio Global Fund and recovered a portion of the investments.

11. Affiliates and joint ventures investments

11-1 The details of the affiliates and joint ventures investments as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Name of Company	Location	End of the current period		End of the previous period	
		Equity interest (%)	Book amount	Equity interest (%)	Book amount
Entis Co., Ltd.	Republic of Korea	50.00	6,184,859	50.00	6,863,112
ST Green Energy (Note 1)	Singapore	-	-	50.00	1,231,243
JSI Co., Ltd.	Republic of Korea	40.00	515,887	40.00	534,172
HDC Polyall Co., Ltd. (Notes 2, 3)	Republic of Korea	20.00	6,608,407	20.00	7,699,750
Total			13,309,153		16,328,277

(Note 1) The company disposed of all the shares it held in ST Green Energy during the current period.

During the previous period, the PPS Business Division was transferred to HDC Polyall Co., Ltd., and a 20% interest-1 share was acquired from HDC Polyall Co., Ltd.

(Note 2) The consolidated companies are determined to have influence over HDC Polyall Co., Ltd. based on the fact that the consolidated companies can appoint one of the five directors.

(Note 3) The consolidated companies have put options for all of their interest in HDC Polyall Co., Ltd.

11-2 The changes in investments in affiliates and joint ventures for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Name of company	Beginning of period	Profits or losses on valuation using equity method	Dividends	Disposed	Others (Note 1)	End of period
Entis Co., Ltd.	6,863,112	321,747	(1,000,000)	-	-	6,184,859
JSI Co., Ltd.	534,172	(18,285)	-	-	-	515,887
HDC Polyall Co., Ltd.	7,699,750	(1,091,343)	-	-	-	6,608,407
ST Green Energy	1,231,243	25,345	-	(1,282,987)	26,399	-
Total	16,328,277	(762,536)	(1,000,000)	(1,282,987)	26,399	13,309,153

(Note 1) These are the changes due to the recognition of other comprehensive income, etc.

<Previous period>

(Unit: KRW one thousand)

Name of company	Beginning of period	Acquired	Profits or losses on valuation using equity method	Dividends	Others (Note 1)	End of period
Entis Co., Ltd.	7,373,304	-	1,489,808	(2,000,000)	-	6,863,112
JSI Co., Ltd.	451,933	-	82,239	-	-	534,172
HDC Polyall Co., Ltd.	-	7,699,750	-	-	-	7,699,750
ST Green Energy	1,278,783	385,515	46,898	(567,950)	87,997	1,231,243
Total	9,104,020	8,085,265	1,618,945	(2,567,950)	87,997	16,328,277

(Note 1) These are the changes due to the recognition of other comprehensive income, etc.

11-3 The summarized financial information of the affiliates and joint ventures investments as of the end of the reporting period is as follows.

<Current period>

(Unit: KRW one thousand)

Name of company	Current assets	Non-current assets	Current liabilities	Non-current liabilities	Equity	Sales	Net income (loss)
Entis Co., Ltd.	19,738,992	2,487,488	9,856,762	-	12,369,719	49,903,660	643,497
JSI Co., Ltd.	2,464,346	7,128,554	10,602,005	1,345,490	(2,354,595)	10,996,961	(45,715)
HDC Polyall Co., Ltd.	32,705,030	16,586,616	12,024,282	4,224,259	33,043,104	36,218,521	(5,456,896)

<Previous period>

(Unit: KRW one thousand)

Name of company	Current assets	Non-current assets	Current liabilities	Non-current liabilities	Equity	Sales	Net income (loss)
Entis Co., Ltd.	20,184,219	2,416,784	8,874,781	-	13,726,222	48,033,806	2,688,305
JSI Co., Ltd.	3,525,486	7,643,890	11,937,952	1,540,304	(2,308,880)	13,313,925	197,546
HDC Polyall Co., Ltd.	29,161,094	14,056,867	4,717,961	-	38,500,000	-	-
ST Green Energy	8,284,236	142,786	5,964,537	-	2,462,485	265,259,025	357,081

12. Tangible assets

12-1 The changes in the book amount of tangible assets of the consolidated company for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Depreciation	Held for sale	Others (Note 1)	End of period
Land	194,574,507	36,912,914	(9,699,741)	-	-	4,459,868	226,247,548
Building	310,483,796	14,108,432	(1,852)	(10,388,053)	(1,565,890)	10,515,571	323,152,004
Structure	112,274,999	6,685,264	(356,517)	(3,742,913)	-	10,204,408	125,065,241
Mechanical equipment	277,177,363	28,605,828	(4,436,264)	(53,206,859)	(1,540,403)	25,094,893	271,694,558
Vehicles and transport equipment	212,153	136,817	-	(89,688)	(5,355)	28	253,955
Other tangible assets	13,993,207	6,889,017	(127,688)	(6,088,310)	(447,661)	4,715,525	18,934,090
Assets under construction in progress	88,183,666	198,364,269	(213,866)	-	-	(60,578,466)	225,755,603
Machineries in transit	2,346,072	2,180,140	-	-	-	(2,498,152)	2,028,060
Total	999,245,763	293,882,681	(14,835,928)	(73,515,823)	(3,559,309)	(8,086,325)	1,193,131,059

(Note 1) Included are the main account replacement of construction in progress, replacement of investment real estate properties with the intangible assets, receipt of government subsidies, the effect of exchange rate fluctuations, etc.

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Depreciation (Note 1)	Impairment loss (Note 1)	Transfer of business (Note 2)	Others (Note 3)	End of period
Land	203,507,833	488,849	-	-	-	(9,209,440)	(212,735)	194,574,507
Building	306,490,611	15,041,762	(636,626)	(9,973,602)	(9,271,731)	(957,498)	9,790,880	310,483,796
Structure	106,744,282	5,120,519	(212,859)	(3,399,839)	(3,105,329)	(75,485)	7,203,711	112,275,000
Mechanical equipment	359,739,076	36,593,481	(846,734)	(63,269,764)	(90,608,774)	(5,098,249)	40,668,327	277,177,363
Vehicles and transport equipment	299,301	-	(15)	(85,325)	-	(3,812)	2,004	212,153
Other tangible assets	11,242,647	5,316,102	(58,804)	(4,720,345)	(435,328)	(209,101)	2,858,035	13,993,206
Assets under construction in progress	81,085,394	76,679,578	(1,315,322)	-	-	(1,231,804)	(67,034,180)	88,183,666
Machineries in transit	890,483	3,719,246	-	-	-	-	(2,263,657)	2,346,072
Total	1,069,999,627	142,959,537	(3,070,360)	(81,448,875)	(103,421,162)	(16,785,389)	(8,987,615)	999,245,763

(Note 1) Included are the profits and losses classified from discontinued operations.

(Note 2) During the previous period, the composite material business and the PPS business were each transferred to Toray Advanced Materials Korea Inc. and HDC Polyall Co., Ltd.

(Note 3) Included are the main account replacement of construction in progress, replacement of investment real estate properties with the intangible assets, receipt of government subsidies, the effect of exchange rate fluctuations, etc.

12-2 The capitalized borrowing costs during the current period are KRW 2,070,480,000 (previous period: KRW 1,087,645,000). The interest rate for capitalization used to calculate the borrowing costs available for capitalization is 3.13% - 4.96% (previous period: 2.85% - 3.42%).

12-3 Insured assets

As of the end of the current period, the consolidated companies are subscribed for all property risk insurance policy with an insured amount of KRW 2,406,787,021,000 (previous period: KRW 2,453,647,973,000, CNY 134,812,452) for tangible assets, etc.

12-4 Non-current assets held for sale

During the current period, the consolidated companies have classified the tangible assets intended for sale from SK Chemicals (Suzhou) Co., Ltd. as non-current assets held for sale. As of the end of the current period, the tangible assets categorized as non-current assets held for sale are as follows.

(Unit: KRW one thousand)

Classification	End of the current period
Building	1,565,888
Mechanical equipment	1,540,403
Vehicles and transport equipment	5,355
Other tangible assets	447,663
Total	3,559,309

13. Lease

(1) Company as a lessee

13-1 The changes in the book value of right-to-use assets for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Depreciation	Held for sale	Others (Note 1)	End of period
Land	3,913,234	365,037	-	(90,958)	(221,482)	(115,759)	3,850,072
Building	2,791,007	19,303,528	(204,861)	(5,382,590)	-	2,313	16,509,397
Structure	3,230,597	-	-	(117,121)	-	-	3,113,476
Mechanical equipment	3,219,419	-	-	(781,037)	-	-	2,438,382
Vehicles and transport equipment	2,232,469	2,061,131	(290,710)	(1,222,638)	(78,457)	(3,938)	2,697,857
Total	15,386,726	21,729,696	(495,571)	(7,594,344)	(299,939)	(117,384)	28,609,184

(Note 1) They consist of the effect of exchange rate fluctuations, etc.

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Depreciation (Note 1)	Transfer of business (Note 2)	Others (Note 3)	End of period
Land	3,582,070	-	-	(78,980)	-	410,144	3,913,234
Building	3,955,244	387,046	(20,999)	(725,412)	(898,770)	93,898	2,791,007
Structure	3,334,722	13,640	-	(117,765)	-	-	3,230,597
Mechanical equipment	3,512,313	2,221,498	(1,700,000)	(814,392)	-	-	3,219,419
Vehicles and transport equipment	1,717,111	2,353,058	(490,799)	(1,351,527)	(7,905)	12,508	2,232,469
Total	16,101,460	4,975,242	(2,211,798)	(3,088,076)	(906,675)	516,550	15,386,726

(Note 1) Included are the profits and losses classified from discontinued operations.

(Note 2) During the previous period, the composite material business division was transferred to Toray Advanced Materials Korea Inc.

(Note 3) They consist of the effect of exchange rate fluctuations, etc.

13-2 The details of the lease liabilities as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period		End of the previous period	
	Minimum lease payment	Present value	Minimum lease payment	Present value
1 year or less	12,000,694	11,685,098	2,835,307	2,788,638
2 years or less	6,637,793	6,145,838	2,276,326	2,174,335
5 years or less	5,089,589	4,393,522	3,414,156	3,015,212
Over 5 years	4,526,978	2,645,882	5,257,900	3,153,975
Total	28,255,054	24,870,340	13,783,689	11,132,160

13-3 The changes in lease liabilities for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Beginning of period	11,132,160	12,431,034
Increase	21,729,696	4,975,242
Disposed	(506,492)	(2,652,966)
Interest expenses	797,301	474,321
Lease payments made	(8,184,639)	(3,248,550)
Held for sale	(80,762)	-
Business transfer (Note 1)	-	(986,431)
Others (Note 2)	(16,924)	139,510
End of period	24,870,340	11,132,160

(Note 1) During the previous period, the composite material business division was transferred to Toray Advanced Materials Korea Inc.

(Note 2) They consist of the effect of exchange rate fluctuations, etc.

13-4 The expenses recognized from the lease contracts for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Other operating expenses such as consumables		
Short-term lease	879,308	931,275
Lease of small amount	408,000	309,781
Variable lease fee	-	-
Depreciation and impairment losses		
Amortization of right-to-use assets	7,594,344	3,088,076
Net financial cost		
Lease liabilities' interest expenses	797,301	474,321

The consolidated companies had a cash outflow of KRW 9,371,947,000 in total (previous period: KRW 4,489,606,000) for the leases.

The consolidated companies have a number of lease agreements executed with the options for extension and termination included. Such options are negotiated by the senior management to provide flexibility in the management of the portfolio of leased assets and to meet the business needs of the consolidated companies. The senior management apply their material judgment in determining whether it is significantly certain that such extension and termination options will be exercised.

(2) Company as a lessor

The consolidated companies have executed operating lease agreements for a portfolio of investment real estate properties consisting of specific offices and manufacturing properties. The terms of these leases run from 1 to 50 years. Included in all leases is a provision which allows for an increase in rental payment on an annual basis depending on the current market conditions. The lessee must also guarantee the residual value of the real estate properties. The rental income recognized during the reporting period was KRW 1,889,576,000 (previous period: KRW 1,895,746,000).

As of the end of the reporting period, the future minimum rent receivables under the non-cancellable operating leases are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Within 1 year	1,959,166	1,804,884
Over 1 year, 5 years or less	2,688,228	3,010,397
Over 5 years	8,364,801	10,470,680
Total	13,012,195	15,285,961

14. Intangible assets

14-1 The changes in the book amount of intangible assets for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Redemption cost	Others (Note 1)	End of period
Goodwill	86,234	-	-	-	-	86,234
Industrial property rights	5,956,048	168,531	(401,481)	(1,244,902)	621,230	5,099,426
Memberships	7,056,505	3,246,996	(930,286)	-	-	9,373,215
Development costs	13,088,066	1,163,867	-	(2,369,499)	-	11,882,434
Software	18,235,471	8,001,457	(8,650)	(6,698,497)	5,806,149	25,335,930
Total	44,422,324	12,580,851	(1,340,417)	(10,312,898)	6,427,379	51,777,239

(Note 1) They consist of the main account replacement for construction in progress, the effect of exchange rate fluctuations, etc.

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Redemption cost (Note 1)	Business transfer (Note 2)	Others (Note 3)	End of period
Goodwill	86,234	-	-	-	-	-	86,234
Industrial property rights	6,790,551	136,964	(83,438)	(1,396,997)	(987,737)	1,496,705	5,956,048
Memberships	5,799,179	1,257,326	-	-	-	-	7,056,505
Development costs	15,221,386	180,178	-	(2,313,498)	-	-	13,088,066
Software	9,058,514	5,075,989	-	(4,590,164)	-	8,691,132	18,235,471
Total	36,955,864	6,650,457	(83,438)	(8,300,659)	(987,737)	10,187,837	44,422,324

(Note 1) Included are the profits and losses classified from discontinued operations.

(Note 2) During the previous period, the composite material business and the PPS business were each transferred to Toray Advanced Materials Korea Inc. and HDC Polyall Co., Ltd.

(Note 3) They consist of the main account replacement for construction in progress, the effect of exchange rate fluctuations, etc.

14-2 The details of the development costs as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Phase	Classification	Name of individual asset	Amount of the R&D expenses assetized (cumulative amount)			Development costs		Residual amortization period
			Phase 3 clinical trial	Approved sales	Total	Book amount	Cumulative amount of impairment loss	
Completed development	Genetic recombination	NBP601 (Note 1)	-	5,100,000	5,100,000	2,040,000	-	4 years
	Vaccine	NBP607 (Note 2)	4,354,658	-	4,354,658	1,563,991	-	3 years
	Vaccine	NBP608 Herpes Zoster (Note 3)	10,199,115	-	10,199,115	5,014,565	-	5 years
	Vaccine	NBP608 Chickenpox (Note 4)	3,486,768	-	3,486,768	1,975,835	-	6 years
	Vaccine	GBP510 COVID-19 (Note 5)	1,344,045	-	1,344,045	1,288,043	-	9 years
Subtotal			19,384,586	5,100,000	24,484,586	11,882,434	-	

<End of the previous period>

(Unit: KRW one thousand)

Phase	Classification	Name of individual asset	Amount of the R&D expenses assetized (cumulative amount)			Development costs		Residual amortization period
			Phase 3 clinical trial	Approved sales	Total	Book amount	Cumulative amount of impairment loss	
Completed development	Genetic recombination	NBP601 (Note 1)	-	5,100,000	5,100,000	2,550,000	-	5 years
	Vaccine	NBP607 (Note 2)	4,354,658	-	4,354,658	1,998,900	-	4 years
	Vaccine	NBP608 Herpes Zoster (Note 3)	10,199,115	-	10,199,115	6,034,477	-	6 years
	Vaccine	NBP608 Chickenpox (Note 4)	3,486,768	-	3,486,768	2,324,511	-	7 years
Development in progress	Vaccine	GBP510 COVID-19 (Note 5)	180,178	-	180,178	180,178	-	10 years
Subtotal			18,220,719	5,100,000	23,320,719	13,088,066	-	

(Note 1) NBP 601 is a treatment for hemophilia, and is currently on sale after securing approval for sales in Europe, the United States, etc.

(Note 2) NBP 607 is an influenza vaccine product, and is currently on sale after securing approval for sales in 2015.

(Note 3) NBP 608 is a herpes zoster vaccine product for adults, and is currently on sale after securing approval for sales in 2017.

(Note 4) NBP 608 is a chickenpox vaccine for infants and toddlers, and is currently on sale after securing approval for sales in 2018.

(Note 5) GBP 510 is a COVID-19 vaccine product, and is currently on sale after securing approval for sales in 2022.

14-3 The changes in the book amount of development costs for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	NBP601	NBP607	NBP608		GBP510	Total
			Herpes zoster	Chickenpox		
Book amount at beginning of period	2,550,000	1,998,900	6,034,477	2,324,511	180,178	13,088,066
Acquired	-	-	-	-	1,163,867	1,163,867
Redeemed	(510,000)	(434,909)	(1,019,912)	(348,676)	(56,002)	(2,369,499)
Book amount at end of period	2,040,000	1,563,991	5,014,565	1,975,835	1,288,043	11,882,434

<Previous period>

(Unit: KRW one thousand)

Classification	NBP601	NBP607	NBP608		GBP510	Total
			Herpes zoster	Chickenpox		
Book amount at beginning of period	3,060,000	2,433,809	7,054,387	2,673,190	-	15,221,386
Acquired	-	-	-	-	180,178	180,178
Redeemed	(510,000)	(434,909)	(1,019,910)	(348,679)	-	(2,313,498)
Book amount at end of period	2,550,000	1,998,900	6,034,477	2,324,511	180,178	13,088,066

14-4 The total R&D related expenditures recognized as expenses for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Selling and administrative expenses	152,369,384	138,034,837
External subsidies, etc.	(52,149,264)	(52,149,264)
Total	100,220,120	85,885,573

15. Investment real estate properties

15-1 The changes in the book value of investment real estate properties for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Redeemed	Replacements	End of period
Land	16,797,406	-	-	16,797,406
Building	414,872	(42,031)	169,119	541,960
Total	17,212,278	(42,031)	169,119	17,339,366

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Redeemed	Replacements (Note 1)	End of period
Land	16,521,136	-	276,270	16,797,406
Building	534,529	(37,448)	(82,209)	414,872
Total	17,055,665	(37,448)	194,061	17,212,278

(Note 1) These are the replacements of investment real estate properties, tangible assets of buildings, etc., due to the execution of lease agreements for some land for Entis Co., Ltd., etc.

15-2 During the current period, the rental income from investment real estate properties is KRW 1,889,576,000 (previous period: KRW 1,895,746,000), with the rental income from discontinued operations of KRW 221,390,000 included for the previous period. As of the end of the current period, the fair value of investment real estate properties is not significantly different from the book amount.

16. Trade and other payables

The details of the trade and other payables as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Trade payables	95,186,888	168,149,443
Accounts payable	50,943,258	212,524,106
Accrued expenses	72,961,930	70,854,925
Derivative financial liabilities	67,152	1,364,347
Total	219,159,228	452,892,821

17. Debenture and borrowings

17-1 The details of the bonds and borrowings as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Short-term borrowings	436,109,819	11,671,373
Current portion of long-term liabilities:		
Current portion of bonds payable	103,986,944	207,864,113
Subtotal	103,986,944	207,864,113
Debenture	154,787,349	256,063,407
Long-term borrowings	7,172,699	-
Total	702,056,811	475,598,893

17-2 The details of the short-term borrowings as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Lender	Details	Annual interest rate at end of current period (%)	End of the current period	End of the previous period
KEB Hana Bank, etc.	General borrowings from banks	4.41 - 6.34	202,200,000	-
KEB Hana Bank, etc.	Trade receivable discounts	0.82 - 6.71	78,359,823	-
Shinhan Bank, etc.	Commercial paper (CP)	5.13 - 8.00	110,000,000	-
Coalition for Epidemic Preparedness Innovations (CEPI)	Other borrowings (Note 1)	-	45,549,996	11,671,373
Total			436,109,819	11,671,373

(Note 1) As the product was commercialized with a subsidy for the R&D support for 'GBP510', a COVID-19 vaccine candidate under development by the consolidated companies, part of it was reimbursed during the current period.

17-3 The details of the bonds as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	Date of maturity	Annual interest rate at end of current period (%)	End of the current period	End of the previous period
The 2-2nd public placement bonds	2022.07.26	-	-	48,000,000
The 9-2nd public placement bonds	2023.04.30	3.52	66,000,000	66,000,000
The 10-2nd private placement bonds	2022.10.30	-	-	20,000,000
The 11-1st public placement bonds	2022.01.28	-	-	70,000,000
The 11-2nd public placement bonds	2024.01.31	2.91	80,000,000	80,000,000
The 12-1st public placement bonds	2022.10.30	-	-	70,000,000
The 12-2nd public placement bonds	2024.10.30	2.77	75,000,000	75,000,000
Overseas bonds	2023.06.29	US 3M Libor + 1.88	38,019,000	35,565,000
Total			259,019,000	464,565,000
(Deducted: discount on bonds premium)			(244,707)	(637,480)
(Deducted: current portion of bonds payable)			(103,986,944)	(207,864,113)
Deductions			154,787,349	256,063,407

17-4 The details of the long-term borrowings from financial institutions as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Lender	Details	Annual interest rate at end of current period (%)	End of the current period
KEB Hana Bank	Fixed asset loans	4.30	7,172,699
Subtotal			7,172,699
(Deducted: current portion of borrowings from financial institutions)			-
Deductions			7,172,699

18. Other liabilities

18-1 The details of other current liabilities as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Other current liabilities		
Advance payment	43,047,175	42,053,815
Deposits	12,855,826	46,003,224
Deposits received	4,932,758	11,827,891
Carbon emission liabilities	210,984	430,388
Dividends payable	7,917	2,876
Unearned revenue	229,524	210,833
Others	746,881	-
Total	62,031,065	100,529,027
Other non-current liabilities		
Long-term employee benefit liabilities	534,324	519,847
Long-term deposits received	-	2,110,026
Total	534,324	2,629,873

19. Emission rights and emission liabilities

19-1 As of the end of the current term, the number of emission rights allocated free of charge for each year of performance within the planned period is as follows.

(Unit: tons)

Classification	2021	2022	2023	2024	2025	Total
Emission rights allocated free of charge	530,173	530,173	530,173	525,208	525,208	2,640,935

Meanwhile, as of the end of the current period, there are no greenhouse gas emission rights provided as collateral.

19-2 As of the end of the current term, the changes in the greenhouse gas emission rights for each year of performance within the planned period are as follows.

(Unit: tons, KRW one thousand)

Classification	2021		2022		2023		2024		2025		Total	
	Quantity	Book amount	Quantity	Book amount	Quantity	Book amount	Quantity	Book amount	Quantity	Book amount	Quantity	Book amount
Allocated amount	652,295	-	622,915	-	622,915	-	618,103	-	618,103	-	3,134,331	-
Allocated free of charge	530,173	-	530,173	-	530,173	-	525,208	-	525,208	-	2,640,935	-
Allocation canceled/Additionally allocated	122,941	-	93,561	-	93,561	-	93,706	-	93,706	-	497,475	-
Change due to business division sales	(819)	-	(819)	-	(819)	-	(811)	-	(811)	-	(4,079)	-
Emission amounts	(654,219)	(270,895)	-	-	-	-	-	-	-	-	(654,219)	(270,895)
Government expenditure	(654,219)	(270,895)	-	-	-	-	-	-	-	-	(654,219)	(270,895)
Changes due to emission rights transactions	(13,328)	45,025	12,600	446,796	-	-	-	-	-	-	(728)	491,821
Purchased	1,300	45,025	12,600	446,796	-	-	-	-	-	-	13,900	491,821
Sold	(14,628)	-	-	-	-	-	-	-	-	-	(14,628)	-
Borrowed	7,585	270,895	(7,585)	(270,895)	-	-	-	-	-	-	-	-
Carried over from the previous period	38,220	-	30,553	45,025	-	-	-	-	-	-	68,773	45,025
Carried over to next period	(30,553)	(45,025)	-	-	-	-	-	-	-	-	(30,553)	(45,025)
End of period	-	-	658,483	220,926	622,915	-	618,103	-	618,103	-	2,517,604	220,926

19-3 The changes in the emission rights assets for the current and previous periods are as follows.

(Unit: tons, KRW one thousand)

Classification	Quantity	Amount
Beginning of period	1,300	45,025
Emission rights purchased	12,600	446,796
Others	(7,585)	(270,895)
End of period	6,315	220,926

19-4 The changes in emission rights liabilities for the current and previous periods are as follows.

(Unit: tons, KRW one thousand)

Classification	Quantity	Amount
Beginning of period	12,170	430,388
Emissions cost	(4,585)	(219,404)
End of period	7,585	210,984

19-5 The confirmed value of the greenhouse gas emissions for the previous period was 654,219 tCO₂-eq, and the estimate of the greenhouse gas emissions for the current period is 604,035 tCO₂-eq.

20. Defined benefit liabilities (assets)

The consolidated companies operate a defined benefit plan for the employees and have used the projected unit credit method for the actuarial valuation of the defined benefit liabilities.

20-1 The changes in defined benefit liabilities (assets) for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Changes in the defined benefit liabilities (assets):		
Beginning of period	(2,233,525)	7,643,269
Decrease in defined benefit liabilities (retirement benefit payments)	(1,736,794)	(7,291,838)
Total expenses recognized as net income	19,939,875	16,285,671
Remeasurement elements	(20,491,488)	8,268,658
Contributions paid	(46,664,320)	(26,000,000)
Affiliates' transfers, replacements in other accounts, etc.	9,239,443	(1,139,285)
End of period	(41,946,809)	(2,233,525)
Components in the statement of financial position:		
Present value of defined benefit liabilities	127,954,661	131,211,458
Fair value of plan assets	(169,901,470)	(133,444,983)
Total	(41,946,809)	(2,233,525)
Defined benefit assets (Note 1)	(41,946,809)	(7,103,496)
Defined benefit liabilities	-	4,869,971

(Note 1) The net defined benefit assets were recognized as other non-current assets.

20-2 The profits and losses recognized in connection with the defined benefit plans for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Current service cost	19,984,651	16,127,051
Interest expenses	3,211,398	2,513,358
Expected return on plan assets	(3,256,174)	(2,354,738)
Total	19,939,875	16,285,671

20-3 The changes in the present value of defined benefit liabilities for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Beginning of period	131,211,458	134,670,576
Current service cost	19,984,651	16,127,051
Interest expenses	3,211,398	2,513,358
Remeasurement elements	(21,227,294)	7,788,672
Retirement benefits paid	(14,930,107)	(25,490,098)
Affiliates' transfers, replacements in other accounts, etc.	9,704,555	(2,571,223)
Business transfer (Note 1)	-	(1,826,878)
End of period	127,954,661	131,211,458

(Note 1) During the previous period, the composite material business division was transferred to Toray Advanced Materials Korea Inc., and the PPS business division was transferred to HDC Polyall Co., Ltd.

20-4 The changes in the fair value of plan assets for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Beginning of period	133,444,983	127,027,307
Expected return	3,256,174	2,354,738
Remeasurement elements	(735,806)	(479,986)
Retirement benefits paid	(13,193,313)	(18,198,260)
Contributions paid	46,664,320	26,000,000
Affiliates' transfers, replacements in other accounts, etc.	465,112	(1,431,938)
Business transfer (Note 1)	-	(1,826,878)
End of period	169,901,470	133,444,983

(Note 1) During the previous period, the composite material business division was transferred to Toray Advanced Materials Korea Inc., and the PPS business division was transferred to HDC Polyall Co., Ltd.

Meanwhile, the plan assets as of the end of the reporting period consist of time deposits, etc.

20-5 As of the end of the reporting period, the major assumptions used for the actuarial valuation are as follows.

Classification	End of the current period	End of the previous period
Discount rate	5.13% - 5.21%	2.45% - 2.60%
Expected return on plan assets (percentage)	5.13% - 5.21%	2.45% - 2.60%
Future rate of wage growth	2.00% - 6.59%	4.77% - 6.73%

20-6 The details of remeasurement elements for the defined benefit plans for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Demographic assumptions	-	-
Financial assumptions	(24,316,022)	3,001,869
Changes adjusted	3,088,728	4,786,803
Remeasurement elements of plan assets	735,806	479,986
Total	(20,491,488)	8,268,658

20-7 The results of sensitivity analysis on the effect of changes in the major assumptions used for the actuarial evaluation of the defined benefit liabilities on the changes in the present value of the defined benefit liabilities for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Discount rate		Future rate of wage growth	
	1% point increase	1% point decrease	1% point increase	1% point decrease
Defined benefit obligations	(11,096,062)	12,964,132	12,973,260	(11,303,481)

<Previous period>

(Unit: KRW one thousand)

Classification	Discount rate		Future rate of wage growth	
	1% point increase	1% point decrease	1% point increase	1% point decrease
Defined benefit obligations	(11,383,105)	13,373,362	13,274,159	(11,517,254)

21. Contract assets and contract liabilities

21-1 The details of the contract balance as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Inventories (Note 1)	37,092,497	36,960,182
Contract liabilities	159,925,940	114,455,431

(Note 1) The contractual performance cost, which is the consolidated companies' contract asset, is appropriated as an inventory. The contractual performance cost included in the inventories consists of the costs of technology transfer and product manufacturing activities performed to produce the products ordered by customers. Since the activities are not those which must precede to manufacture the products ordered by customers or those intended to transfer goods or services to the customer, they are not included in the performance obligation and have been recognized as the contract assets.

21-2 The changes in contract assets and contract liabilities for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Contract liabilities		
	Refund liabilities (Note 1)	Unearned revenue (Note 2)	Subtotal
Beginning of period	5,015,603	109,439,828	114,455,431
Placement and reversal	5,654,581	39,815,928	45,470,509
End of period	10,670,184	149,255,756	159,925,940

(Note 1) The consolidated companies appropriate the contract liabilities for the returned goods for expected returns based on past experience with returns for the products. All assumptions applied for the contract liability calculations above were calculated based on the current products' sales level and the currently available information on the returns expected to occur during the returnable period for products sold under returnable conditions.

(Note 2) This is an amount received from the customer for the contract with the customer to be performed over the period.

<Previous period>

(Unit: KRW one thousand)

Classification	Contract assets			Contract liabilities		
	Contract assets - contractual performance cost (Note 1)	Contract assets - unclaimed (Note 2)	Subtotal	Refund liabilities (Note 3)	Unearned revenue (Note 4)	Subtotal
Beginning of period	324,164	655,751	979,915	7,039,917	89,186,984	96,226,901
Placement and reversal	(324,164)	(655,751)	(979,915)	(2,013,880)	20,252,844	18,238,964
Others (Note 5)	-	-	-	(10,434)	-	(10,434)
End of period	-	-	-	5,015,603	109,439,828	114,455,431

(Note 1) They consist of the costs of technology transfer and production activities performed to manufacture the products ordered by customers. Since the activities are not those which must precede to manufacture the products ordered by customers or those intended to transfer goods or services to the customer, they are not included in the performance obligation and have been recognized as the contract assets. The contractual performance cost for the current period is included in the inventories.

(Note 2) They were recognized due to the differences between the extent of performance of the performance obligation and the consideration charged to the customer. The unclaimed consideration for the current period is included in the inventories.

(Note 3) The consolidated companies appropriate the contract liabilities for the returned goods for expected returns based on past experience with returns for the products. All assumptions applied for the contract liability calculations above were calculated based on the current products' sales level and the currently available information on the returns expected to occur during the returnable period for products sold under returnable conditions.

(Note 4) This is an amount received from the customer for the contract with the customer to be performed over the period. (Note 5) They consist of the effect of exchange rate fluctuations, etc.

22. Provisioning liabilities

The provisioning liabilities as of the end of the current period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Current portion of provisioning liabilities		
Provisioning liabilities for contribution (Note 1)	19,326,700	21,281,360
Provisioning liabilities for PFAD (Note 2)	-	1,156,619
Onerous contracts (Note 3)	2,811,241	-
Subtotal	22,137,941	22,437,979
Non-current portion of provisioning liabilities		
Onerous contracts (Note 3)	2,278,409	-
Total	24,416,350	22,437,979

(Note 1) Upon receipt of the notice for the payment of damage relief compensation in accordance with the Special Act on Remedy for Damage Caused by Humidifier Disinfectants, the difference from the estimate was reversed (refer to Note 38).

(Note 2) In relation to the transfer of the bio-energy business division, an agreement was made to compensate SK Eco Prime Co., Ltd. in case the price of PFAD differs from soybean oil and palm oil with a certain spread. With the conclusion of the transaction within the current period, the provision for liabilities was fully reversed.

(Note 3) The consolidated companies anticipated that the unavoidable costs necessary to fulfill contractual obligations for some contracts will exceed the economic benefits expected from the contract. As a result, the estimated excess amount was accounted for as a provision for liabilities for onerous contracts.

23. Risk management activities and derivatives

The consolidated companies are exposed to certain risks in connection with their ongoing business operations. The major risks managed using derivatives are the foreign exchange risk, commodity price risk, and the interest rate risk. The consolidated companies' risk management strategies and risk management methods are explained under Note 34 below.

23-1 Risk management activities

(1) Fair value hedging for the foreign exchange risk

As of the end of the current period, the consolidated companies have currency swap contracts designated as the hedging instruments to hedge the foreign currency risk for the foreign currency bonds. The final maturity of foreign currency bonds is expected to be June 2023.

The terms and conditions of the currency swap contract above were executed to be consistent with the redemption schedule of the foreign currency bonds. The parties to the contract have executed currency swap contracts with cash as the collateral, which effectively reduces the credit risk associated with the contract (the counterparty's and the consolidated companies' credit risk). As a result, hedging was very effectively evaluated.

(2) Hedging cash flows for the interest rate risk

The consolidated companies borrow funds at the fixed and variable interest rates, and thus, are exposed to the interest rate risk. To manage the interest rate risk, consolidated companies maintain an appropriate balance between the fixed rate borrowings and the variable rate borrowings and have executed the interest-rate swap contracts. The consolidated companies exchange the difference calculated by applying the difference between the fixed and variable interest rates for the predetermined nominal principal under the interest-rate swap contract. Such a contract allows for the consolidated companies to mitigate the risk of fluctuations in the cash flows of variable rate liabilities due to fluctuations in the interest rates. Hedging activities are regularly evaluated to appropriately adjust the interest rate status and the defined risk appetite to ensure that the optimal hedging strategy is applied.

(3) Other risk management activities

The consolidated companies are exposed to the foreign currency risk for some of their sales and purchases in international transactions. To mitigate such risk, the consolidated companies regularly monitor the net exposures in major currencies (the dollar, euro, and yen) based on projected sales and purchases over the next 12 months. Furthermore, the consolidated companies enter into foreign currency forward contracts to avoid such exposures.

For business and sales purposes, the consolidated companies have not designated such currency forward contracts for hedging. Thus, the changes in the fair value of all forward contracts are recognized as profit or loss for the relevant period.

23-2 The details of derivative instruments held by the consolidated companies as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	Details	End of the current period	End of the previous period
Derivative instruments not designated as the hedging instruments:			
Current derivative financial assets	Currency forward contracts	5,742,705	2,277,046
Current derivative financial liabilities	Currency forward contracts	67,152	1,364,347
Non-current derivative financial assets	Put Option	1,237,613	368,001
Derivative instruments designated as the hedging instruments:			

Current derivative financial assets	Currency interest-rate swap	4,718,222	-
Non-current derivative financial assets	Currency interest-rate swap	-	1,639,873

23-3 The details of the derivative financial instruments not designated as the hedging instruments by the consolidated companies as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Contracting party	Classification	Contract amount	Fair value
KEB Hana Bank, etc.	Buy	7,554,696	(20,875)
	Sell	307,850,362	5,696,428
Total		315,405,058	5,675,553

<End of the previous period>

(Unit: KRW one thousand)

Contracting party	Classification	Contract amount	Fair value
KEB Hana Bank, etc.	Buy	209,645,994	738,048
	Sell	391,502,994	174,651
Total		601,148,988	912,699

23-4 As of the end of the reporting period, the details of the non-current derivative financial instruments not designated as hedging instruments by the consolidated companies are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Type	Fair value
Derivatives assets	Put option for HDC Polyall's common stocks (Note 1)	948,024
	Put option for SK Chemicals Daejung's common stocks (Note 2)	289,589

(Note 1) This is a put option which allows for HDC Polyall Co., Ltd.'s affiliates' investment stocks to be sold to HDC Hyundai EP Co., Ltd.

(Note 2) This is a put option which allows for SK Chemicals Daejung Co., Ltd.'s subsidiaries' investment stocks to be sold to Daejung Chemicals & Metals Co., Ltd.

<End of the previous period>

(Unit: KRW one thousand)

Classification	Type	Fair value
Derivative assets (Note 1)	Put option for SK Chemicals Daejung's common stocks	368,001

(Note 1) This is a put option which allows for SK Chemicals Daejung Co., Ltd.'s subsidiaries' investment stocks to be sold to Daejung Chemicals & Metals Co., Ltd.

23-5 As of the end of the reporting period, the details of the derivative financial instruments designated as hedging instruments by the consolidated companies and for which hedging account is applied are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Details
Contracting party	KEB Hana Bank
Items subject to hedging risk	Variable interest rate foreign currency privately placed bonds (par value of USD 30,000,000)
Contract period	2018.06.29 - 2023.06.29
Buy/Sell	Buy
Purpose of transaction	Exchange rate risk and interest rate risk hedging
Contract amount	33,645,000
Fair value	4,718,222
Valuation profit and loss:	
Amount reclassified as profit or loss	2,454,000
Other comprehensive income (Note 1)	535,156

(Note 1) This amount is obtained from deducting the corporate tax.

<End of the previous period>

(Unit: KRW one thousand)

Classification	Details
Contracting party	KEB Hana Bank
Items subject to hedging risk	Variable interest rate foreign currency privately placed bonds (par value of USD 30,000,000)
Contract period	2018.06.29 - 2023.06.29
Buy/Sell	Buy
Purpose of transaction	Exchange rate risk and interest rate risk hedging
Contract amount	33,645,000
Fair value	1,639,873
Valuation profit and loss:	
Amount reclassified as profit or loss	2,925,000
Other comprehensive income (Note 1)	1,194,758

(Note 1) This amount is obtained from deducting the corporate tax.

24. Contingencies and agreements

24-1 The details of important litigations related to the consolidated companies as of the end of the current period are as follows.

(Unit: KRW one thousand)

Details of litigations	Plaintiff	Defendant	Litigation value	Note
Indemnity claims (Notes 1, 2)	Korea Environmental Industry and Technology Institute	Controlling company and 12 others	2,240,000	1st trial in progress
Indemnity claims (Notes 1, 2)	Korea Environmental Industry and Technology Institute	Controlling company and 12 others	294,414	1st trial in progress
Indemnity claims (Notes 1, 2)	National Health Insurance Service	Controlling company and 12 others	6,970,000	1st trial in progress
Claims for damages (Note 2)	Kang Chan-ho and 296 others	Controlling company and 19 others	11,200,000	1st trial in progress
Claims for damages (Note 2)	Aekyung Industrial Co., Ltd.	Controlling company	710,000	1st trial in progress
Claims for the prohibition of patent infringements and for damages	Novartis AG	Controlling company	27,500,000	2nd trial in progress
Claims for the revocation of corrective order, etc.	Controlling company and 1 other	Fair Trade Commission	163,000	2nd trial in progress
Claims for the revocation of corrective order, etc.	Controlling company and 1 other	Fair Trade Commission	161,667	2nd trial in progress
Prohibition of patent infringements	Wyeth LLC, Pfizer Korea	SK Bioscience	100,000	1st trial in progress
Injunction against patent infringement	Wyeth LLC, Pfizer Korea	SK Bioscience	100,000	1st trial rejected Appeal trial in progress

(Note 1) As of the end of the current term, part of the land owned by the controlling company has been temporarily seized in connection with the litigation above.

(Note 2) This is a civil lawsuit against the controlling company related to damages caused by a humidifier disinfectant, etc., and a number of other civil lawsuits are in progress.

In addition to the litigation above, the controlling company has been indicted for violating the Special Act on Remedy for Damage Caused by Humidifier Disinfectants on the grounds that they submitted an opinion which was not true at the Ministry of Environment's requirement of data submission by the controlling company, and a related criminal trial is now in progress.

The results of the pending lawsuits as of the end of the current period cannot be predicted, and the uncertainties of such lawsuits are not reflected in the consolidated financial statements of the consolidated companies.

24-2 Collateral for debt

24-2-1 Assets provided for collateral

The consolidated companies have entered into a real estate collateral trust contract with financial companies as the joint first beneficiary for the land located in 137-3, Hwangseong-dong, Nam-gu, Ulsan Metropolitan City, and other properties, setting the contract amount to 120% of KRW 150 billion.

24-2-2 First priority insurance collateral right contract

A first priority collateral right has been established for the consolidated companies' claims for insurance benefits, etc., with the maximum amount of debt set to the equivalent of 120% of KRW 150 billion.

24-2-3 First priority deposit collateral right contract

A first priority collateral right has been established for the consolidated companies' bank deposits, whether already deposited or to be deposited, with the collateral limit set to the equivalent of 120% of KRW 150 billion. As of the end of the current period, the deposited amount with collateral rights set up is KRW 753 million, classified as a short-term financial asset.

24-2-4 Debt assignment collateral contract

The consolidated companies have transferred all claims related to the contracts listed below, which they have already acquired or will acquire in the future, to financial companies, within the scope of the secured debt.

* Construction subcontracting contract

* Any other contract that the consolidated companies will enter into with a third party related to this project, where the consolidated companies expect to receive payments or acquire property rights as stipulated in the contract, and financial companies request to include it in the transferable contract

24-2-5 Movable property assignment collateral contract

This involves a contract for the transfer of collateral for all kinds of facilities (including, but not limited to, existing facilities, all existing project-related facilities, and the constructed parts of buildings under construction on the project site), structures, equipment, machinery, apparatus, and other facilities that have been or will be constructed or installed on the project site.

24-3 Other agreements

Other agreements executed by the consolidated companies with financial institutions as of the end of the current period are as follows.

Counterparty to the agreement	Details of the agreement
KEB Hana Bank, etc.	An agreement on a limit of KRW 343,200 million and another on the foreign currency borrowings of USD 23.0 million
	An agreement on the opening of a letter of credit of USD 109.0 million and EUR 46.8 million, etc.
	An agreement on the limit with the exemption of security deposit for derivatives of USD 225.5 million, KRW 15,000 million, etc.
Seoul Guarantee Insurance, etc.	A contractual performance payment guarantee with a limit of KRW 10,487 million, etc.

24-4 In accordance with Article 530-9 Paragraph 1 of the Commercial Act, the controlling company is jointly and severally liable for repaying the existing liabilities of the controlling company and SK Discovery Co., Ltd., the surviving company of the split-off which occurred on or before December 1, 2017, the date of split-off.

24-5 Fair Trade Commission's corrective actions

The Fair Trade Commission determined that the act of labeling the humidifier disinfectants before the controlling company's split-off violated the Act on Fair Labeling and Advertising, and took corrective actions, imposed fines, and filed a complaint with the prosecutors' office. The controlling company must carry out such corrective actions and comply with the order to pay fines issued by the Fair Trade Commission jointly with SK Discovery Co., Ltd., the surviving company of split-off.

24-6 Technology transfer agreement and joint development

On February 12, 2018, the consolidated companies executed a technology transfer agreement with Sanofi Pasteur Inc. of the United States to produce a high-efficiency influenza vaccine using cell culture, and the total amount related to the contract is USD 155,000,000. A portion of this amount is recognized as revenue in installments until the period when the obligations are terminated according to the clinical entry and approval, and the consolidated companies may receive sales royalties depending on the conditions. The consolidated companies were notified of the termination of the relevant agreement on December 9, 2021.

Furthermore, on March 19, 2014, the consolidated companies executed an agreement with Sanofi Pasteur Inc. of the United States on the joint development and sales of a next-generation pneumococcal conjugate vaccine, and the total size of the relevant agreement is USD 45,000,000, including the initial technology royalties and milestones for each phase of the development. The Company recognized them as revenue when the requirements for the right to receive consideration for each phase are satisfied.

24-7 Contract Manufacturing Organization (CMO) and Contract Development & Manufacturing Organization (CDMO) contracts

The consolidated companies executed a COVID-19 vaccine CDMO contract with Novavax, Inc. on August 11, 2020, and the amount related to the contract is recognized as revenue in installments until when the contract-related obligations are terminated. Meanwhile, on February 12, 2021, they executed an agreement with Novavax on granting the exclusive right to develop, produce, and sell the COVID-19 vaccine developed by Novavax in the target territories under the contract. On December 23, 2021, they secured the non-exclusive rights to Thailand and Vietnam based on a contract to change the existing contract, and added a CMO contract for 2022.

The consolidated companies have prepaid Novavax a portion of the license expenses incurred by and from the Novavax COVID-19 vaccine sold by the consolidated companies, and if the Ministry of Food and Drug Safety approves of the COVID-19 vaccine developed by Novavax, they will have the obligation to pay a portion of the remaining license expenses to Novavax in a lump sum (refer to Note 21).

The revenue which the consolidated companies recognized from the CMO and CDMO contracts for the current period was KRW 210,044 million.

24-8 On December 27, 2021, the consolidated companies executed a sales contract for a land located in Songdo-dong, Yeonsu-gu, Incheon, with the Incheon Free Economic Zone Authority for the purpose of newly building research facilities. The consolidated companies must carry out all procedures, such as the facility construction plans and authorization of their use, within a certain period from the date of execution of the sales contract, and any failure to do so may result in the rescission of the sales contract.

24-9 As of the end of the current term, the consolidated companies have lost a bill of Shinhan Bank and plans to proceed with the nullification judgment procedures.

25. Related parties

25-1 As of the end of the current period, the details of the consolidated companies' related parties are as follows.

Classification	Current period	Previous period
Controlling company	SK Discovery Co., Ltd. (Note 1)	-
Companies exercising a significant influence	-	SK Discovery Co., Ltd.
Affiliates and joint ventures (Note 2)	JSI Co., Ltd., Entis Co., Ltd., HDC Polyall Co., Ltd.	JSI Co., Ltd., Entis Co., Ltd., ST Green Energy (Note 2), HDC Polyall Co., Ltd. (Note 3)
Others	Subsidiaries and affiliates of SK Discovery Co., Ltd., affiliates of SK corporate group, etc. (Note 4)	Subsidiaries and affiliates of SK Discovery Co., Ltd., affiliates of SK corporate group, etc. (Note 4)

(Note 1) During the current period, SK Discovery Co., Ltd. acquired additional shares in the controlling company and has incorporated the controlling company as its subsidiary.

(Note 2) The consolidated companies disposed of all the shares it held in ST Green Energy during the current period.

(Note 3) During the previous period, the company newly included HDC Polyall Co., Ltd. as an affiliate, by purchasing 20%-1 share of HDC Polyall Co., Ltd.'s stocks at KRW 7,700 million.

(Note 4) The large-scaled corporate groups' affiliates designated by the Fair Trade Commission were determined to be related parties according to the substantive relationship provided under Paragraph 10 of the Korean International Financial Reporting Standards No. 1024.

25-2 The details of major transactions conducted with related parties for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Name of related parties	Sales	Other income, asset sales, etc.	Purchase	Other expenses, capital expenditures, etc. (Note 2)
Controlling company	SK Discovery Co., Ltd.	63,636	217,167	-	2,243,746
Affiliates and joint ventures	Entis Co., Ltd.	1,379,230	1,648,924	2,901,813	454
	JSI Co., Ltd.	127,360	101,128	90,930	4,200
	HDC Polyall Co., Ltd.	11,158,311	480,942	-	378,650
	ST Green Energy (Note 1)	-	4,642	-	18,229,596
Others	SK Gas Co., Ltd.	327,323	-	10,203,085	2,905,308
	SK Plasma Co., Ltd.	2,073,259	1,920,096	(22,685)	29,974
	SK Advanced Co., Ltd.	5,104,953	260,742	12,416,767	53,872
	Huvis Co., Ltd.	981,958	11,871	4,633,606	3,935
	SK Ecoplant Co., Ltd.	-	-	-	221,356
	SK Networks Co., Ltd.	14,285,425	-	11,997,810	6,460
	SK NETWORKS HONGKONG	-	-	23,755,898	-
	SKC Co., Ltd.	2,371,089	-	222,326	-
	SK Energy Co., Ltd.	30,161,404	-	-	2,091,634
	SK Geo Centric Co., Ltd.	-	-	20,673,932	-
	SK Co., Ltd.	-	-	-	13,073,498
	SK Hynix Co., Ltd.	63,356	-	-	-
	Happy Narae Co., Ltd.	-	-	1,986,456	9,577,140
	SK Ecoengineering Co., Ltd.	-	-	-	121,005,600
	Others	565,734	2,014	1,504,796	12,315,524
Total		68,663,038	4,647,526	90,364,734	182,140,947

(Note 1) These are transactions prior to the disposal of ST Green Energy's shares.

(Note 2) The consolidated companies have acquired the tangible assets worth KRW 137,239,627,000 from SK Ecoengineering Co., Ltd. during the current period.

<Previous period>

(Unit: KRW one thousand)

Classification	Name of related parties	Sales (Note 1)	Other income, asset sales, etc. (Note 1)	Purchase (Note 1)	Other expenses, capital expenditures, etc. (Note 1)
Companies exercising a significant influence	SK Discovery Co., Ltd.	63,636	110,508	-	1,327,143
Affiliates and joint ventures	Entis Co., Ltd.	1,268,092	3,779,346	3,492,735	538
	JSI Co., Ltd.	64,060	109,716	93,510	-
	ST Green Energy	-	589,952	-	213,882,734
Others	SK Gas Co., Ltd.	541,806	-	6,211,366	4,199,736
	SK Plasma Co., Ltd.	1,720,195	1,236,564	353,017	13,512
	SK Advanced Co., Ltd.	3,903,094	1,129,639	7,279,652	274,293
	Huvis Co., Ltd.	12,481,991	135	22,414,559	17,450
	SK Ecoplant Co., Ltd. (Notes 2 and 3)	-	-	-	10,378,517
	SK Networks Co., Ltd.	8,666,193	-	11,310,417	437,929
	SK NETWORKS HONGKONG	-	-	24,191,033	-
	SKC Co., Ltd.	4,267,324	4,529	298,425	180,396
	SK Energy Co., Ltd.	14,661,175	-	265,271	1,386,994
	SK Geo Centric Co., Ltd. (Note 4)	-	-	38,278,079	-
	SK Co., Ltd.	-	-	-	7,468,194
	SK Hynix Co., Ltd.	1,279,091	-	-	-
	Happy Narae Co., Ltd.	-	-	2,575,144	11,117,424
	Others	4,047,899	-	389,640	8,701,138
Total		52,964,556	6,960,389	117,152,848	259,385,998

(Note 1) Included are the amounts of transactions with related parties substituted by the profit or loss from discontinued operations.

(Note 2) During the previous period, the company name was changed from SK E&C Co., Ltd. to SK Ecoplant Co., Ltd.

(Note 3) The consolidated companies have acquired the tangible assets of KRW 10,269,702,000 from SK Ecoplant Co., Ltd. during the previous period.

(Note 4) During the previous period, the company name was changed from SK Global Chemical Co., Ltd. to SK Geo Centric Co., Ltd.

25-3 The details of major receivables and liabilities concerning the related parties as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification of the relationship of special interest	Name of related parties	Receivables		Payables	
		Trade receivables	Other receivables	Trade payables	Other payables
Controlling company	SK Discovery Co., Ltd.	-	22,146	-	263,235
Affiliates and joint ventures	Entis Co., Ltd.	119,340	969,014	156,417	-
	JSI Co., Ltd. (Note 1)	-	3,400,000	-	-
	HDC Polyall Co., Ltd.	1,486,566	-	-	-
Others	SK Gas Co., Ltd.	32,263	765,252	1,163,251	4,675,533
	SK Plasma Co., Ltd.	156,169	116,611	-	4,766
	SK Advanced Co., Ltd.	308,691	-	1,382,240	2,962,283
	SK Ecoplant Co., Ltd.	-	164,426	-	-
	SK Networks Co., Ltd.	62,594	-	887,085	8,877
	SK NETWORKS HONGKONG	-	625,620	1,245,827	-
	SKC Co., Ltd.	260,392	-	-	-
	SK Energy Co., Ltd.	3,313,507	-	-	229,198
	SK Geo Centric Co., Ltd.	-	-	327,237	-
	SK Co., Ltd.	-	-	-	1,273,023
	Happy Narae Co., Ltd.	-	-	53,143	1,062,403
	Others	464,769	-	11,969	2,885,405
Total		6,204,291	6,063,069	5,227,169	13,364,723

(Note 1) The consolidated companies have placed an allowance for bad debts for the loan to JSI Co., Ltd. worth KRW 3,400 million in full.

<End of the previous period>

(Unit: KRW one thousand)

Classification of the relationship of special interest	Name of related parties	Receivables		Payables	
		Trade receivables	Other receivables	Trade payables	Other payables
Companies exercising a significant influence	SK Discovery Co., Ltd.	35,000	10,130	-	296,082
Affiliates and joint ventures	Entis Co., Ltd.	148,675	508,511	240,062	-
	JSI Co., Ltd. (Note 1)	15,488	3,750,000	-	-
	HDC Polyall Co., Ltd.	-	1,161,028	-	-
	ST Green Energy	-	22,002	-	104,850,770
Others	SK Gas Co., Ltd.	25,488	480,972	880,110	2,632,712
	SK Plasma Co., Ltd.	87,777	5,476	-	-
	SK Advanced Co., Ltd.	499,893	324,728	639,037	3,076,508
	Huvis Co., Ltd.	-	-	3,423,392	-
	SK Ecoplant Co., Ltd. (Note 2)	-	164,426	-	65,994
	SK Networks Co., Ltd.	-	-	1,393,244	26,800
	SK NETWORKS HONGKONG	-	968,739	13,714,225	325,133
	SKC Co., Ltd.	357,808	-	15,802	-
	SK Energy Co., Ltd.	2,298,473	-	-	235,672
	SK Geo Centric Co., Ltd. (Note 3)	-	-	3,490,860	-
	SK Co., Ltd.	-	-	-	846,887
	SK Hynix Co., Ltd.	95,225	-	-	-
	Happy Narae Co., Ltd.	-	-	189,005	1,245,508
Others	591,149	40,373	138,996	829,975	
Total		4,154,976	7,436,385	24,124,733	114,432,041

(Note 1) The consolidated companies have placed an allowance for bad debts for the loan to JSI Co., Ltd. worth KRW 3,750 million in full.

(Note 2) The corporate name was changed from SK E&C Co., Ltd. to SK Ecoplant Co., Ltd. during the previous period. (Note 3) During the previous period, the company name was changed from SK Global Chemical Co., Ltd. to SK Geo Centric Co., Ltd.

25-4 Capital expenditure agreement amount

As of the end of the reporting period, the unincurred capital expenditure agreement amount with related parties is as follows.

(Unit: KRW one thousand)

Classification	Name of related parties	End of the current period
Other related parties	SK Ecoengineering Co., Ltd. (Note 1)	388,994,400

(Note 1) It is an agreement amount in accordance with the tangible asset construction contract.

25-5 The details of financial transactions conducted with related parties for the current and previous periods are as follows.

① Investments

<Previous period>

(Unit: KRW one thousand)

Classification	Name of related parties	Investments
Affiliates and joint ventures	HDC Polyall Co., Ltd.	7,699,750
	ST Green Energy	385,515

② Loan of funds

<Current period>

(Unit: KRW one thousand)

Classification	Target companies	Beginning of period	Recovered	End of period
SK Chemicals Co., Ltd.	JSI Co., Ltd. (Note 1)	3,750,000	(350,000)	3,400,000

(Note 1) The consolidated companies have placed an allowance for bad debts for the loan to JSI Co., Ltd. worth KRW 3,400 million in full.

<Previous period> (Unit: KRW one thousand)

Classification	Target companies	Beginning of period	Recovered	End of period
SK Chemicals Co., Ltd.	JSI Co., Ltd. (Note 1)	4,050,000	(300,000)	3,750,000

(Note 1) The consolidated companies have placed an allowance for bad debts for the loan to JSI Co., Ltd. worth KRW 3,750 million in full.

25-6 As of the end of the current period, there are no payment guarantees being provided for related parties. However, as of the end of the previous period, the details of the payment guarantees provided for related parties are as follows.

<End of the previous period>

Recipient companies	Amount of payment guaranteed		Details of the payment guarantee	Payment guarantor
	Currency	Amount		
ST Green Energy	USD	7,200,000	Trade facility	KEB Hana Bank Singapore Branch
	USD	4,000,000		Development Bank of Singapore

25-7 The details of the compensation made for the key senior management of the consolidated companies for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Short-term benefits	12,227,575	5,197,322
Retirement benefits	2,944,102	986,700
Share-based compensation	9,816	93,252
Total	15,181,493	6,277,274

The key senior management of the consolidated companies consist of the directors who are registered executives and the members of the Audit Committee.

26. Equity

26-1 Capital

The details of the capital as of the end of the reporting period are as follows.

Classification	Unit	End of the current period		End of the previous period	
		Common stocks	Preferred stocks	Common stocks	Preferred stocks
Total number of stocks to be issued	Shares	40,000,000	10,000,000	40,000,000	10,000,000
Par value of 1 share	KRW	5,000	5,000	5,000	5,000
Number of issued stocks	Shares	17,253,783	2,115,429	17,620,780	2,115,429
Capital (Notes 1, 2)	KRW one thousand	88,216,360	10,577,145	88,103,900	10,577,145

(Note 1) During the current period, the controlling company has retired 389,489 of its own shares, resulting in a mismatch between the total par value of the controlling company's capital stock and the total par value of issued shares as of the end of the current period.

(Note 2) During the previous period, the controlling company increased its capital by KRW 32,630,715,000 by executing a capital increase without consideration by using the capital surplus as the financial resource.

26-2 Consolidated capital surplus

The details of the consolidated capital surplus as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Paid-in capital in excess of par value (Note 1)	237,858,538	235,917,593
Other capital surplus (Notes 2, 3)	961,176,598	956,851,198
Total	1,199,035,136	1,192,768,791

(Note 1) During the previous period, the controlling company executed a capital increase without consideration by using the capital surplus as the financial resource.

(Note 2) SK Bioscience Co., Ltd., a subsidiary, experienced a change in equity due to the exercise of stock options during the current period. The profits and losses on capital transactions related to the change have been recognized and are included in the reported amount of other capital surplus.

(Note 3) During the previous period, the controlling company sold a portion of its interest in SK Bioscience Co., Ltd., a subsidiary, and SK Bioscience Co., Ltd. executed a paid-in capital increase. The profits and losses on capital transactions related to the sale have been recognized and are included in the reported amount of other capital surplus.

26-3 Consolidated other equity

(1) The details of the consolidated other equity as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Treasury stocks (Note 1)	(8,921,443)	(8,921,443)
Stock options (Note 2)	1,532,450	1,831,164
Other capital adjustments	(14,255,733)	(14,255,733)
Total	(21,644,726)	(21,346,012)

(Note 1) The controlling company acquired the shares of the controlling company at the market price following the acquisition of fractional shares and the exercise of appraisal rights by the shareholders. As of the end of the current period, the controlling company owns the treasury stocks of 30,857 common stocks and 148,133 preferred stocks.

(Note 2) There were no new stock options granted anew during the current period, and they were increased by KRW 9,816,000 due to the recognition of share-based compensation cost for the current period, and were decreased by KRW 308,530,000 due to their exercises.

(2) The controlling company has granted stock options for key executives, and major issues related to this are as follows.

(Unit: stocks, KRW)

Date of grant	Number of stocks to be issued (Note 1)	Period of exercise (Note 2)	Exercise price (Note 1)	Fair value on the date of grant (Note 1)
2018.3.6	29,988	2020.3.7 - 2025.3.6	71,785	15,864
2018.3.26 (1st)	22,491	2021.3.27 - 2025.3.26	72,009	16,226
2018.3.26 (2nd)	22,492	2022.3.27 - 2025.3.26	77,724	13,717
2019.3.25 (1st)	22,491	2021.3.26 - 2026.3.25	47,749	9,184
2019.3.25 (2nd)	22,492	2022.3.26 - 2026.3.25	51,517	7,856

(Note 1) Following the capital increase without consideration during the previous period, the number of shares to be issued and the exercise price have been adjusted, and the fair value on the date of grant has been adjusted and entered.

(Note 2) As of December 31, 2022, the weighted average residual maturity of the unexercised stock options is 2.6 years.

(3) The fair value of stock options was calculated in line with the binary option pricing model, and the variables applied thereto are as follows.

(Unit: KRW)

Classification	Portion granted on 2018.3.6	Portion granted on 2018.3.26 (1st)	Portion granted on 2018.3.26 (2nd)	Portion granted on 2019.3.25 (1st)	Portion granted on 2019.3.25 (2nd)
Stock price on the date of grant (Note 1)	69,667	70,000	70,000	45,267	45,267
Exercise price (Note 1)	71,785	72,009	77,724	47,749	51,517
Expected volatility	15.07%	15.75%	15.75%	18.37%	18.37%
Risk-free interest rate	2.66%	2.57%	2.57%	1.92%	1.92%

(Note 1) Following the capital increase without consideration during the previous period, the exercise price has been adjusted, and the stock price on the date of grant has been adjusted and entered.

(4) The changes in stock options for the year are as follows.

(Unit: stocks, KRW one thousand)

Date of grant	Number of stocks to be issued			Valuation amount			
	Beginning of period	Exercise (Note 2)	End of period	Beginning of period	Increase	Exercised	End of period
2018.3.6 (Note 1)	29,988	-	29,988	475,721	-	-	475,721
2018.3.26 (1st) (Note 1)	22,491	-	22,491	364,940	-	-	364,940
2018.3.26 (2nd) (Note 1)	44,984	(22,492)	22,492	617,060	-	(308,529)	308,530
2019.3.25 (1st) (Note 1)	22,491	-	22,491	206,567	-	-	206,567
2019.3.25 (2nd) (Note 1)	22,492	-	22,492	166,875	9,816	-	176,691
Total	142,446	(22,492)	119,954	1,831,163	9,816	(308,529)	1,532,449

(Note 1) Following the capital increase without consideration during the previous period, the number of shares to be issued has been adjusted.

(Note 2) The weighted average market price as of the date of exercise for the exercised stock options is KRW 90,742.

26-4 Accumulated other comprehensive income on a consolidated basis

The details of the accumulated other comprehensive income on a consolidated basis as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Profit or loss on the valuation of derivatives	180,991	(204,395)
Capital change in equity method	358,307	362,323
Profit or loss on overseas operations translation	1,378,677	2,779,362
Total	1,917,975	2,937,290

26-5 Consolidated retained earnings

The details of the consolidated retained earnings as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Earned surplus reserve (Note 1)	9,781,033	3,744,031
Unappropriated retained earnings	858,815,973	776,756,667
Total	868,597,006	780,500,698

(Note 1) In accordance with the provisions of the Commercial Act, the controlling company is required to accumulate over 10% of the dividends in cash as an earnings surplus reserve for each settlement period until it reaches 50% of the capital, and this reserve can only be used to compensate for losses and for capitalization.

26-6 Dividends

The details of cash dividends proposed for approval by the controlling company at the general meeting of shareholders for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period		Previous period	
	Common stocks	Preferred stocks	Common stocks	Preferred stocks
Number of shares to receive dividends (shares)	17,222,926 shares	1,967,296 shares	17,589,923 shares	1,967,296 shares
Dividend per share (KRW)	KRW 1,100	KRW 1,150	KRW 3,000	KRW 3,050
Dividend rate (%)	22%	23%	60%	61%
Amount of cash dividend	18,945,219	2,262,390	52,769,769	6,000,253

The controlling company decided to pay dividends of KRW 58,770,022,000 for the fiscal period ending on December 31, 2021, and paid them in April 2022 with an interim dividend of KRW 7,667,092,000.

27. Sales division

The consolidated companies have 2 reporting divisions, which are strategic operating units. The strategic business units provide different products and services each, and operate separately since the technologies and marketing strategies required for each business unit are different. The chief operating decision maker reviews the internal reporting data for each strategic business unit at least on a quarterly basis.

27-1 The reporting divisions of the consolidated companies are as follows.

Classification	Goods (or services)
Green Chemicals Biz.	PET resin, DMT, highly functional PETG resin, polyester adhesive, utilities, etc.
Life Science Biz.	Pharmaceuticals, medical devices, etc.

27-2 The information on the reporting divisions for the current and previous periods is as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz.	Life Science Biz.	Internal transactions, etc.	Total
Sales amount	1,401,946,579	770,659,186	(343,414,442)	1,829,191,323
Operating income	88,746,511	148,611,013	(6,876,851)	230,480,673
Depreciation (Note 1)	51,871,909	34,400,077	5,193,111	91,465,097

(Note 1) It is the sum of the depreciation for tangible assets, depreciation for investment real estate properties, depreciation for right-to-use assets, and the amortization cost for intangible assets.

<Previous period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz.	Life Science Biz.	Internal transactions, etc.	Total
Sales amount	1,037,059,042	1,229,179,081	(176,606,247)	2,089,631,876
Operating income	76,514,410	520,208,920	(41,537,420)	555,185,910
Depreciation (Note 1)	48,936,429	26,301,619	4,239,036	79,477,084

(Note 1) It is the sum of the depreciation for tangible assets, depreciation for investment real estate properties, depreciation for right-to-use assets, and the amortization cost for intangible assets.

27-3 As of the end of the reporting period, the assets by reportable segment are as follows, and most of the liabilities are not managed by reportable segment, and thus, the liabilities by reportable segment are not disclosed.

<End of the current period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz	Life Science Biz.	Others	Total
Total assets	1,471,789,456	2,335,193,550	138,699,874	3,945,682,880
Fixed assets (Note 1)	797,734,448	395,523,175	97,599,224	1,290,856,847

(Note 1) Included are the tangible assets, intangible assets, right-to-use assets, and the investment real estate properties.

<End of the previous period>
thousand)

(Unit: KRW one thousand)

Classification	Green Chemicals Biz	Life Science Biz.	Others	Total
Total assets	1,253,284,965	2,308,476,688	393,870,741	3,955,632,394
Fixed assets (Note 1)	649,534,607	318,777,394	107,955,090	1,076,267,091

(Note 1) Included are the tangible assets, intangible assets, right-to-use assets, and the investment real estate properties.

28. Profits from the contracts with customers

The revenue from the contracts with customers of the consolidated companies is classified as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz.	Life Science Biz.	Consolidation procedures	Total
Types of goods or services:				
Sales of products	1,315,038,997	407,063,627	(297,760,618)	1,424,342,006
Sales of goods	9,220,088	116,097,847	(2,416,479)	122,901,456
Sales of services	76,267,615	219,511,087	(44,867,097)	250,911,605
Other sales	1,419,879	27,986,624	1,629,753	31,036,256
Total	1,401,946,579	770,659,185	(343,414,441)	1,829,191,323
Geographic markets:				
Korea	345,817,977	502,240,654	(67,720,298)	780,338,333
China	255,839,134	1,449,147	(25,327,592)	231,960,689
Japan	111,912,788	-	-	111,912,788
Asia (excluding China and Japan)	115,478,213	259,033	-	115,737,246
Americas	256,933,175	220,872,854	(123,004,580)	354,801,449
Europe	282,350,320	42,632,759	(125,416,020)	199,567,059
Others	33,614,972	3,204,738	(1,945,951)	34,873,759
Total	1,401,946,579	770,659,185	(343,414,441)	1,829,191,323
Point of revenue recognition:				
Recognized at a point in time	1,325,787,336	549,612,480	(298,547,345)	1,576,852,471
Recognized over time	76,159,243	221,046,705	(44,867,096)	252,338,852
Total	1,401,946,579	770,659,185	(343,414,441)	1,829,191,323

<Previous period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz.	Life Science Biz.	Consolidation procedures	Total
Types of goods or services:				
Sales of products	933,572,377	837,262,845	(149,396,471)	1,621,438,751
Sales of goods	12,483,917	122,904,023	(2,287,251)	133,100,689
Sales of services	53,458,469	258,598,086	(30,208,384)	281,848,171
Other sales	37,544,278	10,414,127	5,285,860	53,244,265
Total	1,037,059,041	1,229,179,081	(176,606,246)	2,089,631,876
Geographic markets:				
Korea	241,918,032	962,920,723	4,639,122	1,209,477,877
China	210,645,705	8,054,815	(17,912,448)	200,788,072
Japan	75,546,462	-	-	75,546,462
Asia (excluding China and Japan)	106,442,488	433,572	-	106,876,060
Americas	149,229,544	52,308,426	(66,001,670)	135,536,300
Europe	212,391,738	205,374,018	(99,047,066)	318,718,690
Others	40,885,072	87,527	1,715,816	42,688,415
Total	1,037,059,041	1,229,179,081	(176,606,246)	2,089,631,876
Point of revenue recognition:				
Recognized at a point in time	983,435,221	968,372,957	(146,397,862)	1,805,410,316
Recognized over time	53,623,820	260,806,124	(30,208,384)	284,221,560
Total	1,037,059,041	1,229,179,081	(176,606,246)	2,089,631,876

Meanwhile, only one customer accounted for over 10% of sales during the current period, and the sales amounted to KRW 209,944,964,000.

29. Operating income

29-1 The details of the cost of goods sold and the selling, general and administrative expenses for the current and previous periods is as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Changes in inventories	(57,809,148)	(84,224,160)
Use of raw materials	755,705,015	588,517,213
Cost of merchandise sold	111,836,103	119,317,547
Depreciation (Note 1)	91,465,096	79,477,084
Labor cost	284,383,791	266,320,471
Logistics cost	104,568,373	85,603,728
Fees and expenses	88,738,790	283,692,054
Marketing cost	18,776,282	17,487,997
Other expenses	201,046,348	178,254,032
Total	1,598,710,650	1,534,445,966

(Note 1) It is the sum of the depreciation for tangible assets, depreciation for investment real estate properties, depreciation for right-to-use assets, and the amortization cost for intangible assets.

29-2 The details of the selling, general, and administrative expenses for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Salary	95,169,986	89,351,692
Retirement benefits	7,571,756	11,486,142
Welfare benefits	18,605,282	16,450,601
Travel expenses	6,991,705	5,236,622
Communication expenses	702,272	727,550
Utilities expenses	590,462	504,084
Taxes and public dues	1,715,204	1,697,333
Rents	577,278	543,550
Share based compensation expenses	9,816	125,937
Depreciation	4,425,481	2,960,573
Repairs and maintenance	612,038	451,069
Insurance premiums	1,888,426	1,632,165
Entertainment expenses	1,855,422	1,443,203
Freight expenses and custody charges	54,150,595	38,765,213
Consumables expenses for office	752,147	801,899
Vehicle maintenance cost	1,079,012	985,633

Education and training expenses	5,872,579	3,911,863
Books	117,891	143,541
Commissions and fees	41,684,412	25,279,208
R&D expenses	100,220,120	85,885,573
Advertising expenses	17,573,696	16,520,359
Sales commissions	7,726,338	9,997,011
Promotions	562,797	162,126
Samples expenses	603,316	800,697
Packaging cost	4,387,888	4,199,813
Bad debt expenses (reversal of allowance for bad debts)	478,766	(137,774)
Meetings and conferences	716,805	536,025
Amortization of intangible assets	4,545,841	3,981,896
Miscellaneous expenses and others	3,426,859	1,750,214
Total	384,614,190	326,193,818

30. Non-operating income

30-1 The details of the other income and other expenses for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Other income:		
Gain on disposal of tangible assets	159,549	552,064
Gain on disposal of right-to-use assets	10,921	441,373
Gain on disposal of intangible assets	302,598	-
Gains from sales of business divisions	-	3,966,975
Reversal of allowance for other bad debts	-	170,716
Miscellaneous gains	9,099,166	22,278,422
Total	9,572,234	27,409,550
Other expenses:		
Losses on disposal of inventories	-	705
Losses on disposal of tangible assets	7,305,463	1,857,015
Losses on discard of tangible assets	-	1,198,619
Losses on disposal of right-to-use assets	-	182
Losses on disposal of intangible assets	377,624	83,438
Loss on disposal of stocks invested in associates	577,051	-
Other bad debt expenses	91,789	-
Contributions	6,860,709	4,386,165
Miscellaneous expenses and others	9,713,812	36,704,980
Total	24,926,448	44,231,104

30-2 The details of the financial income and financial cost for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Financial income:		
Interest income	7,255,858	2,273,356
Gains on transaction of financial instruments measured at fair value through profit or loss	47,952,577	12,615,764
Gains on valuation of financial instruments measured at fair value through profit or loss	2,061,727	2,494,539
Dividend income	1,190,000	1,190,000
Gains on foreign currency transactions	66,735,500	23,749,997
Gains on foreign currency translation	8,370,857	1,152,887
Gains on transaction of derivatives	31,583,923	13,542,254
Gains on valuation of derivatives	9,144,729	5,570,047
Total	174,295,171	62,588,844
Financial cost:		
Interest expenses	15,461,271	10,600,102
Losses on transaction of financial instruments measured at fair value through profit or loss	2,518,749	-
Losses on valuation of financial instruments measured at fair value through profit or loss	7,676,555	8,851,558
Losses on foreign currency transactions	47,779,147	23,340,358
Losses on foreign currency translation	15,021,453	6,183,069
Losses on transaction of derivatives	63,355,635	13,611,059
Losses on valuation of derivatives	145,565	1,364,348
Total	151,958,375	63,950,494

31. Income tax expense

31-1 The details of the income tax expense for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Current tax	49,102,117	98,792,562
Adjustments recognized for the current period for the current income tax for the previous periods	(983,675)	(2,075,218)
Changes in the deferred income tax due to temporary differences	(46,915,070)	36,888,944
Income tax expense directly reflected in equity	4,021,476	1,853,362
Income tax expense	5,224,848	135,459,650
Income tax expense on continuing operations	5,224,848	168,012,086
Income tax expense (revenue) from discontinued operations	-	(32,552,436)

31-2 The details of the income tax expense directly reflected in equity for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Income tax expense directly reflected in equity:		
Derivatives liabilities	(151,092)	(401,299)
Remeasurement factors for defined benefit plan	(4,913,251)	1,993,004
Income tax effect of stock options	9,415,164	-
Others	(329,345)	261,657
Total	4,021,476	1,853,362

31-3 The relationship between the net profit before income tax expense and income tax expense for the current and previous periods is as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Net income from continuing operations before income tax expense	236,700,718	538,621,651
Net income (loss) from discontinued operations before income tax expense	-	(134,418,663)
Net income before income tax expense	236,700,718	404,202,988
Corporate tax according to applicable tax rate	21,599,712	136,297,240
Adjustments:		
Non-taxable income	(568,651)	(951,792)
Non-deductible expenses	774,514	1,038,829
Deferred tax effect due to tax credits	(13,808,792)	(11,808,197)
Non-recognition effect of deferred tax among temporary differences	68,241	6,006,687
Adjustments recognized for the current period for the current income tax for the previous periods	(2,705,305)	(440,860)
Corporate tax effect on non-reflux income	(1,410,659)	3,458,416
Others (Note 1)	1,275,788	1,859,327
Income tax expense	5,224,848	135,459,650
Income tax expense on continuing operations	5,224,848	168,012,086
Income tax expense on discontinued operations	-	(32,552,436)
Effective tax rate (income tax expense/net profit before income tax expense)	2.21%	33.51%

(Note 1) Included are adjustments due to the intra-consolidated companies merger during the current and previous periods, the non-recognition effect of deferred income tax among the temporary differences, etc.

31-4 The changes in deferred income tax assets (liabilities) for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Amount at beginning of period	Profit or loss reflected	Directly reflected in equity	End of the current period
Government subsidies	4,433,697	(374,436)	-	4,059,261
Allowance for bad debts	1,728,752	281,109	-	2,009,861
Tangible assets	(25,315,516)	2,505,938	-	(22,809,578)
Right-to-use assets	(2,766,367)	(4,295,172)	-	(7,061,539)
Lease liabilities	2,944,627	4,413,447	-	7,358,074
Intangible assets	11,650,818	(3,495,786)	-	8,155,032
Inventories	6,797,665	11,533,880	-	18,331,545
Accrued interest	1,548,386	(614,078)	-	934,308
Accrued expenses	11,972,543	1,569,192	-	13,541,735
Derivatives	(485,906)	(744,756)	(151,092)	(1,381,754)
Securities	(527,871)	1,047,780	1,283	521,192
Advanced depreciation provision	(6,141,519)	279,259	-	(5,862,260)
Provisioning liabilities	5,523,006	185,894	-	5,708,900
Contract liabilities	478,526	2,047,735	-	2,526,261
Retirement benefits	(3,306)	2,740,559	(4,913,251)	(2,175,998)
Stock options	661,114	(200,486)	-	460,628
Tax credits carried forward	3,312,466	1,679,657	-	4,992,123
Others	(34,723,084)	33,737,075	(330,628)	(1,316,637)
Total	(18,911,969)	52,296,811	(5,393,688)	27,991,154
Deferred income tax assets	11,426,991			68,598,920
Deferred income tax liabilities	(30,338,960)			(40,607,766)

<Previous period>

(Unit: KRW one thousand)

Classification	Amount at beginning of period	Profit or loss reflected	Directly reflected in equity	End of the current period
Government subsidies	5,982,120	(1,548,423)	-	4,433,697
Allowance for bad debts	2,335,646	(606,894)	-	1,728,752
Tangible assets	(29,279,396)	3,963,880	-	(25,315,516)
Right-to-use assets	(2,267,599)	(498,768)	-	(2,766,367)
Lease liabilities	2,332,426	612,201	-	2,944,627
Intangible assets	14,725,141	(3,074,323)	-	11,650,818
Inventories	5,079,665	1,718,000	-	6,797,665
Accrued interest	(108,343)	1,656,729	-	1,548,386

Accrued expenses	8,841,496	3,131,047	-	11,972,543
Derivatives	875,407	(960,014)	(401,299)	(485,906)
Securities	(663,938)	157,362	(21,295)	(527,871)
Advanced depreciation provision	(3,154,481)	(2,987,038)	-	(6,141,519)
Provisioning liabilities	-	5,523,006	-	5,523,006
Contract liabilities	(218,929)	697,455	-	478,526
Retirement benefits	139,765	(2,136,075)	1,993,004	(3,306)
Stock options	675,779	(14,665)	-	661,114
Loans	34,927	(34,927)	-	-
Tax credits carried forward	16,004,994	(12,692,528)	-	3,312,466
Others	(3,357,705)	(31,648,331)	282,952	(34,723,084)
Total	17,976,975	(38,742,306)	1,853,362	(18,911,969)
Deferred income tax assets	20,594,928			11,426,991
Deferred income tax liabilities	(2,617,953)			(30,338,960)

The possibility of future realization for the deferred income tax assets depends on various factors such as the consolidated companies' ability to generate taxable income during the period in which the temporary differences are realized, and the overall economic environment and outlook for the industry. The consolidated companies regularly review such matters and have recognized the deferred income tax assets for the temporary differences to be deducted, which are determined to be realizable as of the end of the current period.

31-5 The tax effect due to the temporary differences to be deducted, which are not recognized as the deferred income tax assets in the consolidated statement of financial position, unused tax losses, unused tax credits, etc., is KRW 52,498,409,000 (previous period: KRW 54,689,781,000).

32. Earnings per share (EPS)

32-1 The calculation details of the basic earnings per share for the current and previous periods are as follows.

(Unit: KRW one thousand, stocks)

Classification	Current period	Previous period
Net income	231,475,870	268,743,338
Net income attributable to the owners of the controlling company	191,266,055	168,139,816
Net income from non-controlling interest	40,209,815	100,603,522
Deducted: preferred stock dividend	(3,049,309)	(6,008,027)
Deducted: portion reverted for preferred stocks among additional profits available for dividend	(16,545,151)	(11,003,502)
Operating net income reverted for common stock ownership	171,671,595	151,128,287
Continuing operating income reverted for common stock ownership	171,671,595	246,546,353
Gain (loss) on discontinued operations reverted for common stock ownership	-	(95,418,066)
Operating net income reverted for preferred stock ownership	19,594,460	17,011,529
Continuing operating income reverted for preferred stock ownership	19,594,460	23,459,690
Gain (loss) on discontinued operations reverted for preferred stock ownership	-	(6,448,161)
Number of weighted average common stocks outstanding	17,322,897	17,601,765
Number of weighted average preferred stocks outstanding	1,967,296	1,969,845
Basic earnings per common share	9,910	8,586
Basic earnings per common share on continuing operations	9,910	14,007
Basic earnings (losses) per common share on discontinued operations	-	(5,421)
Basic earnings per preferred share (Note 1)	9,960	8,636
Basic earnings per preferred share on continuing operations	9,960	11,909
Basic earnings (losses) per preferred share on discontinued operations	-	(3,273)
Diluted earnings per common share	9,880	8,535
Diluted earnings per common share on continuing operations	9,880	13,921
Diluted earnings per common share on discontinued operations	-	-

(Note 1) As the preferred stocks issued in accordance with the old Commercial Act before its revision in 1997, these preferred stocks have the same order of payment as the general common stocks when dividends are paid out or the residual assets are distributed.

32-2 The calculation details of the controlling company's number of weighted average common shares outstanding for the current and previous periods are as follows.

<Current period>

(Unit: stocks)

Classification	Initial date	Date of settlement	Number of days	Number of shares	Number of weighted average common shares outstanding
Outstanding shares at beginning of period	2022.1.1	2022.12.31	365	17,589,923	17,589,923
Acquisition of treasury stock	2022.3.24	2022.12.31	283	(10,000)	(7,753)
Acquisition of treasury stock	2022.3.25	2022.12.31	282	(8,000)	(6,181)
Acquisition of treasury stock	2022.3.28	2022.12.31	279	(10,000)	(7,644)
Acquisition of treasury stock	2022.3.29	2022.12.31	278	(10,000)	(7,616)
Acquisition of treasury stock	2022.3.30	2022.12.31	277	(1,914)	(1,453)
Acquisition of treasury stock	2022.3.31	2022.12.31	276	(10,000)	(7,562)
Acquisition of treasury stock	2022.4.1	2022.12.31	275	(10,000)	(7,534)
Acquisition of treasury stock	2022.4.4	2022.12.31	272	(8,000)	(5,962)
Acquisition of treasury stock	2022.4.5	2022.12.31	271	(10,000)	(7,425)
Acquisition of treasury stock	2022.4.6	2022.12.31	270	(8,009)	(5,924)
Acquisition of treasury stock	2022.4.7	2022.12.31	269	(7,825)	(5,767)
Acquisition of treasury stock	2022.4.8	2022.12.31	268	(10,000)	(7,342)
Acquisition of treasury stock	2022.4.11	2022.12.31	265	(10,000)	(7,260)
Acquisition of treasury stock	2022.4.12	2022.12.31	264	(10,000)	(7,233)
Acquisition of treasury stock	2022.4.13	2022.12.31	263	(10,000)	(7,205)
Acquisition of treasury stock	2022.4.14	2022.12.31	262	(10,000)	(7,178)
Acquisition of treasury stock	2022.4.15	2022.12.31	261	(10,000)	(7,151)
Acquisition of treasury stock	2022.4.18	2022.12.31	258	(10,000)	(7,068)
Acquisition of treasury stock	2022.4.19	2022.12.31	257	(2,796)	(1,969)
Acquisition of treasury stock	2022.4.20	2022.12.31	256	(10,000)	(7,014)
Acquisition of treasury stock	2022.4.21	2022.12.31	255	(10,000)	(6,986)
Acquisition of treasury stock	2022.4.22	2022.12.31	254	(6,000)	(4,175)
Acquisition of treasury stock	2022.4.25	2022.12.31	251	(10,000)	(6,877)
Acquisition of treasury stock	2022.4.26	2022.12.31	250	(10,000)	(6,849)
Acquisition of treasury stock	2022.4.27	2022.12.31	249	(10,000)	(6,822)
Acquisition of treasury stock	2022.4.28	2022.12.31	248	(9,187)	(6,242)
Acquisition of treasury stock	2022.4.29	2022.12.31	247	(7,479)	(5,061)
Acquisition of treasury stock	2022.5.2	2022.12.31	244	(5,894)	(3,940)
Acquisition of treasury stock	2022.5.3	2022.12.31	243	(10,000)	(6,658)
Acquisition of treasury stock	2022.5.4	2022.12.31	242	(10,000)	(6,630)
Acquisition of treasury stock	2022.5.6	2022.12.31	240	(10,000)	(6,575)
Acquisition of treasury stock	2022.5.9	2022.12.31	237	(10,000)	(6,493)
Acquisition of treasury stock	2022.5.10	2022.12.31	236	(10,000)	(6,466)

Acquisition of treasury stock	2022.5.11	2022.12.31	235	(14,641)	(9,426)
Acquisition of treasury stock	2022.5.12	2022.12.31	234	(10,000)	(6,411)
Acquisition of treasury stock	2022.5.13	2022.12.31	233	(7,585)	(4,842)
Acquisition of treasury stock	2022.5.16	2022.12.31	230	(9,159)	(5,771)
Acquisition of treasury stock	2022.5.17	2022.12.31	229	(10,000)	(6,274)
Acquisition of treasury stock	2022.5.18	2022.12.31	228	(10,000)	(6,247)
Acquisition of treasury stock	2022.5.19	2022.12.31	227	(10,000)	(6,219)
Acquisition of treasury stock	2022.5.20	2022.12.31	226	(8,000)	(4,953)
Acquisition of treasury stock	2022.5.23	2022.12.31	223	(10,000)	(6,110)
Acquisition of treasury stock	2022.5.24	2022.12.31	222	(4,000)	(2,433)
Acquisition of treasury stock	2022.5.25	2022.12.31	221	(1,000)	(605)
Exercise of stock option	2022.11.25	2022.12.31	37	22,492	2,280
Number of weighted average common shares outstanding				17,222,926	17,322,897

<Previous period>

(Unit: stocks)

Classification	Initial date	Date of settlement	Number of days	Number of shares	Number of weighted average common shares outstanding
Outstanding shares at beginning of period	2021.1.1	2021.12.31	365	17,593,152	17,593,152
Exercise of stock option	2021.4.2	2021.12.31	274	15,000	11,260
Acquisition of treasury stock	2021.11.9	2021.12.31	53	(18,229)	(2,647)
Number of weighted average common shares outstanding				17,589,923	17,601,765

32-3 The calculation details of the controlling company's number of weighted average preferred shares outstanding for the current and previous periods are as follows.

<Current period>

(Unit: stocks)

Classification	Initial date	Date of settlement	Number of days	Number of shares	Number of weighted average preferred shares outstanding
Outstanding shares at beginning of period	2022.1.1	2022.12.31	365	1,967,296	1,967,296
Number of weighted average preferred shares outstanding				1,967,296	1,967,296

<Previous period>

(Unit: stocks)

Classification	Initial date	Date of settlement	Number of days	Number of shares	Number of weighted average preferred shares outstanding
Outstanding shares at beginning of period	2021.1.1	2021.12.31	365	1,970,278	1,970,278
Acquisition of treasury stock	2021.11.9	2021.12.31	53	(2,982)	(433)
Number of weighted average preferred shares outstanding				1,967,296	1,969,845

32-4 Diluted earnings per share

The diluted earnings per share were calculated by applying the number of weighted average common shares outstanding adjusted under the assumption that all dilutive potential common shares will be converted into common shares. The dilutive potential common shares held by the consolidated companies include stock options. The number of stocks resulting from stock options is calculated by calculating the number of stocks to be acquired at fair value based on the monetary value of the exercise of the right added to the stock options, and by comparing this number of stocks with the number of stocks to be issued if the stock options are assumed to have been exercised.

(Unit: stocks)

Classification	Current period	Previous period
Net income for common shares	171,671,595	246,546,353
Adjustments: stock options	7,441	80,629
Net income for common shares for calculation of diluted earnings per share	171,679,036	246,626,982
Number of weighted average common stocks outstanding	17,322,897	17,601,765
Adjustments: stock options	54,190	114,250
Number of weighted average common shares outstanding for calculation of diluted earnings per share	17,377,087	17,716,015
Diluted earnings per share (KRW/share)	9,880	13,921

33. Consolidated statement of cash flows

33-1 The details of the adjustments made for the consolidated cash flows generated from operations for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period (Note 1)
Income tax expense	5,224,848	135,459,650
Interest income	(7,255,858)	(2,273,356)
Interest expenses	15,461,271	14,896,758
Losses (reversal) on valuation of inventories	45,147,937	(11,868)
Losses on disposal of inventories	-	705
Retirement benefits	19,939,875	16,285,671
Bad debt expenses (reversal of allowance for bad debts)	478,766	(48,379)
Other bad debt expenses (reversal of other bad debt provisions)	91,789	(165,967)
Depreciation (Note 2)	81,152,198	84,574,399
Amortization of intangible assets	10,312,898	8,300,659
Gain on disposal of tangible assets	(159,549)	(552,066)
Gain on disposal of right-to-use assets	(10,921)	(441,373)
Losses on disposal of tangible assets	7,305,463	1,858,033
Losses on discard of tangible assets	-	1,198,619
Losses on disposal of right-to-use assets	-	182
Impairment losses on tangible assets	-	103,421,162
Gain on disposal of intangible assets	(302,598)	-
Losses on disposal of intangible assets	377,624	83,438
Gains on foreign currency translation	(8,370,857)	(1,152,887)
Losses on foreign currency translation	15,021,453	6,183,069
Gains on valuation of derivatives	(9,144,729)	(5,570,047)
Losses on valuation of derivatives	145,565	1,364,347
Dividend income	(1,190,000)	(1,190,000)
Loss on equity method valuation	762,536	(1,618,945)
Loss on disposal of stocks invested in associates	577,051	-
Gain on transaction of financial assets measured at fair value through profit or loss	(47,952,577)	(12,615,764)
Loss on transaction of financial assets measured at fair value through profit or loss	2,518,749	-
Gain on valuation of financial assets measured at fair value through profit or loss	(2,061,727)	(2,494,539)
Loss on valuation of financial assets measured at fair value through profit or loss	7,676,555	8,851,558
Share based compensation expenses	9,816	125,937
Gains from sales of business divisions	-	(4,232,942)
Others	152,520	1,924,839
Total	135,908,098	352,160,893

(Note 1) This is the amount which includes the profit and loss from discontinued operations.

(Note 2) This is the depreciation for tangible assets, investment real estate properties, and the right-to-use assets.

33-2 The changes in assets and liabilities from operating activities for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Trade receivables	(29,633,811)	(39,824,327)
Other receivables	125,598,409	(104,998,707)
Inventories	(178,194,406)	(129,195,959)
Other current assets	(9,276,944)	(8,701,737)
Long-term accounts receivable	(58,099)	2,245,127
Other non-current assets	(6,543,064)	14,565
Trade payables	(68,847,992)	86,247,031
Other payables	(151,889,943)	127,623,279
Other current liabilities	(42,472,260)	59,746,275
Retirement benefits paid	(41,669)	(192,908)
Plan assets paid	(46,664,320)	(26,000,000)
Contract assets	-	979,915
Current portion of contract liabilities	45,396,068	18,238,965
Current portion of provisioning liabilities	(300,038)	22,437,979
Provisioning liabilities	2,278,409	
Derivatives transactions settled	912,699	(3,677,511)
Total	(359,736,961)	4,941,987

33-3 The details of major transactions with no cash inflows and outflows for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Replacement of construction in progress with another account	61,547,132	68,893,642
Acquisition of accounts payable for construction in progress	2,799,911	3,684,492
Increase in capitalized borrowing costs payable	185,173	-
Replacement of current portion for long-term liabilities	103,882,273	207,752,001
Replacement of current portion for lease liabilities	18,505,485	1,763,669
Replacement of tangible assets for investment real estate properties	-	82,210
Replacement of investment real estate properties for tangible assets	169,119	276,270
Receivables from tangible asset exchange	6,350,000	-
Replacement of current portion for deposits received	2,110,026	-
Recognition of right-to-use assets and lease liabilities	27,687,267	7,662,853
Write-off of trade and other receivables	671,572	116,518
Changes in accounts payable for retirement benefits	10,528,466	8,357,682
Accounts payable for affiliates' investment shares	-	385,515
Assets held for sale classification	15,353,157	-
Liabilities held for sale classification	7,560,327	-

33-4 Changes in the liabilities arising from financing activities are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Cash flows from financing activities	Exchange rate fluctuations	Others (Note 1)	End of period
Short-term borrowings	11,671,373	427,818,713	1,287,869	(4,668,136)	436,109,819
Long-term borrowings	-	(40,426,841)	-	47,599,540	7,172,699
Current portion of bonds payable	207,864,113	(160,000,000)	-	56,122,831	103,986,944
Debenture	256,063,407	-	2,454,000	(103,730,058)	154,787,349
Current portion of lease liabilities	2,788,638	(7,021,630)	-	15,918,090	11,685,098
Lease liabilities	8,343,522	-	-	4,841,720	13,185,242
Total	486,731,053	220,370,242	3,741,869	16,083,987	726,927,151

(Note 1) Included are the account reclassification effect for bonds and long-term borrowings, replacement of current portion following the lapse of time for lease liabilities and liabilities under installment purchase agreements, and the accrued interest on the interest bearing borrowings. The consolidated companies classify the payment of interest as the cash flows from operating activities.

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Cash flows from financing activities	Exchange rate fluctuations	Business transfer (Note 1)	Others (Note 2)	End of period
Short-term borrowings	107,636,903	(96,363,272)	397,742	-	-	11,671,373
Current portion of long-term borrowings	1,003,200	(1,003,200)	-	-	-	-
Long-term borrowings	31,135,000	(32,059,000)	-	-	924,000	-
Current portion of bonds payable	95,944,294	(96,000,000)	-	-	207,919,819	207,864,113
Debenture	460,480,570	-	2,925,000	-	(207,342,163)	256,063,407
Current portion of lease liabilities	3,038,109	(2,774,229)	-	(133,332)	2,658,090	2,788,638
Lease liabilities	9,392,925	-	-	(853,100)	(196,303)	8,343,522
Total	708,631,001	(228,199,701)	3,322,742	(986,432)	3,963,443	486,731,053

(Note 1) During the previous period, the composite material business division was transferred to Toray Advanced Materials Korea Inc.

(Note 2) Included are the account reclassification effect for bonds and long-term borrowings, replacement of current portion following the lapse of time for lease liabilities and liabilities under installment purchase agreements, and the accrued interest on the interest bearing borrowings. The consolidated companies classify the payment of interest as the cash flows from operating activities.

34. Purpose and policies of the financial risk management

The consolidated companies' major financial liabilities, excluding derivatives, consist of trade and other payables, borrowings and bonds. The main purpose of these financial liabilities is to raise funds for the operation of the consolidated companies. The consolidated companies' major financial assets include trade receivables and the cash and short-term deposits directly derived from operating activities. The consolidated companies also have investments in debt and equity instruments and trade derivatives.

The consolidated companies are exposed to market risk, credit risk, and liquidity risk. The consolidated companies' senior management supervise the management of such risks. All derivative activities for the purpose of risk management are carried out by a team of professionals equipped with the appropriate skills, experiences, and oversight. It is the policy of the consolidated companies to avoid conducting any trading of derivatives for speculative purposes.

34-1 Market risk

Market risk is the risk related to the fair value or future cash flows of financial instruments fluctuating due to changes in the market prices. Market risk consists of the following three types of risk: interest rate risk, foreign currency risk, and other price risk. The financial instruments affected by the market risk include borrowings and bonds, deposits, debt, and equity investments and derivatives.

The following sensitivity analysis is related to the statement of financial position as of the end of the current and previous periods.

The sensitivity analysis has been prepared based on the designation of a hedging interest rate while the net amount of liabilities, fixed interest rate of liabilities and derivatives, variable interest rate and the ratio of foreign currency financial instruments were all constant as of the end of current period.

This analysis excludes the effect of movements of the market variables on the book values of retirement pensions and other post-retirement liabilities and provisions.

The following assumptions are required when calculating for the sensitivity analysis.

- The sensitivity of the relevant income statement is the effect of an assumed change in each market risk. This is based on the financial assets and financial liabilities held at the end of the current and previous periods, including the effect of hedge accounting.

(1) Interest rate risk

Interest rate risk is the risk related to the fluctuation of the fair value of financial instruments or future cash flows due to the fluctuations in the market interest rates. The consolidated companies internally measure the interest rate risk based on a 1% change in the interest rate, and the rate of change above is reflective of the senior management's assessment of the reasonably possible interest rate change risk.

The consolidated companies' changes in the market interest rate risk relate primarily to the consolidated companies' long-term liabilities subject to the variable interest rates. The consolidated companies' senior management manages the risk of fluctuations in the future cash flows of financial instruments related to fluctuations in the market interest rates by executing currency swap and interest-rate swap contracts.

The book amount of the financial instruments exposed to the variable interest risk, which are held by the consolidated companies as of the end of the reporting period, is as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Short-term borrowings	243,049,996	-
Debenture	38,019,000	-
Total	281,068,996	-

As of the current and previous periods, when all other variables are constant and the interest rate changes by 1%, the effect on the profit and loss before tax is as follows.

(Unit: KRW one thousand)

Classification	Current period		Previous period	
	1% point increase	1% point decrease	1% point increase	1% point decrease
Short-term borrowings	(2,430,500)	2,430,500	-	-
Long-term borrowings	(380,190)	380,190	-	-
Total	(2,810,690)	2,810,690	-	-

(2) Exchange risk

Exchange risk is the risk where the fair value of financial instruments or future cash flows will fluctuate due to the fluctuations in the exchange rates. The book amounts of the monetary assets and liabilities denominated in foreign currencies other than the functional currency as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period		End of the previous period	
	Assets	Liabilities	Assets	Liabilities
USD	283,760,059	95,426,426	162,654,290	216,682,711
CNY	3,610,762	542,830	15,918,457	986,456
EUR	3,764,548	18,599,899	9,032,243	1,597,977
GBP	433,923	130,384	297,848	2,654
JPY	6,820,072	233,047	4,911,900	16,436
Total	298,389,364	114,932,586	192,814,738	219,286,234

(Note 1) The foreign currency borrowings and foreign currency bonds for which currency swaps are executed are excluded since they are not exposed to the exchange risk.

As of the end of the reporting period, if the exchange rate of the functional currency for each foreign currency fluctuates by 5%, the effect on the profit and loss before tax for the current period and the previous period is as follows.

(Unit: KRW one thousand)

Classification	End of the current period		End of the previous period	
	5% increase	5% decrease	5% increase	5% decrease
USD	9,416,682	(9,416,682)	(2,701,421)	2,701,421
CNY	153,397	(153,397)	746,600	(746,600)
EUR	(741,768)	741,768	371,713	(371,713)
GBP	15,177	(15,177)	14,760	(14,760)
JPY	329,351	(329,351)	244,773	(244,773)
Total	9,172,839	(9,172,839)	(1,323,575)	1,323,575

The consolidated companies internally measure the foreign exchange risk for the exchange rate fluctuations on a regular basis, and effectively manage the foreign exchange risk via currency futures trading, and thus, the effect on the profit and loss is restricted.

(3) Other price risks

Included among price risks other than the interest rate risk or foreign exchange risk is the risk of the fair value of financial instruments or future cash flows fluctuating due to fluctuations in the market prices. Since the consolidated companies have no traded equity instruments, there is no effect on the profit or loss due to other price fluctuation risks as of the end of current period. Furthermore, the consolidated companies are not significantly exposed to the risk of price fluctuations of specific instruments.

34-2 Credit risk

Credit risk is the risk of financial loss against the consolidated companies due to the transaction counterparty's failure to perform its obligations.

(1) Trade and other receivables

The consolidated companies in principle conduct creditworthiness verification procedures for all transaction counterparties seeking to trade on credit, and only execute transactions with counterparties of sound creditworthiness. Furthermore, the consolidated companies continuously manage the balance of trade receivables, other receivables and contract assets, such as by continuously reassessing credit ratings to ensure that the consolidated companies' exposure to bad debt risk is maintained at an insignificant level. As of the end of the reporting period, the consolidated companies individually recognize whether major customers' receivables and contract assets are impaired. In addition, for multiple receivables of small amounts, they review their impairment by including them in the group of financial assets having similar credit risk related characteristics. As of the end of the reporting period, the extent of maximum exposure to the credit risk is the book amount of the financial assets described under Note 5.

(2) Other assets

The credit risk arising from the consolidated companies' other assets consisting of cash equivalents, long-term and short-term deposits, long-term and short-term loans arises from the default of the transaction counterparty, etc. In such an event, the consolidated companies' credit risk exposure will be equal to the maximum book amount of the relevant financial instrument. Meanwhile, the consolidated companies deposit the cash equivalents and short-term financial instruments with financial institutions including Woori Bank, and trade with financial institutions having excellent credit ratings, and thus, the credit risk from the financial institutions is limited.

34-3 Liquidity risk

Liquidity risk is the risk of being unable to raise funds to meet all financial contractual commitments to maturity.

The consolidated companies manage the risks arising from a lack of funds through the liquidity strategies and plans, and match the maturities of financial assets and liabilities by considering the maturities of financial instruments and estimates of the operating cash flows.

The following are the undiscounted contractual amounts as a repayment plan for each financial liability.

<Current period>

(Unit: KRW one thousand)

Classification	Less than 1 year	2 years or less	5 years or less	Over 5 years	Total
Trade and other payables	219,159,228	-	-	-	219,159,228
Short-term borrowings	436,109,819	-	-	-	436,109,819
Current portion of long-term liabilities	104,019,000	-	-	-	104,019,000
Current portion of lease liabilities	12,000,694	-	-	-	12,000,694
Other current liabilities (Note 1)	4,932,758	-	-	-	4,932,758
Debenture (Note 2)	-	-	155,000,000	-	155,000,000
Long-term borrowings	7,172,699	-	-	-	7,172,699
Lease liabilities	-	6,637,793	5,089,589	4,526,978	16,254,360
Total	783,394,198	6,637,793	160,089,589	4,526,978	954,648,558

(Note 1) These are deposits taken.

(Note 2) Included are the interest expenses.

<Previous period>

(Unit: KRW one thousand)

Classification	Less than 1 year	2 years or less	5 years or less	Over 5 years	Total
Trade and other payables	452,892,821	-	-	-	452,892,821
Short-term borrowings	11,671,373	-	-	-	11,671,373
Current portion of long-term liabilities	208,000,000	-	-	-	208,000,000
Current portion of lease liabilities	2,835,307	-	-	-	2,835,307
Other current liabilities (Note 1)	11,827,891	-	-	-	11,827,891
Debenture (Note 2)	-	101,565,000	155,000,000	-	256,565,000
Lease liabilities	-	2,276,326	3,414,156	5,257,899	10,948,381
Other non-current liabilities (Note 1)	-	2,110,026	-	-	2,110,026
Total	687,227,392	105,951,352	158,414,156	5,257,899	956,850,799

(Note 1) These are deposits taken.

(Note 2) Included are the interest expenses.

34-4 Capital management

The primary purpose of capital management is to maintain a high credit rating and sound capital ratios with a view to maintaining the consolidated companies' operating activities and maximizing the shareholder value.

The consolidated companies amend their capital structure in line with the changes in the economic environment, and towards this end, they require amendments to be made for their dividend policy, capital reduction be made, and the issuance of new shares be considered. Meanwhile, no changes were made to the purposes, policies and the procedures of capital management during the current period.

As of the end of the reporting period, the consolidated companies' debt-to-equity ratio is as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Total liabilities	1,236,777,051	1,388,894,986
(Adjustments: cash and cash equivalents)	(400,028,233)	(255,615,367)
Adjusted liabilities	836,748,818	1,133,279,619
Equity capital	2,708,905,829	2,566,737,409
Debt-to-equity ratio	30.89%	44.15%

35. Fair value

35-1 Fair value hierarchy

The consolidated companies classify the fair value measurements according to the fair value hierarchy which reflects the significance of the input variables used for the fair value measurement, and the levels of the fair value hierarchy are as follows.

Level 1: (Unadjusted) quoted price level in the active markets for the same asset or liability

Level 2: Inputs to assets or liabilities that are directly or indirectly observable

Level 3: Inputs to assets or liabilities that are not based on the observable market data (unobservable input variables)

35-2 The fair value measurements for each level of financial instruments as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Level 1	Level 2	Level 3 (Note 2)	Total
Financial assets				
Trade and other receivables (Note 1)	-	10,460,927	-	10,460,927
Short-term financial assets	-	1,314,442,323	-	1,314,442,323
Long-term investment assets	-	-	38,628,272	38,628,272
Other non-current assets (Note 1)	-	-	1,237,613	1,237,613
Total	-	1,324,903,250	39,865,885	1,364,769,135
Financial liabilities				
Trade and other payables (Note 1)	-	67,152	-	67,152
Total	-	67,152	-	67,152

(Note 1) As for the financial instruments whose book amount is a reasonable approximation of fair value, the separate fair value disclosure has been omitted.

(Note 2) Except as otherwise provided, they consist of unlisted stocks, etc., whose cost can be an appropriate estimate of their fair value (refer to Note 35-3).

<End of the previous period>

(Unit: KRW one thousand)

Classification	Level 1	Level 2	Level 3 (Note 2)	Total
Financial assets				
Trade and other receivables (Note 1)	-	2,277,046	-	2,277,046
Short-term financial assets	-	1,794,156,437	-	1,794,156,437
Long-term investment assets	-	-	35,081,486	35,081,486
Other non-current assets (Note 1)	-	1,639,873	368,001	2,007,874
Total	-	1,798,073,356	35,449,487	1,833,522,843
Financial liabilities				
Trade and other payables (Note 1)	-	1,364,347	-	1,364,347
Total	-	1,364,347	-	1,364,347

(Note 1) As for the financial instruments whose book amount is a reasonable approximation of fair value, the separate fair value disclosure has been omitted.

(Note 2) Except as otherwise provided, they consist of unlisted stocks, etc., whose cost can be an appropriate estimate of their fair value (refer to Note 35-3).

35-3 Valuation techniques

The valuation techniques used to measure the fair value of Level 3 are as follows.

<End of the current period>

(Unit: KRW one thousand)

Categories of financial instruments	Type	Fair value	Valuation techniques	Input variables
Derivatives assets	Put option for SK Chemicals Daejung Co., Ltd.	289,589	Discounted cash flow method	Liquidation cash flow, weighted average cost of capital
Derivatives assets	Put option for HDC Polyall Co., Ltd.	948,024	Discounted cash flow method	Liquidation cash flow, weighted average cost of capital
Long-term investment assets	Eastman Fiber Korea Ltd.'s preferred stocks	25,128,024	Expected price considering the value of call options and put options	Exchange rate

<End of the previous period>

(Unit: KRW one thousand)

Categories of financial instruments	Type	Fair value	Valuation techniques	Input variables
Derivatives assets	Put option for SK Chemicals Daejung Co., Ltd.	368,001	Discounted cash flow method	Liquidation cash flow, weighted average cost of capital
Long-term investment assets	Eastman Fiber Korea Ltd.'s preferred stocks	23,506,094	Expected price considering the value of call options and put options	Exchange rate

36. Business transfer and discontinued operations

36-1 The controlling company, in line with the resolution of the board of directors on October 27, 2021, sold the PPS business division to HDC Polyall Co., Ltd., and the business transfer was classified as discontinued operations. Meanwhile, the comparatively presented statements of comprehensive income for the previous period have been reprepared to demonstrate the discontinued operations separated from the ongoing operations.

36-2 The details of profit or loss from discontinued operations for the reporting period appropriated in the statement of comprehensive income in connection with the PPS business division are as follows.

(Unit: KRW one thousand)

Classification	Previous period
Sales amount	33,477,032
Cost of sales	(50,292,941)
Gross profit	(16,815,909)
Selling and administrative expenses	(9,984,908)
Operating income	(26,800,817)
Other income	272,571
Other expenses	(103,870,851)
Financial income	11,123
Financial cost	(4,296,656)
Income tax expense	32,616,800
Total profit and loss from discontinued operating activities	(102,067,830)
Gain on disposal of discontinued operations before tax	265,967
Relevant income tax expense	(64,364)
Gain on disposal of discontinued operations	201,603
Profit and loss from discontinued operations	(101,866,227)

36-3 The net cash flows from discontinued operations related to the PPS business division are as follows.

(Unit: KRW one thousand)

Classification	Previous period
Cash flows from operating activities	15,859,813
Cash flows from investment activities	37,904,391
Cash flows from financing activities	-
Net cash flows	53,764,204

37. Assets group held for sale

During the previous period, the controlling company decided to sell its entire ownership stake in the subsidiary, SK Chemicals (Suzhou) Co., Ltd. The assets and liabilities for sale have been classified as assets and liabilities held for sale, and the composition of assets and liabilities classified as held for sale at the end of the current period is as follows.

(Unit: KRW one thousand)

Classification	End of the current period
Cash and cash equivalents	7,089,709
Short-term financial assets	9,344
Short-term loans	2,359
Trade and other receivables	15,244,954
Inventories	500,450
Other current assets	66,844
Tangible assets	3,559,309
Right-to-use assets	299,939
Total assets classified as held for sale	26,772,908
Trade and other payables	7,466,311
Other current liabilities	13,254
Current portion of lease liabilities	43,046
Lease liabilities	37,716
Total liabilities classified as held for sale	7,560,327
Net assets classified as held for sale	19,212,581

38 Events following the reporting period

38-1 Events following the reporting period for which corrections are not required

(1) Issuance of bonds

The controlling company issued unsecured bonds with bearer interest on February 24, 2023, and the details are as follows.

(Unit: KRW one thousand)

Classification	Date of issuance	Date of maturity	Issuance interest rate (%)	Method of redemption	Total amount
The 13-1st public placement bonds	2023.2.24	2024.08.23	4.474%	Redemption at maturity	35,000,000
The 13-2nd public placement bonds	2023.2.24	2025.02.24	4.605%	Redemption at maturity	95,000,000
The 13-3rd public placement bonds	2023.2.24	2026.02.24	4.595%	Redemption at maturity	70,000,000

(2) Payment guarantee for subsidiaries

On February 28, 2023, the controlling company decided to provide payment guarantee to its subsidiary, SK Multi-Utility Co., Ltd. The creditor is SK Gas International, PTE. Ltd., and the subject of guarantee is the unpaid fuel cost and all related debts.

(3) Decision to establish subsidiaries and acquire tangible assets

The controlling company paid a capital of RMB 350 million to establish a 100% overseas subsidiary Shuye-SK Environmental Materials (Shantou) Co., Ltd. Shuye-SK Environmental Materials (Shantou) Co., Ltd. decided to acquire tangible assets of RMB 670 million from Shuye Environmental Technology Co., Ltd. for the purpose of securing r-BHET early, securing expansion opportunities in recycling-related businesses, building a business foundation in China which is a strategic market, and securing operational capabilities.

38-2 Events following the reporting period for which corrections are required

(1) Additional contributions for humidifier disinfectant damage relief

During the previous period, as the possibility of contributing to damage relief funds increased under the Special Act on Remedy for Damage Caused by Humidifier Disinfectants, the controlling company set up a provision for liabilities of KRW 21,281,360,000 based on the best estimate. On February 24, 2023, a notice of additional contribution payment was received, and the difference of KRW 1,954,660,000 was reversed.

(2) Reversal of advance payment impairment loss

During the previous period, the controlling company signed a contract to acquire a 10% equity in Shuye Environmental Technology Co., Ltd. and paid a contract fee of KRW 3,843,168,000 (CNY 22,400,000). The controlling company identified signs of impairment in this prepaid contract fee at the end of the current period and recognized a total impairment loss. However, on March 6, 2023, according to the terms of the agreement for the acquisition of equity interests in Shuye-SK Environmental Materials (Shantou) Co., Ltd., a subsidiary of the controlling company, and the acquisition of tangible assets of Shuye Environmental Technology Co., Ltd., the signs of impairment were eliminated, and the recognized impairment loss was completely reversed during the current period.

4. Financial Statements

Statement of Financial Position

The 6th Period as of December 31, 2022

The 5th Period as of December 31, 2021

The 4th Period as of December 31, 2020

(Unit: KRW)

	The 6th Period	The 5th Period	The 4th Period
Assets			
Current assets	645,372,556,816	850,385,823,428	542,386,697,294
Cash and cash equivalents	119,021,281,023	102,201,908,694	36,666,181,689
Short-term financial assets	60,299,856,319	214,551,624,180	145,208,941,838
Trade and other receivables	201,878,626,367	349,597,114,345	201,600,472,662
Inventories	244,284,687,595	176,670,484,280	152,017,683,321
Other current assets	8,468,354,507	7,364,691,929	6,893,417,784
Non-current assets held for sale	11,419,751,005		
Non-current assets	1,165,104,636,664	1,136,764,094,471	1,202,198,118,635
Long-term financial assets	27,500,000	32,500,000	32,500,000
Long-term investment assets	37,128,190,250	34,581,491,369	24,492,063,443
Long-term trade and other receivables		2,245,126,852	
Affiliates and joint ventures investments	12,591,618,325	13,175,778,325	5,090,513,325
Subsidiaries' investments	371,327,871,982	369,310,002,987	248,206,168,483
Tangible assets	661,774,467,404	663,484,729,233	878,396,296,608
Right-to-use assets	1,759,660,337	1,078,904,249	7,430,750,867
Intangible assets	32,019,684,682	25,581,562,950	18,815,248,305
Investment real estate properties	17,339,365,662	17,212,277,612	17,055,665,021

Other non-current assets	30,153,887,790	8,859,518,669	1,615,773,781
Deferred income tax assets	982,390,232	1,202,202,225	1,063,138,802
Total Assets	1,810,477,193,480	1,987,149,917,899	1,744,584,815,929
Liabilities			
Current liabilities	535,148,432,470	608,416,133,260	461,440,722,505
Trade and other payables	151,015,407,038	334,166,345,831	190,846,337,416
Short-term borrowings	273,359,823,015		106,636,902,688
Current portion of long-term liabilities	65,978,484,288	159,886,421,716	85,953,003,944
Current portion of lease liabilities	838,788,199	615,347,491	1,786,785,263
Current portion of contract liabilities	4,105,993,293	15,475,431,335	978,603,271
Current portion of provisioning liabilities	19,326,700,000	22,437,979,100	
Current income tax liabilities	13,816,417,201	70,778,733,402	63,708,030,987
Other current liabilities	6,706,819,436	5,055,874,385	11,531,058,936
Non-current liabilities	155,730,714,611	223,149,669,532	398,070,772,061
Debenture	154,787,348,542	220,560,771,999	380,007,551,432
Long-term borrowings			9,375,000,000
Lease liabilities	943,366,069	478,871,282	5,433,745,338
Defined benefit liabilities			3,254,475,291
Other non-current liabilities		2,110,026,251	
Total liabilities	690,879,147,081	831,565,802,792	859,511,494,566
Equity			
Capital	98,793,505,000	98,681,045,000	66,000,330,000
Capital surplus	157,915,326,106	155,974,381,098	188,347,198,411
Other capital	(12,644,103,915)	(12,345,389,915)	(9,117,046,764)
Retained earnings	875,533,319,208	913,274,078,924	639,842,839,716
Total equity	1,119,598,046,399	1,155,584,115,107	885,073,321,363
Total liabilities and stockholders' equity	1,810,477,193,480	1,987,149,917,899	1,744,584,815,929

Comprehensive Income Statement

The 6th Period From January 01, 2022 to December 31, 2022

The 5th Period From January 01, 2021 to December 31, 2021

The 4th Period From January 01, 2020 to December 31, 2020

(Unit: KRW)

	The 6th Period	The 5th Period	The 4th Period
Sales amount	1,256,030,178,624	1,093,356,680,705	905,274,693,060
Cost of sales	956,492,002,988	829,072,845,806	652,901,500,834
Gross profit	299,538,175,636	264,283,834,899	252,373,192,226
Selling and administrative expenses	192,011,238,386	181,990,857,414	154,677,911,194

Operating income	107,526,937,250	82,292,977,485	97,695,281,032
Other income	6,950,988,177	488,792,502,374	11,261,719,908
Other expenses	17,565,112,804	41,362,691,966	21,231,924,327
Financial income	57,716,968,597	43,397,938,556	40,541,724,156
Financial cost	66,229,076,757	32,235,463,899	49,432,978,219
Net income from continuing operations before income tax expense	88,400,704,463	540,885,262,550	78,833,822,550
Income tax expense on continuing operations	19,130,274,915	136,417,287,717	28,087,244,608
Net income from continuing operations	69,270,429,548	404,467,974,833	50,746,577,942
Net income (loss) from discontinued operations before income tax expense		(134,518,761,720)	218,163,748,291
Income tax expense on discontinued operations		(32,553,540,336)	53,167,701,588
Net income (loss) from discontinued operations		(101,965,221,384)	164,996,046,703
Net income before income tax expense	88,400,704,463	406,366,500,830	296,997,570,841
Income tax expense	19,130,274,915	103,863,747,381	81,254,946,196
Net income (loss)	69,270,429,548	302,502,753,449	215,742,624,645
Other comprehensive income	9,408,526,514	(2,921,264,291)	(877,961,861)
Items subsequently not reclassified as profit or loss	9,408,526,514	(2,921,264,291)	(877,961,861)
Remeasurement factors of defined benefit liabilities	9,408,526,514	(2,921,264,291)	(877,961,861)
Total comprehensive income for the current period	78,678,956,062	299,581,489,158	214,864,662,784
Earnings per share (EPS)			
EPS for common and preferred stocks (unit: KRW)			
Basic EPS for common stocks from continuing operations (unit: KRW)	3,586	20,659	2,583
Basic earnings (loss) per share for common stocks from discontinued operations (unit: KRW)		(5,208)	8,400
Basic EPS for preferred stocks from continuing operations (unit: KRW)	3,636	20,531	2,580
Basic earnings (loss) per share for preferred stocks from discontinued operations (unit: KRW)			8,363
Diluted earnings (loss) per share (unit: KRW)			
Diluted earnings per share for common stocks from continuing operations (unit: KRW)	3,575	20,726	2,591
Diluted EPS for common stocks from discontinued operations (unit: KRW)		(5,225)	8,425

Statement of Changes in Equity

The 6th Period From January 01, 2022 to December 31, 2022

The 5th Period From January 01, 2021 to December 31, 2021

The 4th Period From January 01, 2020 to December 31, 2020

(Unit: KRW)

	Equity				
	Capital	Capital surplus	Other capital	Retained earnings	Total equity
2020.01.01 (capital at beginning of period)	66,000,330,000	188,347,198,411	(888,883,656)	430,985,192,132	684,443,836,887
Net income (loss)				215,742,624,645	215,742,624,645
Remeasurement factors of defined benefit liabilities				(877,961,861)	(877,961,861)

Stock option granted			561,602,700		561,602,700
Exercise of stock option			(4,354,860,000)		(4,354,860,000)
Cash dividend				6,007,015,200	6,007,015,200
Capital increase without consideration					
Purchase of treasury stock			(4,434,905,808)		(4,434,905,808)
Retirement of treasury stock					
2020.12.31 (capital at end of period)	66,000,330,000	188,347,198,411	9,117,046,764	639,842,839,716	885,073,321,363
2021.01.01 (capital at beginning of period)	66,000,330,000	188,347,198,411	9,117,046,764	639,842,839,716	885,073,321,363
Net income (loss)				302,502,753,449	302,502,753,449
Remeasurement factors of defined benefit liabilities				(2,921,264,291)	(2,921,264,291)
Stock option granted			125,936,990		125,936,990
Exercise of stock option	50,000,000	861,558,500	(186,537,500)		725,021,000
Cash dividend				26,150,249,950	26,150,249,950
Capital increase without consideration	32,630,715,000	(33,234,375,813)			(603,660,813)
Purchase of treasury stock			(3,167,742,641)		(3,167,742,641)
Retirement of treasury stock					
2021.12.31 (capital at end of period)	98,681,045,000	155,974,381,098	12,345,389,915	913,274,078,924	1,155,584,115,107
2022.01.01 (capital at beginning of period)	98,681,045,000	155,974,381,098	12,345,389,915	913,274,078,924	1,155,584,115,107
Net income (loss)				69,270,429,548	69,270,429,548
Remeasurement factors of defined benefit liabilities				9,408,526,514	9,408,526,514
Stock option granted			9,816,200		9,816,200
Exercise of stock option	112,460,000	1,940,945,008	(308,530,200)		1,744,874,808
Cash dividend				66,437,113,800	66,437,113,800
Capital increase without consideration					
Purchase of treasury stock			(49,982,601,978)		(49,982,601,978)
Retirement of treasury stock			49,982,601,978	49,982,601,978	
2022.12.31 (capital at end of period)	98,793,505,000	157,915,326,106	(12,644,103,915)	875,533,319,208	1,119,598,046,399

Statement of Cash Flows

The 6th Period From January 01, 2022 to December 31, 2022

The 5th Period From January 01, 2021 to December 31, 2021

The 4th Period From January 01, 2020 to December 31, 2020

(Unit: KRW)

	The 6th Period	The 5th Period	The 4th Period
Cash flows from operating activities	(58,255,118,545)	(35,881,104,237)	119,390,211,652
Net income (loss)	69,270,429,548	302,502,753,449	215,742,624,645
Adjustments	99,406,824,404	(187,191,487,993)	(92,339,223,140)
Changes in assets and liabilities from operating activities	(137,690,046,624)	(53,245,780,477)	29,279,267,913
Interest received	1,731,141,535	579,673,872	354,163,301
Interest paid	(15,118,134,622)	(11,479,551,082)	(20,216,410,647)
Dividends received	2,990,000,000	8,952,750,000	5,873,600,000
Income tax paid	(78,845,332,786)	(95,999,462,006)	(19,303,810,420)
Cash flows from investment activities	72,500,789,344	333,451,555,417	144,917,280,080

Transfer of business		71,472,753,210	380,919,480,691
Decrease in short-term financial assets	156,601,754,137		127,500,000
Decrease in security deposits	52,478,288	339,043,619	800,000,000
Decrease in short-term loans	350,000,000	300,000,000	
Recovery of long-term investment assets		25,000,000	
Decrease in long-term financial assets	5,000,000		
Disposal of tangible assets	1,306,234,469	2,447,014,817	47,436,177
Disposal of intangible assets	1,264,591,806	735,778,790	3,150,532,026
Government subsidies received		85,756,878	124,713,507
Disposal of subsidiaries' and joint ventures' investment shares	288,722,533	498,114,884,460	38,500
Increase in short-term financial assets		(65,382,558,834)	(142,288,023,478)
Increase in security deposits	(463,583,831)	(141,541,000)	(237,500,000)
Increase in short-term loans			(800,000,000)
Acquisition of long-term investment assets	(2,398,239,735)	(8,970,673,609)	(2,500,000,000)
Acquisition of tangible assets	(61,770,720,065)	(83,994,724,969)	(79,491,303,757)
Acquisition of tangible assets from capitalized borrowing cost	(363,198,742)	(943,630,987)	(1,341,008,513)
Disposal and dismantlement of tangible assets		(1,198,619,330)	
Acquisition of intangible assets	(8,934,629,516)	(5,598,777,628)	(1,916,946,173)
Decrease in cash due to split-off		(57,000,000,000)	
Acquisition of subsidiaries' and joint ventures' investment shares	(13,437,620,000)	(16,838,150,000)	(11,677,638,900)
Cash flows from financing activities	2,573,701,530	(232,034,724,175)	(382,124,004,526)
Net increase in foreign currency short-term borrowings	83,072,600,368		
Borrowing of short-term borrowings	205,000,000,000		115,000,000,000
Exercise of stock option	1,744,874,808	725,021,000	
Net decrease in foreign currency short-term borrowings		(31,636,902,688)	(21,478,169,612)
Repayment of short-term borrowings	(10,000,000,000)	(75,000,000,000)	(175,000,000,000)
Repayment of current portion of bonds payable	(160,000,000,000)	(85,000,000,000)	(146,000,000,000)
Repayment of current portion of long-term borrowings		(1,003,200,000)	(104,401,400,000)
Repayment of current portion of lease liabilities	(829,098,668)	(1,428,642,346)	(4,823,119,406)
Repayment of long-term borrowings		(9,375,000,000)	(30,625,000,000)
Acquisition of treasury stock	(49,982,601,978)	(3,167,742,641)	(4,434,905,808)
Payment of dividends	(66,432,073,000)	(26,148,257,500)	(6,006,549,700)
Cash outflow from the exercise of stock options			(4,354,860,000)
Net increase (decrease) in cash and cash equivalents	16,819,372,329	65,535,727,005	(117,816,512,794)
Cash and cash equivalents at beginning of period	102,201,908,694	36,666,181,689	154,482,694,483
Cash and cash equivalents at end of period	119,021,281,023	102,201,908,694	36,666,181,689

5. Notes to the Financial Statements

The 6th Period From January 1, 2022 to December 31, 2022

The 5th Period From January 1, 2021 to December 31, 2021

SK Chemicals Co., Ltd.

1. Overview of the Company

For the purpose of manufacturing and selling synthetic resins and related products, as well as the development, production and sales of pharmaceuticals and vaccines, SK Chemicals Co., Ltd. (hereinafter, the "Company") was established on December 1, 2017 via a split-off from SK Discovery Co., Ltd. (formerly, SK Chemicals Co., Ltd.). The Company re-listed its stock certificates on the Korea Exchange on January 5, 2018, and operates its Ulsan and Cheongju Plants with its head office located in Seongnam-si, Gyeonggi-do.

On May 1, 2018, the Company merged with SK Petrochemical Co., Ltd., a subsidiary in which it holds 100% of the stake, and on July 1, 2018, the date of split-off, established SK Bioscience Co., Ltd. for the development and production of vaccines through a physical split-off. Furthermore, the Company established SK Multi-Utility Co., Ltd. for the purpose of supplying utilities through a physical split-off on December 1, 2021, the date of split-off.

As of the end of the reporting period, the status of major shareholders (including preferred stocks) of the Company is as follows.

Name of shareholder	Common stocks		Preferred stocks	
	Number of shares held (stocks)	Equity interest (%)	Number of shares held (stocks)	Equity interest (%)
SK Discovery Co., Ltd.	7,056,899	40.90	-	-
SK Chemicals Co., Ltd. (Treasury shares)	30,857	0.18	148,133	7.00
Others	10,166,027	58.92	1,967,296	93.00
Total	17,253,783	100.00	2,115,429	100.00

The financial statements of the Company were approved by the board of directors on February 9, 2023, and the final approval is expected to be made at the general meeting of shareholders on March 28, 2023.

2. Significant accounting policies and standards for the preparation of financial statements

2-1 Preparation standards for the financial statements

The financial statements of the Company have been prepared in accordance with the Korean International Financial Reporting Standards (K-IFRS) enacted in accordance with the Act on External Audit of Stock Companies, Etc.

The financial statements are prepared on a historical cost basis, excluding the liabilities and equity interest's financial assets valued at fair value. The book amounts of the assets and liabilities designated as hedging targets for fair value hedging are not recorded at amortized cost, but are recorded by reflecting the changes in the fair value corresponding to the risks hedged within an effective hedging relationship. These financial statements are presented in the Korean won and are also expressed in the Korean won unless otherwise provided.

2-2 Subsidiaries, affiliates, and joint ventures

The Company's financial statements are separate financial statements prepared in accordance with Corporate Accounting Standard No. 1027, and the investment assets of subsidiaries, affiliates and joint ventures are presented as accounting practiced based on direct equity investment rather than based on the reported performance and net assets of the investee. The Company selected the cost method in accordance with Corporate Accounting Standard No. 1027 for accounting for the investments in subsidiaries, affiliates and joint ventures. However, as for all investments in subsidiaries, affiliates and joint ventures, Corporate Accounting Standard No. 1101 (first adoption of the K-IFRS) was applied and the book amount according to the previous accounting standards on the date of transition to the K-IFRS was used for the deemed cost, and the cost method was applied. Meanwhile, the dividends received from subsidiaries, affiliates and joint ventures are recognized as profit or loss when the right to receive dividends is confirmed.

2-3 Foreign currency translation

The Company presents its financial statements in the Korean won, the Company's functional currency.

1) Transactions and balance

In preparing the financial statements of the Company, the transactions conducted in a currency other than the functional currency are recorded using the exchange rate on the date of transaction, and the monetary assets and liabilities denominated in foreign currencies are translated at the exchange rate of the functional currency as of the end of the reporting period. The translation differences arising therefrom are reflected in the profit or loss.

Meanwhile, the foreign currency denominated non-monetary items measured at the historical cost are recognized by applying the exchange rate on the date of the initial transaction, and the foreign currency denominated non-monetary items measured at fair value are recognized by applying the exchange rate on the date of fair value measurement. Profits or losses arising from the translation of non-monetary items are recognized as other comprehensive income or profit or loss in the same manner as the profits or losses arising from the changes in the fair value of the items.

The date of the transaction intended for determining the exchange rate to use for the initial recognition of the related assets, expenses or income (or any portion thereof) is the date on which the Company first recognizes the non-monetary assets or non-monetary liabilities based on the advance payment or receipt of consideration. Where multiple advance payments or receipts are made, the Company determines the date of the transaction for the advance payment or receipt of consideration each.

2-4 Profits from the contracts with customers

The Company operates the two business divisions of Green Chemicals and Life Science. The Green Chemicals Business Division produces and sells the PET resins, highly functional PETG resins, industrial adhesives, etc., while the Life Science Business Division is engaged in the pharmaceutical business. For contracts with its customers, when control over a good or service transfers to the customer, the Company recognizes revenue at an amount reflective of the consideration to

which it expects to be entitled in consideration for that good or service. The Company has reached the conclusion for itself since it controls each of the goods or services specified under the contracts with the customers before the goods or services are provided to the customers.

(1) Sales of goods

The sales profits of goods are generally recognized upon the delivery of the goods, where the control of the assets is transferred to the customers. The typical recovery period for receivables is 30 to 90 days after delivery. The Company shall consider whether other promises under the contracts are separate performance obligations for which a part of the consideration for the transaction must be allocated. In calculating the transaction price for the sales of goods, the Company considers variable consideration, significant financing factors, non-cash consideration and the consideration payable to the customers.

① Variable consideration

As for the contract for supplying goods to its customers, the Company may have the consideration received or to be received from the customers changed since it provides discounts and incentives for the purpose of increasing the customers' sales or allows for returns of goods. If the contract includes variable consideration, the Company estimates the amount it will receive in consideration for transferring the promised goods to the customer. When the uncertainties associated with the variable consideration are later addressed, the variable consideration is estimated at the point of commencement of the contract and is included in the transaction price only to the extent that it is highly probable that a significant portion of the amount of accumulated profits recognized will not be returned. Some contracts provide the customers with the right to return goods and quantity rebates. The right to return goods and quantity rebates are equivalent to the variable consideration.

- Right to return

Certain contracts provide the customers with the right to return goods within a certain period. As a method of estimating goods which will not be returned, the Company uses the expected values which are expected to better predict the consideration to which it will be entitled. Among the requirements of Corporate Accounting Standard No. 1115, the restrictions on the estimation of variable consideration are also applied even when the amount of variable consideration included in the transaction price is determined. The Company recognizes the goods which are expected to be returned, not as profits, but as the refund liabilities. The right to the returned goods and the corresponding adjustment for the cost of goods sold are recognized.

- Quantity rebate

The Company provides a quantity rebate to a specific customer retroactively for the previous purchase quantity if the purchase exceeds the contractual limit. The rebate is deducted from the amount payable by the customer. To estimate the variable consideration for the rebate expected in the future, the Company applies the most probable method for contracts with only one quantity criterion and the expected value method for the contracts with multiple quantity criteria. The Company considers the number of quantity criteria under the contract as a key factor in selecting the method which best predicts the variable consideration. The Company recognizes the refund liabilities for the anticipated future rebates by applying the requirements for the variable consideration's constraints.

② Significant financial elements

By applying the practical expedient method of Corporate Accounting Standard No. 1115, the Company, when commencing the contract, does not reflect the effect of a significant financing component on the promised consideration (amount) if the period between the point of transferring the promised goods or services to the customer and the point of paying the consideration thereto is expected to be 1 year or less.

(2) Contract balance

① Contract assets

A contract asset is the right to receive consideration for the goods or services transferred to a customer. If the Company transfers goods or services to a customer before the customer pays the consideration or before the date on which payment is due, the asset which is the company's right to take consideration and whose right is subject to conditions other than the lapse of time is a contract asset. Impairment is assessed for the contract assets.

② Trade receivables

A receivable is recognized when an amount of unconditional consideration is due for payment by and from the customer (that is, where only the lapse of time is required before the consideration is paid upon maturity). For the financial assets related accounting policies, refer to Note 2-8.

③ Contract liabilities

A contract liability is a company's obligation to transfer goods or services to a customer equivalent to the consideration which the Company has already taken from the customer (or the consideration for which the payment is due). If the customer pays the consideration before the Company transfers goods or services to the customer, the contract liabilities are recognized when it is paid or when it is due, whichever is earlier. The contract liabilities are recognized as profits when the Company carries out its performance obligations pursuant to the contract.

(3) Assets and liabilities arising from the right to return

① Right to recover the returned product

The right to recover the returned product is the Company's right to recover a product which the customer is expected to return. The assets are measured at the existing book amount of inventories minus the expected cost of recovering the products and any potential reduction in the value of the products returned.

② Refund liabilities

A refund liability is an obligation to return a portion or all of the consideration received or receivable from the customer. It is measured as the amount the Company expects to ultimately refund to the customer. The Company updates the estimates of refund liabilities and changes in the transaction price accordingly at the end of each fiscal period. For the variable consideration, refer to the accounting policies above.

Refer to Note 3 for the disclosures on significant judgments, estimates and assumptions related to the profits from contracts with the customers.

2-5 Government subsidies

Government subsidies are recognized if and when there is a reasonable assurance of the receipt of the subsidies and the fulfillment of ancillary conditions therefor. Profit-related subsidies are recognized as profits in line with a systematic standard over the period needed to match the costs associated with the subsidies intended to cover, while the assets related subsidies are recognized as deferred revenue, and the same amount is recognized as the revenue each year over the useful life of the related assets.

When non-monetary assets are received as the subsidies, the Company records the assets and subsidies in nominal amounts and recognizes them as revenue in the statement of income on a straight-line basis over the estimated useful lives of the related assets. When a loan or similar aid is provided and received at an interest rate lower than the market rate, the benefit from the lower interest rate is recognized as an additional government subsidy.

2-6 Corporate tax

(1) Current income tax

The current tax liabilities (assets) for the current and previous periods are measured at the amount expected to be paid to (refunded by and from) the tax authorities using the tax rates and tax laws enacted or substantively enacted by the end of the current period.

The current income tax related to the items directly reflected in equity are reflected in equity, and are not reflected in the statements of income. The senior management regularly assesses the recoverability of the amount of corporate tax refund in connection with the interpretation of relevant tax laws and establishes provisioning liabilities as needed.

(2) Deferred income tax

For the purpose of financial reporting of the assets and liabilities, the Company recognizes the deferred income tax assets and deferred income tax liabilities for temporary differences, which are the differences between the book amount and the tax reference amount.

The Company recognizes the deferred income tax liabilities for all taxable temporary differences, except under the following circumstances:

- Where deferred income tax liabilities arise when the goodwill is initially recognized
- Where deferred income tax liabilities arise from transactions which do not affect the accounting profits or taxable income at the time of the transaction, not a business combination transaction in which assets or liabilities are initially recognized
- Where it is highly probable that the temporary differences will not be extinct in the foreseeable future as they are taxable temporary differences in connection with the investment interest in subsidiaries, affiliates and joint ventures, and where the point in time of the extinction of the temporary difference may be controlled

Furthermore, deferred income tax assets are recognized when it is highly probable that the taxable income can be used for deductible temporary differences and unused tax credits and tax losses, except in the following cases:

- Where deferred income tax assets arise from transactions which do not affect the accounting profits or taxable income at the time of the transaction, not a business combination transaction in which assets or liabilities are initially recognized
- Where deductible temporary differences exist in connection with the investment interest in subsidiaries, affiliates and joint ventures, and where it is not highly probable that the temporary differences will be extinct in the foreseeable future, or where it is not probable that the taxable income for which the temporary difference can be used will arise

The book amount of the deferred income tax assets is reviewed at the end of each reporting period, and if it is no longer probable that a sufficient taxable income will be available to use the benefits of some or all of the deferred income tax

assets, the book amount of the deferred income tax assets is reduced. Meanwhile, the reduced amount is reversed to the extent that it is highly likely that a sufficient taxable income will be generated for use. Furthermore, at the end of each reporting period, the unrecognized deferred income tax assets are reviewed, and the previously unrecognized deferred income tax assets are recognized to the extent that it is highly probable that the deferred income tax assets will be recovered based on the future taxable income.

The deferred income tax assets and liabilities are measured using the tax rates expected to be applied for the fiscal period in which the assets are realized or liabilities are settled based on the tax rates (and the tax laws) enacted or substantively enacted by the end of the reporting period.

The current and deferred tax related to the items recognized other than the profit or loss are recognized as items other than profit or loss. The deferred tax items are recognized as other comprehensive income or reflected directly in equity depending on the relevant transaction.

If the tax benefits acquired as a part of a business combination did not satisfy the separate recognition criteria at the relevant point in time, yet were recognized during the measurement period as a result of new information on the facts and circumstances existing on the date of acquisition, the relevant deferred tax benefits are recognized. The recognized acquired deferred tax benefits are applied to reduce the book amount of the goodwill related to the acquisition, and if the book amount of the goodwill is zero, the remaining deferred tax benefits are recognized as profit or loss.

The Company is entitled to legally enforce the offset of the current tax assets and current tax liabilities, and if the taxable companies are the same, or if the taxable companies are different yet there is an intention to settle the current tax liabilities and assets in a net amount, or if there is an intention to settle the liabilities at the same time as realizing the assets for each fiscal period in the future where the deferred income tax liabilities are settled or the deferred income tax assets are recovered in a significant amount, the deferred income tax assets and deferred income tax liabilities are appropriated and presented only if and when the deferred income tax assets and deferred income tax liabilities are related to the same tax authority.

(3) Sales tax

Revenue, expenses and assets are recognized as the net amount minus applicable sales tax. However, if the sales tax related to the purchase of an asset or service cannot be refunded by and from the tax authorities, it is recognized as part of the acquisition cost or part of the expense item, and the relevant receivables and liabilities are presented as the amount including the sales tax.

The net amount of the sales tax to be refunded by or payable to the tax authority is included in the receivables or liabilities in the statement of financial position.

2-7 Retirement benefits

The Company operates a defined benefit retirement pension plan, and the benefit cost of the defined benefit plan is determined using the projected unit credit method. The actuarial profits and losses, revenue from the plan assets excluding the amount included in the net interest, and the rereasurement elements consisting of changes in the effect of the ceiling on asset recognition excluding the amount included in the net interest are recognized as other comprehensive income immediately when incurred and are not subsequently reclassified as profit or loss.

The past service cost is recognized as an expense based whichever is the earlier of the following:

- When the plan is revised or reduced
- When the relevant restructuring costs or termination benefits are recognized

The net interest is determined by multiplying the net defined benefit liabilities (assets) by the discount rate. The Company

recognizes the service cost and the net interest on the net defined benefit liabilities as profit or loss for the items of the cost of goods sold and the selling, general and administrative expenses.

Meanwhile, the Company operates a defined contribution plan for some of the executives and employees, and the contribution is recognized as an expense when the executives and employees provide service at work. In the current period, the cost recognized in the profit and loss related to the defined contribution plan is KRW 523,321,000 (previous period: KRW 1,310,539,000).

2-8 Financial instruments: initial recognition and subsequent measurement

A financial instrument is any contract which creates a financial asset for one of the parties to a transaction and a financial liability or equity instrument for the other party to the transaction.

(1) Financial assets

1) Initial recognition and measurement

Financial assets are classified into financial assets measured at amortized cost upon initial recognition, financial assets measured at fair value through other comprehensive income, and financial assets measured at fair value through profit or loss.

The classification of financial assets upon initial recognition varies depending on the contractual cash flows' characteristics of the financial assets and the business model of the Company for managing the financial assets. Excluding the trade and other receivables which do not contain a significant financial element or for which the practical expedient method is applied, the Company initially measures the financial assets at fair value, and unless they are not the financial assets measured at fair value through profit or loss, they add or subtract the transaction cost. Trade and other receivables, which do not include a significant financing element or for which the practical expedient method is not applied, are measured at the transaction cost determined in accordance with Corporate Accounting Standard No. 1115.

To measure the financial assets at amortized cost or fair value through other comprehensive income, the cash flows must consist of solely payments of principal and interest (SPPI). This assessment is called the SPPI test and is performed at the level of the individual instrument. Please refer to Note 2-4 on the accounting policy for revenue.

The Company's business model for the management of financial assets relates to the management of financial assets intended to generate cash flows. The business model determines whether the source of cash flows is the receipt or sale of the contractual cash flows of the financial assets, or whether it is both.

The purchase or sale of financial assets (standardized transaction) in which the financial assets are required to be transferred within a time frame established by market agreement or regulation is recognized on the date of transaction. That is, it is recognized on the date on which the Company agrees to purchase or sell the financial assets.

2) Subsequent measurements

For the subsequent measurements, the financial assets are classified into the following four categories:

- Financial assets measured at amortized cost (debt instruments)

- Financial assets measured at fair value through other comprehensive income (debt instruments) which recirculate the accumulated profit or loss as profit or loss
- Financial assets measured at fair value through other comprehensive income (equity instruments) which do not recirculate the accumulated profit or loss as profit or loss
- Financial assets measured at fair value through profit or loss

① Financial assets measured at amortized cost (debt instruments)

The Company measures the financial assets at amortized cost if and when all of the following terms and conditions are satisfied.

- Financial assets are held under a business model whose purpose is to receive contractual cash flows, and
- According to the contractual terms of financial assets, cash flows are generated and which consist only of principal and interest payments on the principal balance on a specific date.

The financial assets measured at amortized cost are subsequently measured using the effective interest rate (EIR) method, and the impairment is recognized. The profits and losses arising from the derecognition, change or impairment of assets are recognized as profit or loss.

② Financial assets measured at fair value through other comprehensive income (debt instruments)

The Company measures the debt instruments which satisfy all of the following terms and conditions as financial assets at fair value through other comprehensive income.

- Financial assets are held under a business model which achieves purposes through both the receipt of contractual cash flows and the sale of financial assets, and
- According to the contractual terms and conditions of financial assets, cash flows consist only of principal and interest payments which are generated on a specific date.

For the debt instruments measured at fair value through other comprehensive income, the interest income, foreign currency translation profits and losses, and impairment or reversal are calculated in the same manner as financial assets measured at amortized cost and are recognized as profit or loss. The rest of the changes in fair value are recognized as other comprehensive income. When the financial assets are derecognized, the accumulated change in fair value recognized as other comprehensive income is recirculated as profit or loss.

③ Financial assets measured at fair value through other comprehensive income (equity instruments)

Upon the initial recognition, the Company can make an irrevocable selection to measure the equity instruments which satisfy the definition of equity under Corporate Accounting Standard No. 1032 'Presentation of Financial Instruments' and which are not held for investment purposes at fair value through other comprehensive income.

The profits and losses arising from such financial assets are not recirculated as profit or loss. Dividends are recognized in the statement of income as other income and accounted for as other comprehensive income when the entitlement is confirmed, except when the Company gains profits by recovering a portion of the cost of the financial assets. No impairment is recognized for the equity instruments measured at fair value through other comprehensive income.

The Company can also make irrevocable selections for the unlisted equity instruments.

④ Financial assets measured at fair value through profit or loss

Financial assets measured at fair value through profit or loss include trading items, financial assets designated for measurement at fair value through profit or loss upon initial recognition, or financial assets required to be measured at fair value. Financial assets acquired for the purpose of sale or repurchase within a short period are classified as the trading items. Derivatives, including separated embedded derivatives, are classified as the trading items unless they are designated as effective hedging instruments. The financial assets whose cash flow do not consist only of the payment of principal and interest are classified and measured as financial assets measured at fair value through profit or loss, regardless of the business model. As described in the paragraph above, notwithstanding the fact that the debt instruments are classified as financial assets measured at amortized cost or fair value, if the accounting mismatch can be derecognized or significantly reduced, the debt instruments may be designated to be measured at fair value through profit or loss.

The financial assets measured at fair value through profit or loss are presented at fair value in the statement of financial position, and the net changes in fair value are recognized as profit or loss in the statement of income.

This category includes the derivatives and the traded equity instruments for which no irrevocable selection was made to account for the changes in fair value as other comprehensive income. The dividends for the traded equity instruments are recognized as profit or loss when the rights are confirmed.

As for the derivatives embedded in hybrid contracts, the economic characteristics and risks are not closely related to the main contract, and the separate instruments with the same conditions as the embedded derivative satisfy the definition of derivative, and if the hybrid contract is not measured at fair value through profit or loss, it is accounted for as derivative as a separate derivative from

the main contract. The embedded derivatives are measured at fair value, and the changes in fair value are recognized as profit or loss. A reevaluation occurs only when and if there is a change in the terms and conditions of the contract which significantly changes the cash flows, or if it becomes not applicable for the category of fair value measurement through profit or loss.

In hybrid contracts for which the main contract is a financial asset, embedded derivatives are not accounted for separately. The financial assets and embedded derivatives, which are the main contracts, are classified as financial assets measured at fair value through profit or loss.

3) Derecognition

A financial asset (or a portion of a financial asset or of a group of similar financial assets) is derecognized with priority under the following circumstances:

- The right to receive cash flows from financial assets is extinct, or
- The Company has the obligation to transfer the right to receive cash flows of financial assets or pay the entire cash flows received under a pass-through contract to a third party without a material delay. In such an event, the Company neither transfers substantially most of the risks and rewards of holding the financial assets, nor transfers or holds most of the risks and rewards of holding the financial assets, yet transfers the control over the assets

When the Company transfers the right to receive cash flows from a financial asset or executes a pass-through contract, they assess whether they maintain the risks and rewards of owning the assets. If the Company has neither held nor transferred most of the risks and rewards of a financial asset, it would continue to recognize the financial asset to the extent that it continues to be involved with it. In such an event, the Company recognizes the relevant liabilities. The liabilities related to the transferred assets are measured by reflecting the rights and obligations of the Company.

The continuous involvement, which takes the form of providing guarantees, is measured either as the book amount of the assets transferred or the largest amount which may be required for repayment among the considerations received, whichever is the lesser.

4) Impairment of financial assets

The detailed disclosures made in connection with the impairment of financial assets are provided in the notes below.

- Disclosures on the significant assumptions- Note 3
- Trade receivables including contract assets - Note 5

The Company recognizes the allowance for expected credit loss (ECL) for all debt instruments, except for the items measured at fair value through profit or loss. The expected credit loss is estimated by discounting the differences between the cash flows agreed to be received under contract and all cash flows expected to be received by the Company, discounted at the initial effective interest rate. The expected cash flows include the cash flows from the disposal of collateral held or from other credit enhancements which are among the essential terms and conditions of the contract.

The expected credit loss is recognized in two stages. For credit exposures with no significant increase in the credit risk since the initial recognition, the expected credit loss reflects the credit losses (expected credit loss for 12 months) arising from any events of default likely to occur within the next 12 months. For credit exposures with a significant increase in the credit risk after the initial recognition, the loss allowance is required to measure the expected credit loss over the remainder of the surviving period for the exposure regardless of when an event of default occurs (expected credit loss over the entire period).

For the trade and other receivables and contract assets, the Company may apply the simplified method for the calculation of the expected credit loss. Thus, in lieu of tracking changes in the credit risk, the Company recognizes the loss allowance on each date of settlement as an amount equivalent to the expected credit loss over the entire period. The Company places a

provisioning rate table based on the past credit loss experiences adjusted to reflect the future prospects for specific debtors and economic environments.

For the debt instruments measured at fair value through other comprehensive income, the Company applies the low credit risk expedient method. On each date of settlement, the Company assesses whether a debt instrument is considered to have a low credit risk using all reasonable and supportable information available without undue cost or effort. For such assessment, the Company re-evaluates the internal credit ratings of the relevant debt instrument. Furthermore, the Company considers whether there is a significant increase in the credit risk when the contractual payment exceeds 30 days.

If the Company's debt instruments measured at fair value through other comprehensive income consist only of the traded bonds with the highest investment rating, they are considered to be low-credit risk investment assets. The Company's policy is to measure such instruments at the 12-month expected credit loss. However, if there is a significant increase in the credit risk after the initial recognition, the loss allowance is calculated based on the expected credit loss over the entire period. The Company uses the ratings of credit rating agencies to determine whether the credit risk of debt instruments has significantly increased and measure the expected credit loss.

The Company considers it a default if any contractual payment is overdue for over 90 days. However, under certain circumstances, the Company may consider that an event of default has occurred against financial assets if and when internal or external information indicates that the Company will not be able to receive the principal in full under contract until all credit enhancements by the Company are considered. A financial asset is derecognized if and when there is no reasonable expectation of recovering the cash flows under contract.

(2) Financial liabilities

1) Initial recognition and measurement

Upon the initial recognition, financial liabilities are appropriately classified as financial liabilities measured at fair value through profit or loss, loans and borrowings, and the accounts payable or derivative instruments are designated as effective hedging instruments.

All financial liabilities are initially recognized at fair value, and the directly related transaction costs are deducted for loans, borrowings and payables.

The Company's financial liabilities include the trade payables and other accounts payable, loans and borrowings including overdrafts and the derivatives liabilities.

2) Subsequent measurements

The measurement of financial liabilities is governed by the classifications mentioned below.

① Financial liabilities measured at fair value through profit or loss

Financial liabilities measured at fair value through profit or loss include the trading financial liabilities and the financial liabilities designated to be measured at fair value through profit or loss upon the initial recognition.

The financial liabilities are classified as trading items if they are repurchased within a short period. This category also includes the derivatives which are not designated as hedging instruments in a hedging relationship as defined in Corporate Accounting Standard No. 1109. Furthermore, the separated embedded derivatives are classified as trading items unless they are designated as effective hedging instruments.

Profits or losses on financial liabilities, which are trading items, are recognized as profit or loss.

The financial liabilities designated as items measured at fair value through profit or loss are designated only upon the initial recognition if the criteria provided under Corporate Accounting Standard No.1109 are satisfied. The Company has not designated any financial liabilities interest bearing loans fair value through profit or loss.

② Loans and borrowings

After the initial recognition, interest bearing loans and borrowings are subsequently measured at amortized cost using the effective interest method. Any profits or losses arising from the derecognition of a liability or from the effective interest rate amortization procedures is recognized as net profit or loss.

The amortized cost is calculated by taking into account any discounts or premiums for the fees or costs which form an essential part of the effective interest rate.

This category is generally applied for interest bearing loans or borrowings.

3) Derecognition of financial liabilities

Financial liabilities are derecognized if and when the payment obligations are fulfilled, canceled or expired. If and where an existing financial liability is exchanged for a financial liability with the same borrower yet under substantially different terms and conditions, or where the terms and conditions of the existing liability are materially changed, such exchange or change causes the derecognition of the initial liability and the recognition of the new liability. Each difference between the book amounts is recognized as profit or loss.

(3) Offset of financial assets and financial liabilities

Financial assets and financial liabilities are appropriated and presented as the net amount in the statement of financial position if and when one currently has a legally enforceable right to offset against the recognized assets and liabilities, or has the intent to settle the difference or realize the assets while settling the liabilities.

2-9 Measurement of fair value

The Company assesses the financial instruments such as derivatives at fair value as of the end of the reporting period. Disclosures made on the fair value of financial instruments measured at fair value or for which fair value is disclosed are provided under Note 35.

Fair value is the price which would be received in selling an asset or paid to transfer a liability in a normal transaction by and between the market participants on the date of measurement. The fair value measurement assumes that a transaction of selling an asset or transferring a liability takes place in one of the following markets:

- Primary market for assets or liabilities
- The most advantageous market only when there is no primary market for the assets or liabilities

The Company must be able to access the primary (or the most advantageous) market.

The fair value of an asset or liability is measured based on the assumptions which the market participants use when determining the price for the asset or liability under the assumption that the market participants act to the best of their ability and in their economic interest.

When measuring the fair value of a non-financial asset, the ability of the market participant who sells the asset to another market participant who has best used or who will best use the asset to create economic benefits is considered.

The Company uses the valuation techniques which are appropriate for the given circumstances and for which adequate data are available to measure the fair value while maximizing the use of relevant observable input variables and minimizing the use of unobservable input variables.

All assets and liabilities measured or disclosed at fair value in the financial statements are classified into the following fair value hierarchy based on the lowest level of input variables which are significant for fair value measurement.

- Level 1 - Quoted (unadjusted) price in an accessible and active market for the same asset or liability
- Level 2 - Fair value using an input variable for which the input variable of the lowest level significant for the fair value measurement is directly or indirectly observable
- Level 3 - Fair value using the unobservable input variable of the lowest level significant for the fair value measurement

Regarding the assets and liabilities which are repeatedly measured at fair value in the financial statements, at the end of each reporting period, the Company determines whether there is any movement between the levels of the hierarchy by undertaking a reevaluation of the classification based on the input variable of the lowest level significant for the fair value measurement.

For the fair value's disclosure purposes, the Company determines the classification of assets and liabilities and the levels of the fair value hierarchy based on their nature, characteristics, and their risks.

2-10 Financial derivatives

(1) Initial recognition and subsequent measurement

The Company uses the derivatives such as currency futures contracts and commodity forward contracts to hedge the foreign exchange risk, interest rate risk, and the commodity price risk, and such derivatives are initially recognized at fair value on the date of contract execution, and thereafter, are subsequently remeasured at fair value. Derivatives are appropriated as financial assets if their fair value is positive, and as financial liabilities if their fair value is negative, and they are subsequently remeasured. Meanwhile, any changes in the fair value of derivatives are directly reflected in the statement of comprehensive income, and the effective portion of the cash flow hedging is reflected in other comprehensive income.

For hedge accounting, hedging is classified as follows.

- Fair value hedging: hedging against changes in the fair value of recognized assets and liabilities and unrecognized firm contracts
- Cash flow hedging: hedging against changes in the cash flows arising from the foreign currency risk of recognized assets and liabilities, highly probable expected transactions, or unrecognized firm contracts

Upon the commencement of the hedging relationship, the Company formally designates and documents the hedging relationship for which it seeks to apply hedging accounting, the risk management objectives and hedging strategies.

The documentation includes the hedging instruments, the hedged items, the nature of the hedged risks, and the method of assessing whether the hedging relationship satisfies the provisions for hedging effectiveness (including the analysis of the cause of hedging ineffectiveness and the method of determining the hedging ratio). The hedging relationship shall satisfy all of the following provisions related to hedging effectiveness.

- There is an 'economic relationship' between the hedged items and the hedging instruments.

- The effect of credit risk does not account for 'most of the changes in value' resulting from the economic relationship between the hedged items and the hedging instruments.

- The hedging ratio for a hedging relationship is the ratio of the number of hedged items which a company actually hedges and the number of hedging instruments the company actually uses to hedge the risk of the number of the hedged items.

The hedging practices satisfying all of the criteria for hedge accounting are accounted for as follows.

- Fair value hedging

Changes in the fair value of the hedging instruments are recognized as profit or loss. Changes in the fair value of the hedged items attributable to the hedged risks are included in the hedged items' book amounts and recognized as profit or loss.

The book amounts' adjustments for fair value hedging of the items measured at amortized cost are amortized using the effective interest method over the surviving period of the hedging. Amortization at the effective interest rate can begin immediately after the adjustment is made, and at the latest, must begin before the adjustment of the hedged items for hedging profits or losses is discontinued.

When the hedged items are derecognized, the unamortized fair value is immediately derecognized and recognized as profit or loss.

If an unrecognized firm contract is designated as a hedged item, the cumulative change in the fair value of the firm contract attributable to the hedged risk is recognized as an asset or liability, and the corresponding profit or loss thereto is recognized as profit or loss.

- Cash flow hedging

The effective portion of profit or loss from hedging instruments is recognized as other comprehensive income within the cash flow hedge reserves, and the ineffective portion is recognized immediately as profit or loss. The cash flow hedge reserves are adjusted to the accumulated profit or loss of hedging instruments and the accumulated fair value change of the hedged items, whichever is the smaller.

The Company may hedge based on currency forward contracts against exposure to foreign currency risks in future prospective transactions or firm contracts, and the forward contracts against the commodity prices' volatility. The ineffective portion related to the currency forward contracts is recognized as other expenses, and the ineffective portion related to the forward commodity contracts is recognized as other operating income or other operating expenses. For more details, please refer to Note 23.

The amount accumulated for other comprehensive income (cash flow hedge reserves) is accounted for in line with the characteristics of the hedging transactions. If the hedged transactions subsequently recognize a non-financial item, the cash flow hedge reserves are derecognized and included for the amount of the relevant asset or liability initially recognized. This is not a reclassification adjustment and does not affect other comprehensive income. This is also applied if and when the hedged transaction for a non-financial asset or non-financial liability becomes a firm contract for which fair value hedge accounting is subsequently applied.

With regard to the cash flow hedging, the cash flow hedge reserves are reclassified as profit or loss during the period in which the hedged cash flows affect the profit or loss.

If cash flow hedge accounting is discontinued, the cash flow hedge reserves are retained as other comprehensive income if and when the hedged expected cash flows are still expected to be generated. Otherwise, the cash flow hedge reserves are accounted for immediately as profit or loss based on the reclassification adjustment. If the hedged expected cash flows are generated following the discontinuation, the cash flow hedge reserves ought to be accounted for in line with the nature of the underlying transactions as explained in the above.

2-11 Cash and cash equivalents

The cash and cash equivalents in the statement of financial position consist of savings accounts, small amounts of cash, and short-term deposits with maturities of 3 months or less at the time of acquisition.

2-12 Inventories

The Company assesses the inventories at the acquisition cost or the net realizable value, whichever is the less of the two, and the acquisition cost for each inventory asset includes the purchase cost, conversion cost, and the other costs incurred in bringing the inventory asset to its present location and condition. The unit cost of inventories is determined using the moving average method.

2-13 Tangible assets

Construction in progress is the balance of acquisition cost minus the accumulated impairment losses, and the tangible assets are presented as the balance of acquisition cost minus the accumulated depreciation and accumulated impairment losses. Such costs include the replacement costs satisfying the recognition criteria of assets and the borrowing costs for the long-term construction projects. Where a major part of tangible assets needs to be replaced regularly, the Company recognizes the relevant part as an individual asset and depreciates it over the relevant useful life. Furthermore, if an asset satisfies the recognition criteria such as the comprehensive testing cost, it is included among the book amount for tangible assets, and all repair and maintenance costs are reflected in the profit or loss when incurred. In the cost estimated as required to remove, dismantle, or restore the site for the restoration of tangible assets to their original condition after their economic use has expired, the present value of the relevant expenditures is included in the acquisition cost of the tangible assets.

Meanwhile, the depreciation for tangible assets is appropriated using the straight-line method in line with the economic useful lives of each asset below.

Classification	Useful life
Building	40 years
Structure	40 years
Mechanical equipment	10 - 15 years
Vehicles and transport equipment	5 years
Other tangible assets	5 years

The tangible assets are derecognized upon disposal or when no future economic benefits are expected through their use or disposal, and the resulting difference between the net sales amount and the book amount is reflected in the profit or loss at the time of derecognition.

At the end of each reporting period, the Company reviews the adequacy of the estimated residual value, estimated useful life, and the depreciation method for tangible assets, and where any changes are needed, applies them in a forward-looking manner, and at this time, the impacts of health, safety and environmental laws and regulations are reviewed.

2-14 Borrowing cost

Borrowing costs directly related to the acquisition, construction or production of an asset which requires a significant period to be used for the intended use or ready for sale are capitalized as part of the cost of the relevant asset. Other borrowing costs are appropriated as expenses when incurred. The borrowing costs consist of the interests incurred in connection with the borrowing of funds and the other costs.

2-15 Investment real estate properties

Investment real estate properties are measured at acquisition cost plus the relevant transaction costs, and include the replacement cost that meets the recognition criteria for the assets when incurred. However, costs incurred in day-to-day management activities are recognized as expenses when they are incurred. Following the initial recognition, the investment real estate properties are presented as the balance of the acquisition cost minus the accumulated depreciation and the accumulated impairment losses.

When it is expected that the future economic benefits can no longer be profited from the disposal or use of investment real estate properties, the Company derecognizes them from the consolidated financial statements, and the resulting difference between the net amount of disposal and the book amount is reflected in the profit or loss when derecognized. The consideration (amount) to be included in the profit or loss arising from the derecognition of investment real estate properties is calculated in accordance with the requirements on the calculation of transaction price as provided under Corporate Accounting Standard No. 1115.

In addition, if and only if the purpose of use of the relevant asset is changed, it is transferred from the investment real estate properties to another account or from another account to the investment real estate properties. When it is transferred from the investment real estate properties to tangible assets, the fair value at the point where the purposes of use are changed is applied as the deemed cost. Furthermore, when the tangible assets are replaced with investment real estate properties, the relevant real estate properties are accounted for in the same manner as the tangible assets until the purposes of use are changed.

2-16 Lease

At the point of a contractual commitment, the consolidated companies determine whether the contract itself is a lease or includes a lease

by considering whether the contract transfers control over the use of the identified asset for a certain period in exchange for consideration under contract.

(1) Accounting as lessee

The Company applies the single recognition and measurement approach for all leases, with the exception of short-term leases and leases for the underlying assets of small amounts. The Company recognizes a lease liability presenting an obligation to make lease payments and the right-to-use assets presenting the right to use the underlying assets.

1) Right-to-use assets

The Company recognizes the right-to-use assets on the date of commencement of the lease (that is, when the underlying assets are available for use). The right-of-use assets are measured at cost, and a cost model was applied for the subsequent measurements made. To apply the cost model, the accumulated depreciation and accumulated impairment losses are deducted, and the adjustments following the remeasurement of lease liabilities are reflected. The cost of the right-to-use asset includes the amount of the recognized lease liability, initial direct cost, and the lease payments made on or before the date of commencement of the lease minus any lease incentives received. The right-to-use assets are depreciated on a straight-line basis over the lease term or the estimated useful lives of the assets, whichever is the shorter.

If the ownership to the underlying assets transfers to the Company at the end of the lease term, or if the cost of the right-to-use assets reflects the fact that the Company will exercise the purchase option, the depreciation is calculated using the estimated useful lives of the assets' underlying assets.

The right-to-use assets are also subject to impairment, and are explained under Note 2-20 concerning the accounting policy on the impairment of non-financial assets.

2) Lease liabilities

On the date of commencement of the lease, the Company measures the lease liability at the present value of the lease payments to be paid over the lease term. The lease payments consist of fixed lease payments (including the actual fixed lease payments minus the lease incentives to be received), variable lease payments that depend on an index or rate, and the amount expected to be paid under the residual value guarantee. Lease payments also include the exercise price of the purchase option if it is reasonably certain that the Company will exercise the purchase option and the amount they would pay to terminate the lease if the lease term reflects the Company's exercise of the termination option.

Variable lease payments other than those that depend on an index or rate are recognized as expenses for the period in which the event or condition giving rise to the lease payment occurs unless it is incurred to produce inventories.

When calculating the present value of lease payments, the Company uses the incremental borrowing rate on the date of commencement of the lease since the implied interest rate of the lease cannot be calculated with ease. After the date of commencement of the lease, the amount of the lease liability increases by reflecting the interest and decreases by reflecting the lease payments made. Furthermore, the book amount of the lease liability is remeasured if there is any change in the lease term, change in the lease payments (for example, changes in future lease payments resulting from changes in the index or rate used to calculate the lease payments) or change in the assessment of options to purchase the underlying assets.

3) Short-term leases and the asset leases of small amount

The Company applies the provisions on recognition exemption for short-term leases of machinery and equipment (that is, such leases operate on a lease term of 12 months or less from the date of commencement and do not include a purchase option). Furthermore, the Company applies the recognition exemption for the leases of assets of small amounts for the leases of office supplies that are considered the assets of small amounts. Lease payments for the short-term leases and leases of assets of small amounts are recognized as expenses on a straight-line basis over the lease term.

(2) Accounting as lessor

The Company classifies the leases which do not substantially transfer all of the risks and rewards of ownership of the underlying asset as the operating leases. The revenue from lease payments is recognized on a straight-line basis over the lease term and is included in the sales in the income statement depending on the nature of the business. The direct cost of establishing an operating lease is added to the book amount of the underlying assets and recognized as an expense over the lease term on the same basis as the lease payment income. Conditional rent payments are recognized as sales when the rent payment is received.

2-17 Classification of liquidity and illiquidity

The Company presents assets and liabilities separately in the statement of financial position as current and non-current.

Assets are classified as current assets where any of the following apply.

- Where the asset is expected to be realized within the normal operating cycle, or intended to be sold or consumed within the normal operating cycle
- Where the asset is primarily held for trading purposes
- Where the asset is expected to be realized within 12 months after the reporting period
- Where, as cash or cash equivalents, the period of restriction on the use of the asset for exchange or debt repayment purposes is not more than 12 months after the reporting period

Any and all other assets are classified as the non-current assets.

Liabilities are classified as current liabilities where any of the following apply.

- Where it is expected that payment will be made within the normal operating cycle
- Where the asset is primarily held for trading purposes
- Where the payment is due within 12 months after the reporting period
- Where the unconditional right to defer the settlement of liabilities for more than 12 months after the reporting period is not granted

Any and all other liabilities are classified as the non-current liabilities. The deferred income tax assets (liabilities) are classified as the non-current assets (liabilities).

2-18 Cash dividend

The Company recognizes liabilities when the distribution is authorized to pay the dividends out and the company no longer has discretion. Distribution for the shareholders requires approval by the shareholders. The corresponding amount is reflected directly in equity.

2-19 Intangible assets

The Company appropriates the intangible assets acquired individually at acquisition cost, and appropriates the intangible assets acquired in a business combination at fair value at the point of purchase, and following the initial acquisition, directly deducts the accumulated amortization and accumulated impairment losses and presents them accordingly. Meanwhile, the internally created intangible assets, excluding the development costs, are reflected in profit or loss as expense items when created.

The intangible assets are classified into intangible assets with a finite useful life and intangible assets with an indefinite useful life. The former are amortized over their useful lives, and are reviewed to determine whether there are any signs of impairment. Furthermore, the adequacy of the useful lives and amortization method is reviewed at the end of each reporting period, and if any changes are needed due to changes in the expected period of use or changes in the consumption patterns of economic benefits, they are accounted for through changes in estimates. Amortization of intangible assets is reflected in the profit or loss as an expense item consistent with the function of the relevant intangible asset

Meanwhile, the intangible assets with indefinite useful lives are not amortized, yet are each tested for impairment individually or included for the cash-generating units each year. Furthermore, each year, whether it is appropriate to apply an indefinite useful life for the intangible asset is reviewed, and if not appropriate, it is changed to a finite useful life in a forward-looking manner.

The intangible assets are derecognized upon disposal (that is, the date on which the acquirer gains the control over the relevant assets) or when no future economic benefits are expected from their use or disposal. Upon the derecognition of intangible assets, the Company reflects the profit or loss arising from the differences between the net sale amount and the book amount on the profit or loss.

· Research and development (R&D) expenses

The Company recognizes the research expenses as an expense when incurred. However, for development costs related to individual projects, they are appropriated as intangible assets if and where i) it is possible to demonstrate the technical feasibility of completing the intangible asset for use or sale; ii) there is the intention and ability to complete and use or sell the intangible assets; iii) adequate resources are secured towards that end; iv) it is possible to demonstrate how the intangible assets can generate future economic benefits; and v) the expenditures related to the intangible assets incurred during the development phase can be reliably measured.

- Patents

The patents are licensed by the government for a period of 10 years, with the right granted to renew granted at the end of the term.

The amortization expenses for the Company's intangible assets are appropriated using the straight-line method in line with the economic useful lives of each asset below.

Classification	Useful life
Industrial property rights	5 - 10 years
Software	5 years
Memberships	Not subject to amortization

2-20 Impairment of non-financial assets

At the end of each reporting period, the Company reviews whether there are any signs of the impairment of assets . Where such signs exist or when an annual impairment test is required for the assets, the Company estimates the assets' recoverable amount. The recoverable amount of the assets is net fair value of the assets or the cash-generating unit or the value in use, whichever is the larger, and it is determined for each individual asset; however, if the cash inflow of the individual asset is not generated almost independently of the cash inflow of the other assets or groups of assets, it is determined by the cash-generating unit to which the individual asset belongs. If the asset's book amount exceeds its recoverable amount, the asset is deemed to be impaired and its book amount is reduced to its recoverable amount.

The value in use is determined by discounting the estimated future cash flows of the asset at a pre-tax discount rate reflective of the market's assessment of the time value of money and the risk of the asset. As for the net fair value, a most recent transaction price is considered. If no such transaction is identified, it is determined using an appropriate valuation model. Valuation multiples, market prices of listed stocks, or other fair value indicators are used for such calculations.

The Company calculates the impairment amount based on the specific financial budgets and forecasts prepared for each cash-generating unit for which the individual assets are allocated. The financial budgeting and forecasting generally cover a period of 5 years, while for longer periods, the long-term growth rates are calculated and applied for the period over 5 years.

Impairment loss is reflected in the profit or loss as an expense item consistent with the function of the impaired asset . However, if there is a previously recognized reevaluation surplus as an asset for which the reevaluation model is applied, it is offset against the reevaluation surplus with the previous reevaluation amount as the ceiling.

For assets other than goodwill, at the end of each reporting period, an assessment is made as to whether there are any signs that an impairment loss on any previously recognized assets is no longer present or has decreased, and if such signs exist, the recoverable amount is estimated. The impairment loss on an asset, other than the goodwill recognized in the past, increases the book amount to the recoverable amount for the amortized balance of the asset's book amount if no recognition of the impairment loss is made; however, this is limited to cases in which there is any change in the estimates used to determine the recoverable amount of the relevant asset after the point of recognition of the immediately previous impairment loss. However, for the assets for which the reevaluation model is applied, the relevant reversal amount is accounted for an increase in the reevaluation surplus.

For the following assets, each criterion is additionally applied for the asset impairment testing.

As for the other intangible assets with indefinite useful lives, the Company conducts the impairment testing for each individual asset or cash-generating unit on December 31 of each year and whenever any signs of impairment are present.

The Company assesses the areas where climate related issues may have a significant impact, such as the introduction of legislation to regulate the greenhouse gas emissions which may increase the manufacturing costs. Such issues related to climate changes are included as the key assumptions if they have a material impact on the measurement of recoverable amounts.

2-21 Provisioning liabilities

The Company recognizes the provisioning liabilities if and where a present obligation (legal or constructive obligation) exists as a result of any past event, and it is probable that an outflow of resources embodying economic benefits will be released to settle the obligation, and where it is possible to reliably estimate the amount required to fulfill the obligation. Where it is expected that a third party will pay for some or all of the expenses needed to settle for the provisioning liabilities, and limited to the cases in which it is almost certain that the Company will receive reimbursement if the Company fulfills the obligations, they are accounted for as separate assets. The expenses recognized in the statements of income in connection with the provisioning liabilities are presented by offsetting the amount recognized in connection with the reimbursement by a third party.

Where the time value effect of money is material, the provisioning liabilities are discounted at the current pre-tax interest rate reflective of the risk specific to the liabilities. Where the provisioning liabilities are assessed at the present value, any increase in the book amount over time is recognized as a financial cost.

1) Onerous contracts

If the Company has executed onerous contracts, the related present obligations are recognized and measured as provisioning liabilities. Before recognizing the provisioning liabilities for the onerous contracts, the impairment loss on the assets used to perform the onerous contracts is recognized first.

An onerous contract is a contract in which the unavoidable costs required to perform the contractual obligations exceed the economic benefits expected to be received therefrom. The unavoidable cost is the lesser of the cost required to perform the contract at the minimum net cost which exists under the contract and the compensation or penalty payable in the event of its non-performance.

2-22 Greenhouse gas emission rights and emission liabilities

The Company received free emission rights as a result of the greenhouse gas emission trading system. These emission rights are paid for each year, and the same number of emission rights must be used in response to the actual emissions. The Company accounts for the emission rights received using the net debt approach, and accordingly, they are recognized as the provisioning liabilities if and only when the actual amount of carbon emitted exceeds the given emission rights, and the emission costs are recognized as the operating costs. Where the emission rights are purchased from a third party, they are appropriated at acquisition cost, and thereafter, remeasured at fair value in line with the emission liabilities, as they are considered as the right of repayment, and the changes in fair value are appropriated in the statements of comprehensive income.

2-23 Treasury stocks

The Company accounts for the treasury stocks as a deduction from the equity. The profit or loss on the acquisition, sale, issuance, or cancellation of treasury stocks is not reflected in the consolidated statements of comprehensive income, and the differences between the book amount and the consideration for disposal is accounted for as other capital surplus.

2-24 Share-based payment transaction

The Company operates a system (the share-settled share-based payment transaction) by which stock options are granted for the executives' and employees' labor and services.

The share-settled share-based payment costs are measured at fair value of the date of grant using an appropriate valuation model.

The share-based payment costs are recognized as employee benefits over the period in which the service provision related terms and conditions (or performance condition) are satisfied (hereinafter, 'vesting period'), and the corresponding increase in equity is recognized. At the end of each reporting period, the measurement of the cumulative cost of compensation reflects an estimate of whether the vesting period is completed and the final number of equity instruments to be granted. Changes in the accumulated compensation costs at the beginning of the reporting period and at the end of the reporting period are added or subtracted for the statement of income.

The service provision terms and conditions and the non-market conditions are not considered if and when estimating the fair value of share options as of the date of grant, yet are reflected in the estimation of the number of equity instruments which ultimately are vested, and the market conditions are reflected when measuring the fair value as of the date of grant. The other conditions granted for the share-based payments (unless there are relevant service conditions) are considered to be non-vesting conditions. Non-vesting conditions are reflected when the fair value of share-based payment costs is measured, and if there are no service provision terms and conditions (or performance conditions), they are recognized as expenses immediately thereby.

No expense is recognized for share-based payments which ultimately are not vested. However, the stock-settled transactions with market conditions or non-vesting conditions are accounted for as vested regardless of whether the market conditions or non-vesting conditions are satisfied if and where all other performance and service conditions are satisfied.

Changes in the conditions of the share-settled share-based payment are recognized at the minimum cost which would have been recognized if and where the conditions were not changed, except where the equity instruments are not vested as the specified vesting conditions are not met. An additional effect of the change is recognized when it increases the total fair value of the share-based payment agreement or changes the terms to the benefit of employees. When the share-settled compensation is canceled, it is deemed as vested on the date of cancellation and the unrecognized compensation costs are recognized immediately thereby.

The dilutive effect of the issued options is reflected as the diluted shares when calculating the diluted earnings per share.

2-25 Business combination and goodwill

The business combinations are accounted for using the acquisition method. The acquisition cost is measured as the sum of the transfer price measured at fair value on the date of acquisition, and the amount of non-controlling interest for the acquiree. For each business combination, the acquirer measures its non-controlling interest in the acquiree at fair value or pro rata interest of the acquiree's identifiable net assets, and the acquisition related costs are recognized as the expenses as incurred.

The Company determines that a business has been acquired when the group of activities and assets acquired includes input variables and substantive processes which contribute significantly to its ability to create outputs. It is considered substantive if (1) the acquired process (or set of processes) is crucial for the ability to continue to create outputs, and the acquired input variables include an organized labor with skills, knowledge or experiences needed for carrying out the relevant process (or set of processes), or (2) if the acquired process is deemed to significantly contribute to its ability to continue to produce an output or considered unique or scarce, or for replacement, if any significant cost or effort is required,

or if the ability to continue to produce outputs is delayed.

The Company classifies or designates the acquired assets and assumed liabilities identifiable on the date of acquisition based on the contractual terms, economic conditions, the acquirer's operating and accounting policies, and any other relevant conditions available on the date of acquisition. Included in such classification is the separation of the embedded derivatives from the acquiree's main contract.

If the acquirer provides contingent consideration for the acquiree, the relevant consideration is measured at the fair value on the date of acquisition and included in the transfer price, and any subsequent changes in the fair value of contingent consideration classified as assets or liabilities are recognized at profit or loss or other comprehensive income in accordance with Corporate Accounting Standard No. 1109. In addition, the contingent consideration classified as equity is not remeasured and is accounted for within equity at the time of settlement. If the contingent consideration is not applicable within the scope of Corporate Accounting Standard No. 1109, it is measured in accordance with the appropriate Corporate Accounting Standard.

The goodwill is measured as the sum of the transfer price and the amount of non-controlling interest and the previously held interest which exceeds the net identifiable assets acquired and liabilities assumed. If the fair value of the acquired net assets should exceed the total amount of transfer price, the consolidated companies review as to whether all assets acquired and liabilities assumed are accurately identified and the procedures used to measure the amount recognized on the date of acquisition. If, after such a re-review, the total amount of transfer price, etc., is still lower than the fair value of the net assets acquired, the relevant difference is recognized as profit or loss.

Following the initial recognition, the goodwill is appropriated at cost minus the accumulated impairment losses . For impairment testing purposes, the goodwill acquired from a business combination is allocated for each cash-generating unit or group of units expected to benefit from the synergies of the business combination on the date of acquisition, which is allocated for the cash-generating unit or group of units irrespective of whether other assets or liabilities of the acquiree are allocated.

In the case of disposing of an operation within the cash-generating unit for which the goodwill has been allocated, the goodwill related to the operation to be disposed of is included in the book amount of the operation when determining the profit or loss on disposal, and is also measured based on the relative value of the portion remaining within the cash-generating unit and the portion being disposed of.

2-26 Non-current assets held for sale and discontinued operations

The Company classifies the non-current assets (or groups of assets for disposal) as held for sale if their book amount will be recovered primarily through the sale transaction or distribution rather than the continued use. The non-current assets and disposal groups classified as held for sale are measured at the lesser of the fair value and book amount, after the deduction of the costs to sell. The costs to sell are the incremental costs (excluding the financial cost and the Income tax expense) directly reverted to the disposal of assets (or disposal group).

The condition for classification as held for sale is deemed to be satisfied if and when the sale is highly probable and the non-current asset (or disposal group) is available for immediate sale in its present condition. The measures required to complete the sale ought to demonstrate the fact that the sale is unlikely to be significantly altered or withdrawn, and the sale must be expected to be completed within 1 year of the sale being classified as held for sale.

The tangible and intangible assets classified as held for sale are not depreciated or amortized.

The assets and liabilities classified as held for sale or for distribution are presented as the separate current items in the statement of financial position.

The Company excludes the after-tax income from discontinued operations from the results of continuing operations, and presents it as a single amount in the statement of income. Any additional matters related to the discontinued operations are disclosed under Note 36, and the amounts of discontinued operations are included unless otherwise provided under other notes to the financial statements.

3. Significant accounting judgments, estimations and assumptions

When preparing the financial statements, the senior management of the consolidated companies is required to make and offer judgments, estimates and assumptions which may affect the reported amounts of income, expenses, assets and liabilities as of the end of the reporting period and the disclosures for the notes to the contingent liabilities. However, the uncertainties of such estimates and assumptions could cause material adjustments to the book amounts of the assets and liabilities that will be affected in the future.

3-1 Important accounting judgments

In the process of applying the Company's accounting policies, the senior management's judgments which have had the most significant impact on the amounts recognized in the consolidated financial statements are as follows.

(1) Calculation of the lease term of contracts with options for extension and termination

The Company calculates the lease term inclusive of the non-cancellable period of the lease and the term of the option if and when it is reasonably certain to exercise the option to extend the lease, or the period over which the option to terminate the lease is reasonably certain not to be exercised.

The Company has the lease agreements which include the extension and termination options. The Company applies judgments when assessing whether it is reasonably certain whether to exercise the option to extend or terminate the lease. That is, it considers any and all relevant facts and circumstances which give rise to an economic incentive to exercise an extension option or not to exercise a termination option. After the date of commencement, the Company reassesses the lease term if any significant events or changes in circumstances under the Company's control affect the ability to exercise an extension or not to exercise an option to terminate.

The Company includes extended periods as part of the lease term for the leases of equipment and machineries with short non-cancellable periods. The Company generally exercises the option to extend the lease since there is a significant negative impact on the production if replacement assets are not readily available. The extended periods for the long non-cancellable leases of equipment and machineries are not included as part of the lease term since it is not significantly certain that the extension option will be exercised. Furthermore, the Company generally leases vehicles for 5 years or less and does not exercise the option to extend the lease, and thus, the option to extend the vehicle lease is not included as part of the lease term. Moreover, the period covered by the termination option is included as part of the lease term only if and when it is reasonably certain that it will not be exercised.

3-2 Accounting estimates and changes

The other major sources of uncertainties for material assumptions and estimates on the future as of the end of the reporting period having a significant risk of causing a material adjustment to the book amounts of assets and liabilities in the next fiscal year are as follows. Assumptions and estimates are based on the variables available at the time the financial statements are prepared. The current circumstances and assumptions about the future may change given the changes in the market or circumstances beyond the control of the Company. When such changes occur, they are reflected in the assumptions.

(1) Impairment of non-financial assets

The Company assesses all non-financial assets for any signs of impairment at the end of each reporting period. Goodwill and intangible assets with indefinite useful lives are tested for impairment each year or when there are signs of impairment, and the other non-financial assets are tested for impairment when there are signs that their book amount will not be recoverable. To calculate the value in use, the senior management must estimate the expected future cash flows from the asset or the cash-generating unit, and select an appropriate discount rate to calculate the present value of the expected future cash flows.

(2) Retirement benefit plan

The present value of the defined benefit liability is determined based on the actuarial valuation method. To apply the actuarial valuation method, it is necessary to establish various assumptions, and the establishment of such assumptions includes the discount rate, rate of future wage increase, and the mortality rate. Given the complexity of the valuation method and the underlying assumptions and the long-term nature of the valuation method, the defined benefit liability fluctuates sensitively according to these assumptions. All assumptions are reviewed at the end of each reporting period.

(3) Provisions for expected loss on trade and other receivables and contract assets

The Company uses the provision setting table to calculate the expected credit loss (ECL) for trade and other receivables and contract assets. The provision setting rate is based on the number of delinquent days in a bundle for different customer segments with similar loss patterns (i.e., geographic location, product type, customer type and credit rating, collateral or transactional credit insurance).

(4) Deferred income tax assets

Where it is highly likely that the future taxable income for which the tax loss can be used is probable, the deferred income tax assets are recognized for the unused tax loss within the scope. The Company's senior management performs major judgments to determine the amount of deferred income tax assets that can be recognized based on the future tax strategies and the timing and extent of tax income. The relevant details are provided under Note 31.

(5) Fair value of financial instruments

The fair value of financial instruments without an active market was calculated by applying valuation techniques including

the discounted cash flow. When the observable market information is not available for the input factors used for such valuation techniques, the determination of fair value requires a considerable estimation. Such judgments include the consideration of input variables such as liquidity risk, credit risk and volatility. Changes in such factors may affect the fair value of financial instruments.

(6) Share-based compensation

The Company measures the compensation cost of the share-settled share-based payment transactions based on the fair value on the date of grant of equity instruments, and the fair value is estimated by applying an appropriate valuation model in consideration of the conditions for granting equity instruments. Furthermore, it is necessary to determine the most appropriate pricing factors for the valuation model, including the expected lifetime of stock options, volatility, and dividend rate, and establish assumptions for these factors.

(7) Calculation of the incremental borrowing rate of a lease

The Company uses the incremental borrowing rate to measure the lease liability since the implicit interest rate of the lease cannot be easily determined. The incremental borrowing rate is the interest rate which the Company would be required to pay if the Company borrows the funds needed to acquire an asset of similar value to the right-to-use asset with similar collateral over a similar period in a similar economic environment. Accordingly, the incremental borrowing rate reflects the matters which the Company 'must pay' for which the measurement is required if and when there is no observable rate or when it has to be adjusted to reflect the terms of the lease. The Company must measure the incremental borrowing rate using observable input variables where possible and prepare the company-specific estimates.

(8) Inventory valuation allowance

The Company must estimate the conversion cost and other costs incurred in bringing the inventory to its present location and condition for the net realizable value assessment of the inventories. The balance of the inventory valuation allowance may change depending on the estimation of operational cost, cost of goods sold, etc.

(9) Provisioning liabilities

If legal obligations and constructive obligations exist as a result of past events as of the end of the reporting period, the Company must estimate the likelihood and amount of resource outflow required to fulfill these obligations. For this estimation, all available evidence is taken into consideration and significant estimation and judgment are required.

4. Changes in the accounting policy and announcements

4-1 Application of the enacted and revised standards

The Company applied the standards and revisions for the first time for the first fiscal year beginning on or after January 1, 2021. The Company has not applied early the standards, interpretations or the revisions which have been announced yet have not been enforced.

(1) Revision to Corporate Accounting Standard No. 1037 'Provisioning Liabilities, Contingent Liabilities and Contingent Assets' - Fulfillment Cost of Onerous Contracts

An onerous contract is a contract in which the unavoidable costs required to perform the contractual obligations exceed the economic benefits expected to be received therefrom. The revision requires that, when determining whether a contract is onerous, the costs directly related to providing the goods or services under the contract include incremental costs of fulfillment (e.g., material costs and labor costs) and an allocation of other costs that relate directly to contract fulfillment (e.g., an allocation of the depreciation charge for an item of tangible assets used in contract fulfillment,

or an allocation of costs of contract management and supervision). General administrative costs that do not relate directly to the contract and that cannot explicitly be charged to the counterparty under the contract are excluded.

As the Company does not have any onerous contracts within the scope of this revision, there are no impacts on the financial statements.

(2) Revision of Corporate Accounting Standard No. 1103, 'Business Combinations' - Reference for the Conceptual Framework for Financial Reporting

This revision ensures there are no significant changes in requirements when the previously published 'Conceptual Framework for the Preparation and Presentation of Financial Statements' is changed to the reference for 'Conceptual Framework for Financial Reporting' published in March 2018.

An exception has been added to the recognition principles of Corporate Accounting Standard No. 1103, 'Business Combinations', to prevent the occurrence of day 2 profit or loss in liabilities and contingent liabilities that fall within the scope of Corporate Accounting Standard No. 1037, 'Provisioning Liabilities, Contingent Liabilities, and Contingent Assets', or Interpretations of Corporate Accounting Standard No. 2121, 'Levies'. This exception requires the application of the standards of Corporate Accounting Standard No. 1037, 'Provisioning Liabilities, Contingent Liabilities, and Contingent Assets', or Interpretations of Corporate Accounting Standard No. 2121, 'Levies', instead of the Conceptual Framework to determine whether there is a present obligation on the acquisition date.

The revision also adds a new paragraph to Corporate Accounting Standard No. 1103, 'Business Combinations', to clarify that contingent assets cannot be recognized on the acquisition date.

As the Company does not have any contingent assets, liabilities, or contingent liabilities within the scope of this revision during the current period, there are no impacts on the financial statements.

(3) Revision of Corporate Accounting Standard No. 1016, 'Tangible Assets' - Sales Amount before Intended Use

This revision prevents the deduction of the net sales amount of the valuables that occurred while bringing the asset to the location and condition necessary for it to operate in a manner intended by management from the cost. Instead, the company recognizes the revenue received from selling such items and the cost of producing the items in profit or loss, respectively.

Since there were no sales of valuables produced from tangible assets that became available for use on or after the earliest date of commencement presented, this revision does not affect the financial statements.

(4) Corporate Accounting Standard No. 1101 'First-time Adoption of Korean International Financial Reporting Standards' – A Subsidiary that Adopted the Standard for First Time

This revision allows dependent subsidiaries that have elected to apply paragraph D16 (1) of Corporate Accounting Standard No. 1101 'First-time Adoption of Korean International Financial Reporting Standards' to measure accumulated translation differences based on the controlling company's transition date to Korean International Financial Reporting Standards using the amounts reported by the controlling company. This revision also applies to related companies or joint ventures that have elected to apply paragraph D16 (1) of the same Standard.

Since the subsidiaries of the Company are not first-time adopters, this revision has no impact on the financial statements.

(5) Corporate Accounting Standard No. 1109 'Financial Instruments' - Fees Related to 10% Test for the Derecognition of Financial Liabilities

This revision clarifies the fees to be included by the company when assessing whether the terms of a new or modified financial liability are substantially different from the terms of the existing financial liability. These fees only include those paid or received between the creditor and the debtor, as well as those paid or received on behalf of each other by the creditor and debtor. There are no similar limited revisions to Corporate Accounting Standard No. 1039 'Financial Instruments: Recognition and Measurement'.

As there were no changes to the financial instruments within the Company, this revision has no impact on the financial statements.

4-2 Accounting standards announced but not yet enforced

The details of the enacted or revised standards and interpretations which have been enacted or announced as of the date of approval for issuance of the financial statements of the Company, yet which have not been applied early since the date of enforcement has not yet arrived, are as follows.

(1) Revision to Corporate Accounting Standard No. 1001 'Presentation of Financial Statements' - Classification of Liabilities as Current/Non-current Liabilities

They are classified as current or non-current based on the actual rights that exist as of the end of the reporting period, not taking into account the possibility of deferring the settlement of the liability or management's expectations. Furthermore, settlement of liability includes the transfer of equity instruments, but it excludes cases where the option to settle with equity instruments in a compound financial instrument has been recognized separately because it meets the definition of equity. This revision is applied from the fiscal year beginning on January 1, 2024, and early application is permitted. The Company is currently reviewing the impact of this revision on its financial statements.

(2) Corporate Accounting Standard No. 1001 'Presentation of Financial Statements' - Disclosure of 'Accounting Policies'

This defines key accounting policy information and mandates its disclosure. This revision is applied from first fiscal year beginning on January 1, 2023, and early adoption is permitted. The Company is currently reviewing the impact of this revision on its financial statements.

(3) Corporate Accounting Standard No. 1008 'Accounting Policies, Changes in Accounting Estimates and Errors' - Definition of 'Accounting Estimates'

This defines accounting estimates and clarifies how to distinguish them from changes in accounting policies. This revision

is applied from the first fiscal year beginning on January 1, 2023, and early adoption is permitted. The Company does not anticipate significant effects on the financial statements due to this revision.

(4) Corporate Accounting Standard No. 1012 'Income Taxes' - Deferred Income Taxes for Assets and Liabilities Arising from a Single Transaction

A requirement stipulating that the transaction should not generate taxable temporary differences and deductible temporary differences and should have the same time of transaction was added to the exception requirement for the initial recognition of the transaction where the assets or liabilities are initially recognized. This revision is applied from the fiscal year beginning on January 1, 2023, and early application is permitted. The Company does not anticipate significant effects on the financial statements due to this revision.

(5) Enactment of Corporate Accounting Standard No. 1117 'Insurance Contracts'

Corporate Accounting Standard No. 1117 'Insurance Contracts' replaces Corporate Accounting Standard No. 1104 'Insurance Contracts'. It requires that all cash flows under insurance contracts be estimated, and insurance liabilities be measured using a discount rate that reflects the assumptions and risks at the reporting date. Moreover, it requires that revenue is recognized on an accrual basis, reflecting the services (insurance coverage) provided to the policyholder for each fiscal year. It also excludes investment elements (surrender/maturity refunds) paid to policyholder regardless of the occurrence of insurance events from insurance income and clearly distinguishes between insurance profit and investment profit to allow information users to verify the sources of profit. This standard is applied from the first fiscal year beginning on January 1, 2023. Companies that have applied Corporate Accounting Standard No. 1109 'Financial Instruments' are allowed to apply this standard early. The Company does not anticipate significant effects on the financial statements due to this revision.

Companies applying Corporate Accounting Standard No. 1117 for the first time due to the revision of the standard may apply an optional classification adjustment ('overlay') to comparative periods. Such classification adjustment can be applied to all financial assets, including those that have no connection with contracts included in the scope of Corporate Accounting Standard No. 1117. Companies applying the classification adjustment to financial assets present comparative information as they have applied the classification and measurement requirements of Corporate Accounting Standard No. 1109 to those financial assets, and this classification adjustment can be applied by each product.

(6) Corporate Accounting Standard No. 1001 'Financial Statement Presentation' - Disclosure of the Valuation Profit and Loss of Financial Liabilities with an Exercise Price Adjustment Condition (currently a draft and applied when the K-IFRS revision is announced)

In cases where all or part of financial instruments with conditions that adjust the exercise price according to the issuer's stock price fluctuations are classified as financial liabilities, it is stipulated that the book amount of the financial liability and the related profit or loss should be disclosed. This revision is applied from the fiscal year beginning on January 1, 2023, and early application is permitted. The Company does not anticipate significant effects on the financial statements due to this revision.

5. Financial instruments

5-1 Financial assets

The category specific amounts of the financial assets as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Financial assets measured at fair value through profit or loss	Financial assets measured at fair value through other comprehensive income	Financial assets measured at amortized cost	Total
Current assets:				
Short-term financial assets (Note 1)	60,299,856	-	-	60,299,856
Trade and other receivables	823,372	-	201,055,254	201,878,626
Other current assets (Note 2)	-	-	39,814	39,814
Subtotal	61,123,228	-	201,095,068	262,218,296
Non-current assets:				
Long-term financial assets	-	-	27,500	27,500
Long-term investment assets	34,628,158	2,500,032	-	37,128,190
Other non-current assets (Note 2)	1,237,613	-	949,078	2,186,691
Subtotal	35,865,771	2,500,032	976,578	39,342,381
Total	96,988,999	2,500,032	202,071,646	301,560,677

(Note 1) Included are the money market financial instruments deposited with financial institutions.

(Note 2) These are short and long-term security deposits and derivatives.

<End of the previous period>

(Unit: KRW one thousand)

Classification	Financial assets measured at fair value through profit or loss	Financial assets measured at fair value through other comprehensive income	Financial assets measured at amortized cost	Total
Current assets:				
Short-term financial assets (Note 1)	214,551,624	-	-	214,551,624
Trade and other receivables	1,825,609	-	347,771,505	349,597,114
Other current assets (Note 2)	-	-	39,814	39,814
Subtotal	216,377,233	-	347,811,319	564,188,552
Non-current assets:				
Long-term financial assets	-	-	32,500	32,500
Long-term investment assets	32,081,459	2,500,032	-	34,581,491
Trade and other receivables	-	-	2,245,127	2,245,127
Other non-current assets (Note 2)	368,001	-	537,972	905,973
Subtotal	32,449,460	2,500,032	2,815,599	37,765,091
Total	248,826,693	2,500,032	350,626,918	601,953,643

(Note 1) Included are the money market financial instruments deposited with financial institutions.

(Note 2) These are short and long-term security deposits and derivatives.

5-2 Financial liabilities

The category specific amounts of the financial liabilities as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Financial liabilities measured at fair value through profit or loss	Financial liabilities measured at amortized cost	Total
Current liabilities:			
Trade and other payables	-	151,015,407	151,015,407
Short-term borrowings	-	273,359,823	273,359,823
Current portion of long-term liabilities	-	65,978,484	65,978,484
Current portion of lease liabilities (Note 1)	-	838,788	838,788
Other current liabilities (Note 2)	-	2,979,919	2,979,919
Subtotal	-	494,172,421	494,172,421
Non-current liabilities:			
Debenture	-	154,787,349	154,787,349
Lease liabilities (Note 1)	-	943,366	943,366
Subtotal	-	155,730,715	155,730,715
Total	-	649,903,136	649,903,136

(Note 1) Lease liabilities correspond to the liabilities recognized in accordance with Corporate Accounting Standard No. 1116.

(Note 2) They are the deposits received and unpaid dividends.

<End of the previous period>

(Unit: KRW one thousand)

Classification	Financial liabilities measured at fair value through profit or loss	Financial liabilities measured at amortized cost	Total
Current liabilities:			
Trade and other payables	469,458	333,696,888	334,166,346
Current portion of long-term liabilities	-	159,886,422	159,886,422
Current portion of lease liabilities (Note 1)	-	615,347	615,347
Other current liabilities (Note 2)	-	1,105,875	1,105,875
Subtotal	469,458	495,304,532	495,773,990
Non-current liabilities:			
Debenture	-	220,560,772	220,560,772
Lease liabilities (Note 1)	-	478,872	478,872
Other non-current liabilities (Note 2)	-	2,110,026	2,110,026
Subtotal	-	223,149,670	223,149,670
Total	469,458	718,454,202	718,923,660

(Note 1) Lease liabilities correspond to the liabilities recognized in accordance with Corporate Accounting Standard No. 1116.

(Note 2) They are the deposits received and unpaid dividends.

5-3 Profit and loss by the category of financial instruments

The breakdown of profit and loss by financial instrument category for the current period and previous period is as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Financial instruments measured at fair value through profit or loss	Financial assets measured at amortized cost	Financial liabilities measured at amortized cost	Total
Interest income (expense)	-	1,663,932	(13,204,740)	(11,540,808)
Profits or losses on valuation of financial instruments measured at fair value through profit or loss	556,997	-	-	556,997
Profits or losses on transaction of financial instruments measured at fair value through profit or loss	1,941,449	-	-	1,941,449
Dividend income	1,190,000	-	-	1,190,000
Profit or loss on foreign currency translation	-	(6,443,399)	4,772,000	(1,671,399)
Profit and loss on foreign currency transactions	-	11,599,200	(14,223,871)	(2,624,671)
Profit or loss on the valuation of derivatives	1,692,984	-	-	1,692,984
Profit or loss on the transaction of derivatives	143,341	-	-	143,341
Bad debt expenses	-	(27,362)	-	(27,362)
Other bad debt expenses	-	(74,035)	-	(74,035)
Total	5,524,771	6,718,336	(22,656,611)	(10,413,504)

<Previous period>

(Unit: KRW one thousand)

Classification (Note 1)	Financial instruments measured at fair value through profit or loss	Financial assets measured at amortized cost	Financial liabilities measured at amortized cost	Total
Interest income (expense)	-	656,946	(7,312,589)	(6,655,643)
Profits or losses on valuation of financial instruments measured at fair value through profit or loss	1,695,378	-	-	1,695,378
Profits or losses on transaction of financial instruments measured at fair value through profit or loss	3,408,499	-	-	3,408,499
Dividend income	1,190,000	-	-	1,190,000
Profit or loss on foreign currency translation	-	(45,270)	(1,073,769)	(1,119,039)
Profit and loss on foreign currency transactions	-	7,070,013	(9,047,341)	(1,977,328)
Profit or loss on the valuation of derivatives	1,724,153	-	-	1,724,153
Profit or loss on the transaction of derivatives	5,133,705	-	-	5,133,705
Reversal of allowance for bad debts	-	208,425	-	208,425
Reversal of allowance for other bad debts	-	211,971	-	211,971
Total	13,151,735	8,102,085	(17,433,699)	3,820,121

(Note 1) The profits and losses from discontinued operations are not included.

5-4 Deposits of restricted use

The details of the deposits of restricted use as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period	Details of the restriction
Long-term financial assets	27,500	32,500	Security deposit for opening current deposit account

6. Trade and other receivables

6-1 As of the end of the current period, the details of the subsidiaries are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Current:		
Trade receivables	193,715,248	177,304,667
Allowance for bad debts for trade receivables	(3,914,419)	(3,887,057)
Accounts receivable	11,340,980	174,479,349
Allowance for bad debts for accounts receivable	(186,881)	(292,989)
Short-term loans	3,400,000	3,750,000
Allowance for bad debts for short-term loans	(3,400,000)	(3,750,000)
Accrued revenue	100,326	167,535
Derivative financial assets	823,372	1,825,609
Subtotal	201,878,626	349,597,114
Non-current:		
Long-term accounts receivable	-	2,245,127
Total	201,878,626	351,842,241

6-2 The changes in allowance for bad debts for trade and other receivables for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Beginning of period	7,930,046	8,358,486
Placement (reversal) (Note 1)	101,396	(326,252)
Write offs	(530,143)	(95,709)
Business transfer (Note 2)	-	(6,405)
Physical split-off (Note 3)	-	(74)
End of period	7,501,299	7,930,046

(Note 1) During the previous period, the amount set for bad debt provisions of KRW 94,144,000 arising from the discontinued division was reclassified as profit or loss from discontinued operations.

(Note 2) During the previous period, the composite material business division and the PPS business division were sold to Toray Advanced Materials Korea Inc. and HDC Polyall Co., Ltd., respectively.

(Note 3) During the previous period, SK Multi-Utility Co., Ltd. was established through a physical split-off.

6-3 As of the end of the current period, the details of the subsidiaries are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Unmatured	198,895,401	352,936,920
Within 90 days	3,886,242	2,888,471
Within 180 days	450,361	72,009
Over 180 days	6,147,921	3,874,887
Subtotal	209,379,925	359,772,287
(Deducted: allowance for bad debts)	(7,501,299)	(7,930,046)
Deductions	201,878,626	351,842,241

6-4 If the transferred or discounted trade receivables do not satisfy the requirements for the derecognition of financial instruments, the Company continues to recognize them as the trade and other receivables, whose details are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period	Reason
Trade receivables (Note 1)	78,359,823	-	Provision for the right of recourse

(Note 1) The Company recognized the short-term borrowings as much as the nominal amount of the transferred or discounted trade receivables (refer to Note 17-2).

7. Inventories

7-1 The details of the inventories as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Acquisition cost	Assessment allowance	Book amount
Goods	19,156,568	(164,212)	18,992,356
Products	136,905,993	(4,411,935)	132,494,058
Processed products	31,245,092	(1,018,094)	30,226,998
Half finished products	10,885,553	(7,198)	10,878,355
Goods in process	4,561,160	-	4,561,160
Raw materials	36,940,746	(21,836)	36,918,910
Stored goods	1,779,065	(578)	1,778,487
Goods to arrive	7,696,927	-	7,696,927
Other inventories	737,437	-	737,437
Total	249,908,541	(5,623,853)	244,284,688

<End of the previous period>

(Unit: KRW one thousand)

Classification	Acquisition cost	Assessment allowance	Book amount
Goods	18,157,202	(438,641)	17,718,561
Products	75,224,261	(2,284,748)	72,939,513
Processed products	28,668,559	(1,542,724)	27,125,835
Half finished products	10,793,516	(72,169)	10,721,347
Goods in process	6,970,816	-	6,970,816
Raw materials	32,215,546	(1,783)	32,213,763
Stored goods	1,507,445	(68)	1,507,377
Goods to arrive	7,030,432	-	7,030,432
Other inventories	442,840	-	442,840
Total	181,010,617	(4,340,133)	176,670,484

7-2 The loss on the valuation of inventories recognized in connection with the inventories during the current period is KRW 1,283,720,000 (previous period: reversal of the valuation of inventories of KRW 5,516,450,000).

8. Other assets

8-1 The details of other assets as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Other current assets:		
Advance payments	4,181,675	4,637,369
Prepaid expenses	4,001,980	2,350,577
Security deposits	39,814	39,814
Prepaid corporate taxes	184,612	291,907
Other assets	60,274	45,025
Total	8,468,355	7,364,692
Other non-current assets:		
Derivatives assets	1,237,613	368,001
Long-term security deposits	949,078	537,972
Net defined benefit assets (Note 1)	27,038,748	7,103,496
Other assets	928,449	850,050
Total	30,153,888	8,859,519

(Note 1) These are the net defined benefit assets which resulted from the accumulation of the defined benefit plan in excess of liabilities. As of the end of the current period, there is no effect of restriction due to the maximum recognition of assets.

9. Long-term and short-term financial assets

The details of the financial assets as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Short-term financial assets:		
Financial assets measured at fair value through profit or loss (Note 1)	60,299,856	214,551,624
Long-term financial assets:		
Deposits	27,500	32,500

(Note 1) Included are the money market financial instruments deposited with financial institutions.

10. Long-term investment assets

The changes in long-term investment assets for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Assessed	End of period
Financial assets measured at fair value through profit or loss:				
Unmarketable equity securities				
Eastman Fiber Korea Ltd. (Note 1)	23,506,094	-	1,621,930	25,128,024
Yongyeon Industrial District 4 Industrial Water Management Association	419,199	-	-	419,199
Standigm Inc. (Notes 2)	3,000,007	-	-	3,000,007
Subtotal	26,925,300	-	1,621,930	28,547,230
Debt securities				
Korea Investment Bio Global Fund	4,185,526	-	(1,473,472)	2,712,054
Sante Health Ventures IV, LP (Note 3)	970,633	2,398,241	-	3,368,874
Subtotal	5,156,159	2,398,241	(1,473,472)	6,080,928
Financial assets measured at fair value through other comprehensive income				
Unmarketable equity securities				
J2H Biotech Co., Ltd.	1,500,052	-	-	1,500,052
Oncobix Co., Ltd.	999,980	-	-	999,980
Subtotal	2,500,032	-	-	2,500,032
Total	34,581,491	2,398,241	148,458	37,128,190

(Note 1) The Company holds a put option for the interest in the preferred stocks of Eastman Fiber Korea Ltd. and granted a call option of the same amount for Eastman Chemical Korea B.V., the largest shareholder, and considering the option, reflected the assessment of the investment assets at fair value.

(Note 2) These are redeemable convertible preferred stocks (RCPS) with the right to convert to common stocks for 10 years from the date of completion of the transaction and the right to require redemption from the Company 3 years after the date of completion of the transaction.

(Note 3) During the current period, the Company has made additional investments in Sante Health Ventures IV, LP.

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Assessed	End of period
Financial assets measured at fair value through profit or loss:					
Unmarketable equity securities					
Eastman Fiber Korea Ltd. (Note 1)	21,572,864	-	-	1,933,230	23,506,094
Yongyeon Industrial District 4 Industrial Water Management Association	419,199	-	-	-	419,199
Standigm Inc. (Notes 2, 3)	-	3,000,007	-	-	3,000,007
Subtotal	21,992,063	3,000,007	-	1,933,230	26,925,300
Debt securities					
Korea Investment Bio Global Fund (Note 4)	2,500,000	2,500,000	(25,000)	(789,474)	4,185,526
Sante Health Ventures IV, LP (Note 2)	-	970,633	-	-	970,633
Subtotal	2,500,000	3,470,633	(25,000)	(789,474)	5,156,159
Financial assets measured at fair value through other comprehensive income					
Unmarketable equity securities					
J2H Biotech Co., Ltd. (Note 2)	-	1,500,052	-	-	1,500,052
Oncobix Co., Ltd. (Note 2)	-	999,980	-	-	999,980
Subtotal	-	2,500,032	-	-	2,500,032
Total	24,492,063	8,970,672	(25,000)	1,143,756	34,581,491

(Note 1) The Company holds a put option for the interest in the preferred stocks of Eastman Fiber Korea Ltd. and granted a call option of the same amount for Eastman Chemical Korea B.V., the largest shareholder, and considering the option, reflected the assessment of the investment assets at fair value.

(Note 2) During the previous period, the Company newly acquired redeemable convertible preferred stocks of Standigm Inc., common stocks of J2H Biotech Co., Ltd., common stocks of Oncobix Co., Ltd., and common stocks of Citi Cells Co., Ltd., and newly invested in Sante Health Ventures IV, LP.

(Note 3) These are redeemable convertible preferred stocks (RCPS) with the right to convert to common stocks for 10 years from the date of completion of the transaction and the right to require redemption from the Company 3 years after the date of completion of the transaction.

(Note 4) During the previous period, the Company has made additional investments in the Korea Investment Bio Global Fund and partially recovered its investments.

11. Subsidiaries' investments and the affiliates and joint ventures investments

11-1 The changes in the subsidiaries' investment for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Increase (Note 1)	Decrease (Note 2)	End of period
Subsidiaries' investment shares	369,310,003	13,437,620	(11,419,751)	371,327,872

(Note 1) During the current period, a paid-in capital increase was executed for SK Environmental Materials (Yantai) Co., Ltd.

(Note 2) During the current period, 100% of the shares of SK Chemicals (Suzhou) Co., Ltd. were substituted with non-current assets held for sale.

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Increase (Notes 1, 2)	Decrease (Notes 3, 4, 5)	End of period
Subsidiaries' investment shares	248,206,168	169,150,054	(48,046,219)	369,310,003

(Note 1) During the previous period, a paid-in capital increase was executed for SK Environmental Materials (Yantai) Co., Ltd.

(Note 2) During the previous period, SK Multi-Utility was established through a physical split-off.

(Note 3) During the previous period, 7,650,000 shares of SK Bioscience Co., Ltd., which had been held, were disposed of.
During the previous period, 50% of the shares of SK Chemicals Daejung Co., Ltd., which had been held, were disposed of.

(Note 4) The Company determined that it retains the control based on the fact that the Company's chief executive officer continues to serve the position of chief executive officer even after the shares were sold, and the chief executive officer has the decision-making rights in an impasse.

(Note 5) During the previous period, 100% of the shares of SK Chemicals (Qingdao) Co., Ltd. have been disposed of.

11-2 The details of the subsidiaries' investments as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Name of Company	Location	End of the current period		End of the previous period	
		Equity interest (%)	Book amount	Equity interest (%)	Book amount
SK Chemicals (Qingdao) Co., Ltd. (Note 1)	China	-	-	-	-
SK Chemicals (Suzhou) Co., Ltd. (Note 2)	China	100.00	-	100.00	11,419,751
SK Environmental Materials (Yantai) Co., Ltd. (Note 3)	China	100.00	33,847,804	100.00	20,410,185
SK Chemicals (Shanghai) Co., Ltd.	China	100.00	101,938	100.00	101,938
SK Bioscience Co., Ltd. (Note 4)	Republic of Korea	68.18	168,971,884	68.43	168,971,884
SK Chemicals Daejung Co., Ltd. (Notes 5, 6)	Republic of Korea	50.00	6,140,521	50.00	6,140,521
SK Multi-Utility Co., Ltd. (Note 7)	Republic of Korea	100.00	160,011,654	100.00	160,011,654
SK Chemicals America	United States of America	100.00	1,448,304	100.00	1,448,304
SK Chemicals GmbH	Germany	100.00	432,843	100.00	432,843
SK Chemicals Malaysia	Malaysia	100.00	372,924	100.00	372,923
Total			371,327,872		369,310,003

- (Note 1) During the previous period, 100% of the shares of SK Chemicals (Qingdao) Co., Ltd. have been disposed of.
- (Note 2) During the previous period, we have executed a stock purchase and sales agreement to sell 100% of the shares of SK Chemicals (Suzhou) Co., Ltd. to Sumong Foods Co., Ltd, and during the current period, we have substituted these as non-current assets held for sale.
- (Note 3) During the current and previous period, a paid-in capital increase was executed for SK Environmental Materials (Yantai) Co., Ltd.
- (Note 4) During the previous period, 7,650,000 shares of SK Bioscience Co., Ltd., which had been held, were disposed of.
- (Note 5) During the previous period, 50% of the shares of SK Chemicals Daejung Co., Ltd., which had been held, were disposed of.
- (Note 6) The Company has a put option for all of its interest in SK Chemicals Daejung Co., Ltd.
- (Note 7) During the previous period, SK Multi-Utility Co., Ltd. was established through a physical split-off.

11-3 The details of the affiliates and joint ventures investments as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Name of company	Location	Equity interest (%)	Book amount
Entis Co., Ltd.	Republic of Korea	50.00	4,891,868
ST Green Energy (Note 1)	Singapore	-	-
JSI Co., Ltd.	Republic of Korea	40.00	-
HDC Polyall Co., Ltd. (Notes 2, 3)	Republic of Korea	20.00	7,699,750
Total			12,591,618

(Note 1) The company disposed of all the shares it held in ST Green Energy during the current period.

(Note 2) The Company is determined to have influence over HDC Polyall Co., Ltd. based on the fact that the Company can appoint one of the five directors.

(Note 3) The Company has put options for all of its interest in HDC Polyall.

<End of the previous period>
thousand)

(Unit: KRW one thousand)

Name of company	Location	Equity interest (%)	Book amount
Entis Co., Ltd.	Republic of Korea	50.00	4,891,868
ST Green Energy (Note 1)	Singapore	50.00	584,160
JSI Co., Ltd.	Republic of Korea	40.00	-
HDC Polyall Co., Ltd. (Notes 2, 3)	Republic of Korea	20.00	7,699,750
Total			13,175,778

(Note 1) During the previous period, a paid-in capital increase was executed for ST Green Energy.

(Note 2) During the previous period, the PPS Business Division was transferred to HDC Polyall Co., Ltd., and a 20% interest-1 share was acquired from HDC Polyall Co., Ltd. The Company is determined to have influence over HDC Polyall Co., Ltd. based on the fact that the Company can appoint one of the five directors.

(Note 3) The Company has put options for all of its interest in HDC Polyall.

12. Tangible assets

12-1 The changes in the book amount of tangible assets for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Depreciation	Others (Note 1)	End of period
Land	155,792,514	5,798,623	(9,699,741)	-	64,386	151,955,782
Building	181,240,706	3,941,484	(1,851)	(6,200,818)	9,286,014	188,265,535
Structure	70,573,374	6,453,254	(646,797)	(2,396,861)	10,178,410	84,161,380
Mechanical equipment	192,607,661	18,729,999	(4,270,303)	(35,741,228)	18,807,999	190,134,128
Vehicles and transport equipment	189,806	136,817	-	(78,319)	-	248,304
Other tangible assets	9,490,763	4,211,469	(32,146)	(4,405,944)	4,468,122	13,732,264
Assets under construction in progress	51,738,448	25,680,565	(16,028)	-	(45,525,599)	31,877,386
Machineries in transit	1,851,457	2,046,383	-	-	(2,498,152)	1,399,688
Total	663,484,729	66,998,594	(14,666,866)	(48,823,170)	(5,218,820)	661,774,467

(Note 1) They consist of the main account replacement for construction in progress, replacement with investment real estate properties, intangible assets, etc.

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Depreciation (Note 1)	Impairment (Note 1)	Transfer of business (Note 2)	Physical split-off (Note 3)	Others (Note 4)	End of period
Land	190,755,296	-	-	-	-	(9,209,440)	(25,477,072)	(276,270)	155,792,514
Building	192,165,557	5,038,805	(636,626)	(6,294,596)	(9,271,731)	(939,244)	(6,979,667)	8,158,208	181,240,706
Structure	105,263,719	4,877,751	(212,859)	(3,253,258)	(3,105,329)	(75,485)	(39,979,287)	7,058,122	70,573,374
Mechanical equipment	308,854,993	26,301,519	(805,088)	(52,633,078)	(90,608,774)	(3,739,779)	(31,190,278)	36,428,146	192,607,661
Vehicles and transport equipment	261,433	-	(2)	(71,615)	-	(9)	(1)	-	189,806
Other tangible assets	8,942,433	2,817,557	(350,548)	(3,766,572)	(435,328)	(196,466)	(323,232)	2,802,919	9,490,763
Assets under construction in progress	71,262,384	45,420,854	(2,096,822)	-	-	(1,231,804)	(1,638,322)	(59,977,842)	51,738,448
Machineries in transit	890,482	3,224,631	-	-	-	-	-	(2,263,656)	1,851,457
Total	878,396,297	87,681,117	(4,101,945)	(66,019,119)	(103,421,162)	(15,392,227)	(105,587,859)	(8,070,373)	663,484,729

(Note 1) Included are the profits and losses classified from discontinued operations.

(Note 2) During the previous period, the composite material business division and the PPS business division were each sold to Toray Advanced Materials Korea Inc. and HDC Polyall Co., Ltd.

(Note 3) During the previous period, SK Multi-Utility Co., Ltd. was established through a physical split-off.

(Note 4) They consist of the main account replacement for construction in progress, replacement with investment real estate properties and intangible assets, the acquisition of tangible assets following the receipt of government subsidies, etc.

12-2 The borrowing costs capitalized during the current period are KRW 363,199,000 (previous period: KRW 943,631,000). The interest rate for capitalization used to calculate the borrowing costs available for capitalization is 3.21% (previous period: 2.85%).

12-3 Insured assets

As of the end of the current period, the Company has subscribed for all property risk insurance policy for the insured amount of KRW 1,490,723,894,000 (previous period: KRW 2,093,904,057,000) for tangible assets.

13. Lease

(1) Company as a lessee

13-1 The changes in the book amount of right-to-use assets for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Depreciation	Change of lease	End of period
Building	102,673	719,202	-	(170,714)	(5,349)	645,812
Vehicles and transport equipment	976,231	941,789	(135,464)	(667,536)	(1,172)	1,113,848
Total	1,078,904	1,660,991	(135,464)	(838,250)	(6,521)	1,759,660

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Depreciation	Physical split-off (Note 1)	End of period
Building	161,274	35,694	(16,042)	(78,253)	-	102,673
Structure	3,334,722	13,641	-	(108,005)	(3,240,358)	-
Mechanical equipment	2,942,525	2,221,498	(1,700,000)	(618,729)	(2,845,294)	-
Vehicles and transport equipment	992,230	917,801	(208,282)	(717,764)	(7,754)	976,231
Total	7,430,751	3,188,634	(1,924,324)	(1,522,751)	(6,093,406)	1,078,904

(Note 1) During the previous period, SK Multi-Utility Co., Ltd. was established through a physical split-off.

13-2 The details of the lease liabilities as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period		End of the previous period	
	Minimum lease payment	Present value	Minimum lease payment	Present value
1 year or less	852,163	838,788	621,544	615,347
2 years or less	556,662	526,257	415,579	403,824
5 years or less	466,017	417,109	78,478	75,047
Over 5 years	-	-	-	-
Total	1,874,842	1,782,154	1,115,601	1,094,218

13-3 The changes in lease liabilities for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Beginning of period	1,094,218	7,220,531
Increase	1,660,991	3,188,634
Disposed	(137,436)	(2,352,489)
Interest expenses	47,024	276,560
Lease payments made	(876,122)	(1,705,202)
Change of lease	(6,521)	-
Physical split-off (Note 1)	-	(5,533,816)
End of period	1,782,154	1,094,218

(Note 1) During the previous period, SK Multi-Utility Co., Ltd. was established through a physical split-off.

13-4 The expenses recognized from the lease contracts for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Other operating expenses such as consumables		
Short-term lease	551,171	639,932
Lease of small amount	205,786	160,319
Depreciation and impairment losses		
Amortization of right-to-use assets	838,250	1,522,751
Net financial cost		
Lease liabilities' interest expenses	47,024	276,560

The Company had a cash outflow of KRW 1,633,079,000 in total during the current period (previous period: KRW 2,505,453,000) for the leases.

The Company has a number of lease agreements executed with the options for extension and termination included. Such options are negotiated by the senior management to provide flexibility in the management of the portfolio of leased assets and to meet the business needs of the Company. The senior management apply their material judgment in determining whether it is significantly certain that such extension and termination options will be exercised.

(2) Company as a lessor

The Company has executed operating lease agreements for a portfolio of investment real estate properties consisting of specific offices and manufacturing properties. The terms of these leases run from 1 to 50 years. Included in all leases is a provision which allows for an increase in rental payment on an annual basis depending on the current market conditions. The lessee must also guarantee the residual value of the real estate properties. The rental income recognized during the reporting period was KRW 4,318,018,000 (previous period: KRW 2,948,303,000).

As of the end of the reporting period, the future minimum rent receivables under the non-cancellable operating leases are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Within 1 year	4,579,889	3,760,575
Over 1 year, 5 years or less	2,688,228	3,010,397
Over 5 years	8,364,801	10,470,680
Total	15,632,918	17,241,652

14. Intangible assets

14-1 The changes in the book amount of intangible assets for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Redeemed	Replacements (Note 1)	End of period
Industrial property rights	5,482,070	109,659	(389,987)	(1,156,479)	365,930	4,411,193
Software	13,042,989	6,945,410	(124,388)	(4,945,068)	4,683,770	19,602,713
Memberships	7,056,505	1,879,560	(930,286)	-	-	8,005,779
Total	25,581,564	8,934,629	(1,444,661)	(6,101,547)	5,049,700	32,019,685

(Note 1) These are the main account replacements from the construction in progress.

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Acquired	Disposed	Amortization (Note 1)	Transfer of business (Note 2)	Physical split-off (Note 3)	Replacements (Note 4)	End of period
Industrial property rights	6,272,314	112,457	(64,111)	(1,328,370)	(987,737)	-	1,477,517	5,482,070
Software	6,743,755	4,228,995	(754,848)	(3,501,052)	-	(72,658)	6,398,797	13,042,989
Memberships	5,799,179	1,257,326	-	-	-	-	-	7,056,505
Total	18,815,248	5,598,778	(818,959)	(4,829,422)	(987,737)	(72,658)	7,876,314	25,581,564

(Note 1) Included are the profits and losses classified from discontinued operations.

(Note 2) During the previous period, the composite material business and the PPS business were each transferred to Toray Advanced Materials Korea Inc. and HDC Polyall Co., Ltd.

(Note 3) During the previous period, SK Multi-Utility Co., Ltd. was established through a physical split-off.

(Note 4) These are the main account replacements from the construction in progress.

14-2 The details for the R&D expenses recognized as expenses for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Total R&D related expenditures	42,266,979	38,635,498
R&D expenses recognized as expenses	42,266,979	38,635,498

15. Investment real estate properties

15-1 The changes in the book value of investment real estate properties for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Depreciation	Replacements	End of period
Land	16,797,406	-	-	16,797,406
Building	414,871	(42,031)	169,120	541,960
Total	17,212,277	(42,031)	169,120	17,339,366

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Depreciation	Replacements (Note 1)	End of period
Land	16,521,136	-	276,270	16,797,406
Building	534,529	(37,448)	(82,210)	414,871
Total	17,055,665	(37,448)	194,060	17,212,277

(Note 1) These are the replacements of investment real estate properties, tangible assets of buildings, etc., due to the execution of lease agreements for some land for Entis Co., Ltd., etc.

15-2 During the current period, the rental income from investment real estate properties is KRW 4,318,018,000 (previous period: KRW 2,948,303,000), which includes the revenue from discontinued operations of KRW 221,390,000 in the previous period. As of the end of the current period, the fair value of investment real estate properties is not significantly different from the book amount.

16. Trade and other payables

The details of the trade and other payables as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Trade payables	77,640,362	92,938,858
Accounts payable	37,033,128	201,457,693
Accrued expenses	36,341,917	39,300,337
Derivative financial liabilities	-	469,458
Total	151,015,407	334,166,346

17. Debenture and borrowings

17-1 The details of the bonds and borrowings as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Short-term borrowings	273,359,823	-
Current portion of long-term liabilities		
Current portion of bonds payable	65,978,484	159,886,422
Debenture	154,787,349	220,560,772
Total	494,125,656	380,447,194

17-2 The details of the short-term borrowings as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Lender	Details	Interest rate (%) at the end of the current period	End of the current period	End of the previous period
KEB Hana Bank, etc.	General borrowings from banks	5.63-6.34	85,000,000	-
Shinhan Bank, etc.	Commercial paper (CP)	5.13-8.00	110,000,000	-
KEB Hana Bank, etc.	Trade receivable discounts	0.82-6.71	78,359,823	-
Total			273,359,823	-

17-3 The details of the bonds as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	Date of maturity	Interest rate (%) at the end of the current period	End of the current period	End of the previous period
The 9-2nd public placement bonds	2023.04.30	3.52	66,000,000	66,000,000
The 10-2nd private placement bonds	2022.10.30	3.10	-	20,000,000
The 11-1st public placement bonds	2022.01.28	2.37	-	70,000,000
The 11-2nd public placement bonds	2024.01.31	2.91	80,000,000	80,000,000
The 12-1st public placement bonds	2022.10.30	2.17	-	70,000,000
The 12-2nd public placement bonds	2024.10.30	2.77	75,000,000	75,000,000
Total			221,000,000	381,000,000
(Deducted: discount on bonds premium)			(234,167)	(552,806)
(Deducted: current portion of bonds payable)			(65,978,484)	(159,886,422)
Deductions			154,787,349	220,560,772

18. Other liabilities

The details of the other liabilities as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Other current liabilities		
Advance payment	1,051,301	311,863
Unearned revenue	229,524	210,833
Deposits	2,446,075	3,427,303
Deposits received	2,972,002	1,102,999
Dividends payable	7,917	2,876
Total	6,706,819	5,055,874
Other non-current liabilities		
Long-term deposits received	-	2,110,026
Total	-	2,110,026

19. Emission rights and emission liabilities

19-1 As of the end of the current period, the number of emission rights allocated free of charge for each year of performance within the planned period is as follows.

(Unit: tons)

Classification	2021	2022	2023	2024	2025	Total
Emission rights allocated free of charge	530,173	530,173	530,173	525,208	525,208	2,640,935

Meanwhile, as of the end of the current period, there are no greenhouse gas emission rights provided as collateral.

19-2 During the current period, the changes in the greenhouse gas emission rights for each year of performance within the planned period are as follows.

(Unit: tons, KRW one thousand)

Classification	2021		2022		2023		2024		2025		Total	
	Quantity	Book amount	Quantity	Book amount	Quantity	Book amount	Quantity	Book amount	Quantity	Book amount	Quantity	Book amount
Allocated amount	301,823	-	272,443	-	272,443	-	269,892	-	269,892	-	1,386,493	-
Allocated free of charge	530,173	-	530,173	-	530,173	-	525,208	-	525,208	-	2,640,935	-
Allocation canceled/Additionally allocated	122,941	-	93,561	-	93,561	-	92,685	-	92,685	-	495,433	-
Changes due to split-off and merger	(351,291)	-	(351,291)	-	(351,291)	-	(348,001)	-	(348,001)	-	(1,749,875)	-
Emission amounts	(296,162)	-	-	-	-	-	-	-	-	-	(296,162)	-
Government expenditure	(296,162)	-	-	-	-	-	-	-	-	-	(296,162)	-
Changes due to emission rights transactions	(13,328)	45,025	430	15,249	-	-	-	-	-	-	(12,898)	60,274
Purchased	1,300	45,025	12,600	446,797	-	-	-	-	-	-	13,900	491,822
Sold	(14,628)	-	(12,170)	(431,548)	-	-	-	-	-	-	(26,798)	(431,548)
Carried over from the previous period	38,220	-	30,553	45,025	-	-	-	-	-	-	68,773	45,025
Carried over to next period	(30,553)	(45,025)	-	-	-	-	-	-	-	-	(30,553)	(45,025)
End of period	-	-	303,426	60,274	272,443	-	269,892	-	269,892	-	1,115,653	60,274

19-3 The changes in the emission rights assets for the current and previous periods are as follows.

(Unit: tons)

Classification	Current period	
	Quantity	Amount
Beginning of period	1,300	45,025
Emission rights purchased	12,600	446,797
Emission rights sold	(12,170)	(431,548)
End of period	1,730	60,274

19-4 There are no changes in emission rights liabilities for the current period.

19-5 The confirmed value of the greenhouse gas emissions for the previous period is 296,162 tCO₂-eq, and the estimate of the greenhouse gas emissions for the current period is 262,950 tCO₂-eq.

20. Defined benefit liabilities (assets)

The Company operates a defined benefit plan for the employees and has used the projected unit credit method for the actuarial valuation of the defined benefit liabilities.

20-1 The changes in defined benefit liabilities (assets) for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Changes in the defined benefit liabilities (assets):		
Beginning of period	(7,103,496)	3,254,475
Decrease in plan assets (retirement benefits paid)	5,873,020	(7,224,525)
Total expenses recognized as net income	9,947,189	11,271,394
Remeasurement elements	(12,381,080)	3,853,911
Contributions paid	(25,000,000)	(17,000,000)
Affiliates' transfers, other account replacements, etc.	1,625,619	(1,258,751)
End of period (Note 1)	(27,038,748)	(7,103,496)
Components in the statement of financial position:		
Present value of defined benefit liabilities	96,697,514	100,722,597
Fair value of plan assets	(123,736,262)	(107,826,093)
Total (Note 1)	(27,038,748)	(7,103,496)

(Note 1) The net defined benefit assets were recognized as other non-current assets.

20-2 The profits and losses recognized in connection with the defined benefit plans for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Current service cost	10,116,504	11,203,678
Interest expenses	2,439,315	1,904,358
Expected return on plan assets	(2,608,630)	(1,836,642)
Total	9,947,189	11,271,394

20-3 The changes in the present value of defined benefit liabilities for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Beginning of period	100,722,597	105,422,819
Current service cost	10,116,504	11,203,678
Interest expenses	2,439,315	1,904,358
Remeasurement elements	(12,841,190)	3,525,709
Retirement benefits paid	(5,477,193)	(11,107,939)
Affiliates' transfers	1,737,481	(4,115,078)
Business transfer (Note 1)	-	(1,826,878)
Physical split-off (Note 2)	-	(4,284,072)
End of period	96,697,514	100,722,597

(Note 1) During the previous period, the composite material business and the PPS business were each transferred to Toray Advanced Materials Korea Inc. and HDC Polyall Co., Ltd.

(Note 2) During the previous period, SK Multi-Utility Co., Ltd. was established through a physical split-off.

20-4 The changes in the fair value of plan assets for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Beginning of period	107,826,093	102,168,344
Expected return	2,608,630	1,836,642
Remeasurement elements	(460,110)	(328,202)
Contributions paid	25,000,000	17,000,000
Affiliates' transfers	111,862	(2,856,327)
Retirement benefits paid	(11,350,213)	(3,883,416)
Business transfer (Note 1)	-	(1,826,878)
Physical split-off (Note 2)	-	(4,284,070)
End of period	123,736,262	107,826,093

(Note 1) During the previous period, the composite material business and the PPS business were each transferred to Toray Advanced Materials Korea Inc. and HDC Polyall Co., Ltd.

(Note 2) During the previous period, SK Multi-Utility Co., Ltd. was established through a physical split-off.

Meanwhile, the plan assets as of the end of the reporting period consist of time deposits, etc.

20-5 As of the end of the reporting period, the major assumptions used for the actuarial valuation are as follows.

Classification	End of the current period	End of the previous period
Discount rate	5.15%	2.51%
Expected return on plan assets (percentage)	5.15%	2.51%
Future rate of wage growth	6.36%	4.92%

20-6 The details of remeasurement elements for the defined benefit plans for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Demographic assumptions	-	-
Financial assumptions	(14,819,909)	1,424,566
Changes adjusted	1,978,719	2,101,143
Remeasurement elements of plan assets	460,110	328,202
Total	(12,381,080)	3,853,911

20-7 The results of sensitivity analysis on the effect of changes in the major assumptions used for the actuarial evaluation of the defined benefit liabilities on the changes in the present value of the defined benefit liabilities for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Discount rate		Future rate of wage growth	
	1% point increase	1% point decrease	1% point increase	1% point decrease
Defined benefit obligations	(6,839,507)	7,841,905	7,961,277	(7,056,906)

<Previous period>

(Unit: KRW one thousand)

Classification	Discount rate		Future rate of wage growth	
	1% point increase	1% point decrease	1% point increase	1% point decrease
Defined benefit obligations	(8,150,989)	9,471,648	9,430,476	(8,269,243)

21. Contract liabilities

21-1 The details of the contract liabilities as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Refund liabilities (Note 1)	1,072,707	2,974,758
Payment on goods received in advance (Note 2)	2,365,529	12,392,160
Other contract liabilities	667,757	108,513
Total	4,105,993	15,475,431

(Note 1) The Company appropriates the contract liabilities for the returned goods of expected returns based on past experience with returns for the products sold. All assumptions applied for the contract liability calculations above were calculated based on the current products' sales level and the currently available information on the returns expected to occur during the returnable period for products sold under returnable conditions.

(Note 2) The amounts received in advance from the customers related to the product production and relocation activities were recognized as the contract liabilities.

21-2 The changes in contract liabilities for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Beginning of period	15,475,431	978,603
Placements (reversal)	(11,369,438)	14,496,828
End of period	4,105,993	15,475,431

22. Provisioning liabilities

22-1 The details of the provisioning liabilities as of the end of the current period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Provisioning liabilities for contribution (Note 1)	19,326,700	21,281,360
Provisioning liabilities for PFAD (Note 2)	-	1,156,619
Total	19,326,700	22,437,979

(Note 1) Upon receipt of the notice for the payment of damage relief compensation in accordance with the Special Act on Remedy for Damage Caused by Humidifier Disinfectants, the difference from the estimate was reversed (refer to Note 37).

(Note 2) In relation to the transfer of the bio-energy business division, an agreement was made to compensate SK Eco Prime Co., Ltd. in case the price of PFAD differs from soybean oil and palm oil with a certain spread. With the conclusion of the transaction within the current period, the provision for liabilities was fully reversed.

23. Hedging activities and derivatives

23-1 Risk management activities

The Company is exposed to the foreign currency risk for some of the sales and purchases following the international transactions conducted. To mitigate such risk, the Company regularly monitors the net exposure in major currencies (dollar, euro, and yen) based on the sales and purchases expected over the next 12 months. Furthermore, the Company executes foreign currency forward contracts to avoid such exposure.

For business and sales purposes, the Company has not designated such currency forward contracts for hedging. Thus, changes in the fair value of all forward contracts are recognized as profit or loss for the current period.

23-2 The details of derivative financial instruments held by the Company as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	Details	End of the current period	End of the previous period
Derivative instruments not designated as the hedging instruments:			
Current assets in derivative financial instruments	Currency forward contracts	823,372	1,825,609
Current liabilities in derivative financial instruments	Currency forward contracts	-	469,458
Non-current assets in derivative financial instruments	Put Option	1,237,613	368,001

23-3 As of the end of the reporting period, the Company has executed derivative contracts with KEB Hana Bank, etc., for the purpose of hedging the risk of exchange rate fluctuations arising from the foreign currency transactions. In this connection, the derivative financial instruments which are not designated as hedging instruments by the Company are as follows.

<End of the current period>

(Unit: KRW one thousand)

Contracting party	Buy/Sell	Contract amount	Fair value
KEB Hana Bank, etc.	Buy	-	-
	Sell	33,812,275	823,372
Total		33,812,275	823,372

<End of the previous period>

(Unit: KRW one thousand)

Contracting party	Buy/Sell	Contract amount	Fair value
KEB Hana Bank, etc.	Buy	153,129,963	880,980
	Sell	108,023,488	475,171
Total		261,153,451	1,356,151

23-4 As of the end of the reporting period, the details of non-current derivative financial instruments which are not designated by the Company as hedging instruments are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Type	Fair value
Non-current assets in derivative financial instruments	Put option for SK Chemicals Daejung Co., Ltd.'s common stocks (Note 1)	289,589
	Put option for HDC Polyall Co., Ltd.'s stocks (Note 2)	948,024
Total		1,237,613

(Note 1) This is a put option which allows for SK Chemicals Daejung Co., Ltd.'s subsidiaries' investment stocks to be sold to Daejung Chemicals & Metals Co., Ltd.

(Note 2) This is a put option which allows for HDC Polyall Co., Ltd.'s affiliates' investment stocks to be sold to HDC Hyundai EP Co., Ltd.

<End of the previous period>

(Unit: KRW one thousand)

Classification	Type	Fair value
Non-current assets in derivative financial instruments (Note 1)	Put option for SK Chemicals Daejung Co., Ltd.'s common stocks	368,001

(Note 1) This is a put option which allows for SK Chemicals Daejung Co., Ltd.'s subsidiaries' investment stocks to be sold to Daejung Chemicals & Metals Co., Ltd.

23-5 The Company is exposed to certain risks in connection with their ongoing business operations. The main risks managed using derivatives are the foreign exchange risk and the interest rate risk. The Company's risk management strategies and risk management methods are described under Note 34 below.

24. Contingencies and agreements

24-1 The details of important litigations related to the Company as of the end of the current period are as follows.

(Unit: KRW one thousand)

Details of litigations	Plaintiff	Defendant	Litigation value	Note
Indemnity claims (Notes 1, 2)	Korea Environmental Industry and Technology Institute	Company and 12 others	2,240,000	1st trial in progress
Indemnity claims (Notes 1, 2)	Korea Environmental Industry and Technology Institute	Company and 12 others	294,414	1st trial in progress
Indemnity claims (Notes 1, 2)	National Health Insurance Service	Company and 12 others	6,970,000	1st trial in progress
Claims for damages (Note 2)	Kang Chan-ho and 296 others	Company and 19 others	11,200,000	1st trial in progress
Claims for damages (Note 2)	Aekyung Industrial Co., Ltd.	Company	710,000	1st trial in progress
Claims for the prohibition of patent infringements and for damages	Novartis AG	Company	27,500,000	2nd trial in progress
Claims for the revocation of corrective order, etc.	Company and 1 other	Fair Trade Commission	163,000	2nd trial in progress
Claims for the revocation of corrective order, etc.	Company and 1 other	Fair Trade Commission	161,667	2nd trial in progress

(Note 1) As of the end of the current period, part of the land owned by the Company has been provisionally seized in connection with the litigation above.

(Note 2) This is a civil lawsuit against the Company, etc. related to the damages caused by a humidifier disinfectant, and many other civil lawsuits are in progress in addition to the lawsuit above.

In addition to the litigation above, the Company has been indicted for violating the Special Act on Remedy for Damage Caused by Humidifier Disinfectants on the grounds that they submitted an opinion which was not true at the Ministry of Environment's requirement of data submission, and a related criminal trial is now in progress.

The results of the pending lawsuits as of the end of the current period cannot be predicted, and the uncertainties of such lawsuits are not reflected in the consolidated financial statements of the Company.

24-2 As of the end of the current period, no assets were provided as collateral in connection with the borrowings from financial institutions.

24-3 Other agreements

Other agreements executed by the Company with financial institutions as of the end of the current period are as follows.

Counterparty to the agreement	Details of the agreement
KEB Hana Bank, etc.	An agreement on a limit of KRW 165,000 million and another on the foreign currency borrowings of USD 23.0 million
	An agreement on the opening of a letter of credit of USD 109.0 million and EUR 46.8 million, etc.
	An agreement on the limit with the exemption of security deposit for derivatives of KRW 41.5 million, etc.
Seoul Guarantee Insurance, etc.	A contractual performance payment guarantee with a limit of KRW 10,097 million, etc.

24-4 In accordance with Article 530-9 Paragraph 1 of the Commercial Act, the Company is jointly and severally liable for repaying the existing liabilities of the Company and SK Discovery Co., Ltd., the surviving company of the split-off which occurred on or before December 1, 2017, the date of split-off.

24-5 In accordance with Article 530-9 Paragraph 1 of the Commercial Act, the Company is jointly and severally liable for repaying the existing liabilities of the Company and SK Bioscience Co., Ltd., the newly established company through the split-off which occurred on or before July 1, 2018, the date of split-off.

24-6 Fair Trade Commission's corrective actions

The Fair Trade Commission determined that the act of labeling the humidifier disinfectants before the Company's split-off violated the Act on Fair Labeling and Advertising, and took corrective actions, imposed fines, and filed a complaint with the prosecutors' office. The Company must carry out such corrective actions and the order to pay fines issued by the Fair Trade Commission jointly with SK Discovery Co., Ltd., the surviving company of split-off.

24-7 SK Multi-Utility Co., Ltd., a subsidiary of the Company, has entered into a fund supplementation agreement under which the Company must pay the full amount of the shortfall in case of SK Multi-Utility Co., Ltd.'s lack of funds (totaling KRW 150,000,000,000 in borrowings from Kookmin Bank, Korea Investment & Securities, and Hyundai Fire & Marine Insurance).

24-8 As of the end of the current period, the Company has lost a bill of Shinhan Bank and plans to proceed with the nullification judgment procedures.

25. Related parties

25-1 As of the end of the reporting period, the details of the Company's related parties are as follows.

Classification	Current period	Previous period
Controlling company	SK Discovery Co., Ltd. (Note 1)	-
Companies exercising a significant influence	-	SK Discovery Co., Ltd.
Subsidiaries	SK Bioscience Co., Ltd. and its subsidiaries (Note 2), SK Multi-Utility Co., Ltd., SK Chemicals Daejung Co., Ltd., SK Environmental Materials (Yantai) Co., Ltd., SK Chemicals (Shanghai) Co., Ltd., SK Chemicals (Suzhou) Co., Ltd. (Note 3), SK Chemicals America, SK Chemicals GmbH, SK Chemicals Malaysia	SK Bioscience Co., Ltd., SK Multi-Utility Co., Ltd., SK Chemicals Daejung Co., Ltd., SK Environmental Materials (Yantai) Co., Ltd., SK Chemicals (Suzhou) Co., Ltd., SK Chemicals (Shanghai) Co., Ltd., SK Chemicals America, SK Chemicals GmbH, SK Chemicals Malaysia
Joint ventures and affiliates	JSI Co., Ltd., Entis Co., Ltd., HDC Polyall Co., Ltd. (Note 4)	JSI Co., Ltd., Entis Co., Ltd., HDC Polyall Co., Ltd. (Note 3), ST Green Energy (Note 5)
Others	Subsidiaries and affiliates of SK Discovery Co., Ltd., affiliates of SK corporate group, etc. (Note 6)	Subsidiaries and affiliates of SK Discovery Co., Ltd., affiliates of SK corporate group, etc. (Note 6)

(Note 1) During the current period, SK Discovery Co., Ltd. acquired additional shares in the Company and has incorporated the Company as its subsidiary.

(Note 2) During the current period, SK bioscience USA, Inc. was newly invested by SK Bioscience Co., Ltd., and was incorporated as a subsidiary.

(Note 3) During the previous period, we have executed a stock purchase and sales agreement to sell 100% of the shares of SK Chemicals (Suzhou) Co., Ltd. to Sumong Foods Co., Ltd, and as a result, we have replaced these with non-current assets held for sale.

(Note 4) During the previous period, the company newly included HDC Polyall Co., Ltd. as an affiliate, by purchasing 20%-1 share of HDC Polyall Co., Ltd.'s stocks at KRW 7,700 million. For important judgments regarding significant influence, please refer to Note 11.

(Note 5) The Company disposed of all the shares it held in ST Green Energy during the current period.

(Note 6) The large-scaled corporate groups' affiliates designated by the Fair Trade Commission were determined to be related parties according to the substantive relationship provided under Paragraph 10 of the Korean International Financial Reporting Standards No. 1024.

25-2 The details of major transactions conducted with related parties for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Name of related parties	Sales	Other income, asset sales, etc.	Purchase	Other expenses, capital expenditures, etc. (Note 2)
Controlling company	SK Discovery Co., Ltd.	63,636	217,167	-	1,080,311
Subsidiaries	SK Bioscience Co., Ltd.	4,233,618	104,175	-	-
	SK Multi-Utility Co., Ltd.	1,194,714	977,400	-	72,021,286
	SK Chemicals Daejung Co., Ltd.	619,323	863,072	-	-
	SK Chemicals (Suzhou) Co., Ltd.	20,220,702	92,578	27,304	6,503
	SK Chemicals (Shanghai) Co., Ltd.	205,404	1,730	-	2,954,838
	SK Environmental Materials (Yantai) Co., Ltd.	-	2,042	-	-
	SK Chemicals America	122,667,806	-	-	40,116
	SK Chemicals GmbH	126,103,558	3,717	-	403,001
	SK Chemicals Malaysia	-	-	-	388,253
Affiliates and joint ventures	Entis Co., Ltd.	1,059,698	2,648,924	2,901,813	454
	JSI Co., Ltd.	127,360	101,128	90,930	4,200
	HDC Polyall Co., Ltd.	2,284,637	480,942	-	378,650
	ST Green Energy (Note 1)	-	4,642	-	18,229,596
Others	SK Gas Co., Ltd.	327,323	-	10,203,085	495,513
	SK Plasma Co., Ltd.	1,735,787	1,920,096	-	23,577
	SK Advanced Co., Ltd.	233,906	260,742	3,949,441	-
	Huvis Co., Ltd.	981,958	11,871	4,633,606	3,935
	SK Ecoplant Co., Ltd.	-	-	-	176,285
	SK Networks Co., Ltd.	14,285,425	-	11,690,219	5,482
	SK NETWORKS HONGKONG	-	-	23,755,898	-
	SKC Co., Ltd.	2,371,089	-	222,326	-
	SK Energy Co., Ltd.	-	-	-	22,408
	SK Geo Centric Co., Ltd.	-	-	17,854,466	-
	SK Co., Ltd.	-	-	-	8,544,697
	Happy Narae Co., Ltd.	-	-	1,067,960	7,083,688
	Others	386,379	2,014	135,520	7,868,924
	Total	299,102,323	7,692,240	76,532,568	119,731,717

(Note 1) These are transactions prior to the disposal of ST Green Energy's shares.

(Note 2) The Company has acquired the fixed assets worth KRW 5,829,717,000 from SK Co., Ltd., etc. during the current period.

<Previous period>

(Unit: KRW one thousand)

Classification	Name of related parties	Sales (Note 1)	Other income, asset sales, etc. (Note 1)	Purchase (Note 1)	Other expenses, capital expenditures, etc. (Note 1)
Companies exercising a significant influence	SK Discovery Co., Ltd.	63,636	110,508	-	1,056,606
Subsidiaries	SK Bioscience Co., Ltd.	2,814,848	1,524,604	-	226,950
	SK Multi-Utility Co., Ltd.	12,537	389	-	6,625,737
	SK Chemicals Daejung Co., Ltd.	1,095,504	2,743,014	-	4,106
	SK Chemicals (Qingdao) Co., Ltd. (Note 2)	15,636	5,214,889	2,644,995	-
	SK Chemicals (Suzhou) Co., Ltd.	18,329,881	75,352	124,222	-
	SK Chemicals (Shanghai) Co., Ltd.	2,645,977	40,634	-	2,878,172
	SK Chemicals America	66,750,356	393,409	-	21,173
	SK Chemicals GmbH	99,068,835	456,017	-	376,606
Affiliates and joint ventures	Entis Co., Ltd.	1,236,536	3,779,346	3,492,735	538
	JSI Co., Ltd.	64,060	109,716	93,510	-
	ST Green Energy	-	589,952	-	213,882,734
Others	SK Gas Co., Ltd.	541,806	-	6,211,366	3,454,732
	SK Plasma Co., Ltd.	1,274,484	1,236,564	-	1,648
	SK Advanced Co., Ltd.	3,448,646	847,238	7,140,954	274,293
	Huvis Co., Ltd.	12,481,991	135	22,414,559	17,450
	SK Ecoplant Co., Ltd. (Notes 3, 4)	-	-	-	1,249,469
	SK Networks Co., Ltd.	8,666,193	-	11,202,280	437,929
	SK NETWORKS HONGKONG	-	-	24,191,033	-
	SKC Co., Ltd.	2,177,803	4,529	298,425	-
	SK Energy Co., Ltd.	14,661,175	-	265,271	1,284,145
	SK Geo Centric Co., Ltd. (Note 5)	-	-	35,024,637	-
	SK Co., Ltd.	-	-	-	5,899,445
	SK Hynix Co., Ltd.	914,819	-	-	-
	Happy Narae Co., Ltd.	-	-	2,081,802	8,694,783
	Others	6,000	-	389,640	7,189,580
Total	236,270,723	17,126,296	115,575,429	253,576,096	

(Note 1) Included are the amounts of transactions conducted with related parties classified as the profit or loss from discontinued operations.

(Note 2) During the previous period, 100% of the shares of SK Chemicals (Qingdao) Co., Ltd. were disposed of and therefore SK Chemicals (Qingdao) Co., Ltd. was excluded from the related parties as of the end of the current period.

(Note 3) During the previous period, the company name was changed from SK E&C Co., Ltd. to SK Ecoplant Co., Ltd.

(Note 4) The Company has acquired the tangible assets of KRW 1,161,199,000 from SK Ecoplant Co., Ltd. during the previous period.

(Note 5) During the previous period, the company name was changed from SK Global Chemical Co., Ltd. to SK Geo Centric Co., Ltd.

25-3 The details of major receivables and liabilities concerning the related parties as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Name of related parties	Receivables		Payables	
		Trade receivables	Other receivables	Trade payables	Other payables
Controlling company	SK Discovery Co., Ltd.	-	22,146	-	124,315
Subsidiaries	SK Bioscience Co., Ltd.	612,496	8,981	-	-
	SK Multi-Utility Co., Ltd.	300,498	41,760	-	7,861,692
	SK Chemicals Daejung Co., Ltd.	132,984	4,698	-	-
	SK Environmental Materials (Yantai) Co., Ltd.	-	2,189,069	-	-
	SK Chemicals (Suzhou) Co., Ltd.	4,866,454	82,303	-	-
	SK Chemicals (Shanghai) Co., Ltd.	187,904	253,063	-	139,986
	SK Chemicals America	53,258,369	-	-	-
	SK Chemicals GmbH	49,361,668	2,162	-	-
Affiliates and joint ventures	Entis Co., Ltd.	80,592	969,014	156,417	-
	JSI Co., Ltd. (Note 1)	-	3,400,000	-	-
	HDC Polyall Co., Ltd.	266,258	-	-	-
Others	SK Gas Co., Ltd.	32,263	-	1,163,251	-
	SK Plasma Co., Ltd.	129,191	116,611	-	4,766
	SK Advanced Co., Ltd.	45,299	-	506,043	-
	SK Ecoplant Co., Ltd.	-	131,541	-	-
	SK Networks Co., Ltd.	62,594	-	805,580	8,877
	SK NETWORKS HONGKONG	-	625,620	1,245,827	-
	SKC Co., Ltd.	260,392	-	-	-
	SK Energy Co., Ltd.	-	-	-	968
	SK Geo Centric Co., Ltd.	-	-	256,437	-
	SK Co., Ltd.	-	-	-	693,024
	Happy Narae Co., Ltd.	-	-	8,272	743,185
	Others	395,418	-	11,968	1,360,154
Total		109,992,380	7,846,968	4,153,795	10,936,967

(Note 1) The Company has placed an allowance for bad debts for the loan of KRW 3,400 million for JSI Co., Ltd. in full.

<End of the previous period>

(Unit: KRW one thousand)

Classification	Name of related parties	Receivables		Payables	
		Trade receivables	Other receivables	Trade payables	Other payables
Companies exercising a significant influence	SK Discovery Co., Ltd.	35,000	10,130	-	217,306
Subsidiaries	SK Bioscience Co., Ltd.	305,824	84,107	-	49
	SK Multi-Utility Co., Ltd.	13,790	1,265,829	-	7,266,116
	SK Chemicals Daejung Co., Ltd.	231,552	3,357	-	-
	SK Environmental Materials (Yantai) Co., Ltd.	-	2,245,127	-	-
	SK Chemicals (Suzhou) Co., Ltd.	5,724,424	86,423	-	-
	SK Chemicals (Shanghai) Co., Ltd.	-	3,056	-	-
	SK Chemicals America	29,908,030	2,164	-	-
	SK Chemicals GmbH	45,271,199	57,983	-	-
Affiliates and joint ventures	Entis Co., Ltd.	113,963	508,511	240,062	-
	JSI Co., Ltd. (Note 1)	15,488	3,750,000	-	-
	HDC Polyall Co., Ltd.	-	1,161,028	-	-
	ST Green Energy	-	22,002	-	104,850,770
Others	SK Gas Co., Ltd.	25,488	-	880,110	-
	SK Plasma Co., Ltd.	87,777	5,476	-	-
	SK Advanced Co., Ltd.	-	42,327	486,469	-
	Huvis Co., Ltd.	-	-	3,423,392	-
	SK Ecoplant Co., Ltd. (Note 2)	-	131,541	-	-
	SK Networks Co., Ltd.	-	-	1,393,244	26,800
	SK NETWORKS HONGKONG	-	968,739	13,714,225	325,133
	SKC Co., Ltd.	357,808	-	15,802	-
	SK Energy Co., Ltd.	-	-	-	36,294
	SK Geo Centric Co., Ltd. (Note 3)	-	-	3,362,407	-
	SK Co., Ltd.	-	-	-	669,723
	SK Hynix Co., Ltd.	-	-	-	-
	Happy Narae Co., Ltd.	-	-	167,714	838,642
	Others	-	-	138,996	570,569
Total		82,090,343	10,347,800	23,822,421	114,801,402

(Note 1) The Company has placed an allowance for bad debts for the loan of KRW 3,750 million for JSI Co., Ltd. in full.

(Note 2) The corporate name was changed from SK E&C Co., Ltd. to SK Ecoplant Co., Ltd. during the previous period.

(Note 3) During the previous period, the company name was changed from SK Global Chemical Co., Ltd. to SK Geo Centric Co., Ltd.

25-4 The details of financial transactions conducted with related parties for the current and previous periods are as follows.

① Investments

<Current period>

(Unit: KRW one thousand)

Classification	Name of related parties	Investments
Subsidiaries	SK Environmental Materials (Yantai) Co., Ltd.	13,437,620

<Previous period>

(Unit: KRW one thousand)

Classification	Name of related parties	Investments
Subsidiaries	SK Environmental Materials (Yantai) Co., Ltd.	9,138,400
Affiliates and joint ventures	HDC Polyall Co., Ltd.	7,699,750
	ST Green Energy	385,515

② Loan of funds

<Current period>

(Unit: KRW one thousand)

Classification	Target companies	Beginning of period	Recovered	End of period
SK Chemicals Co., Ltd.	JSI Co., Ltd. (Note 1)	3,750,000	(350,000)	3,400,000

(Note 1) The Company has placed an allowance for bad debts for the loan of KRW 3,400 million for JSI Co., Ltd. in full.

<Previous period>

(Unit: KRW one thousand)

Classification	Target companies	Beginning of period	Recovered	End of period
SK Chemicals Co., Ltd.	JSI Co., Ltd. (Note 1)	4,050,000	(300,000)	3,750,000

(Note 1) The Company has placed an allowance for bad debts for the loan of KRW 3,750 million for JSI Co., Ltd. in full.

25-5 The details of the payment guarantees provided for the related parties as of the end of the reporting period are as follows.

<End of the current period>

(Unit: CNY)

Recipient companies	Amount of payment guaranteed		Details of the payment guarantee	Payment guarantor
	Currency	Amount		
SK Environmental Materials (Yantai) Co., Ltd.	CNY	96,000,000	Facility funds	KEB Hana Bank Yantai Branch

<End of the previous period>

(Unit: USD)

Recipient companies	Amount of payment guaranteed		Details of the payment guarantee	Payment guarantor
	Currency	Amount		
ST Green Energy	USD	7,200,000	Trade facility	KEB Hana Bank Singapore Branch
	USD	4,000,000		Development Bank of Singapore

25-6 As of the end of the reporting period, we are providing a capital supplementation agreement to SK Multi-Utility Co., Ltd. (Refer to Note 24-7).

25-7 The details of the compensation made for the key senior management for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Short-term benefits	3,440,144	2,859,392
Retirement benefits	418,249	371,836
Share-based compensation	9,816	93,252
Total	3,868,209	3,324,480

The key senior management of the Company consist of the directors who are registered executives and the members of the Audit Committee.

26. Equity

26-1 Capital

The details of the capital as of the end of the reporting period are as follows.

Classification	Unit	End of the current period		End of the previous period	
		Common stocks	Preferred stocks	Common stocks	Preferred stocks
Total number of stocks to be issued	Shares	40,000,000	10,000,000	40,000,000	10,000,000
Par value of 1 share	KRW	5,000	5,000	5,000	5,000
Number of issued stocks (Notes 1, 2)	Shares	17,253,783	2,115,429	17,620,780	2,115,429
Capital (Notes 1, 2)	KRW one thousand	88,216,360	10,577,145	88,103,900	10,577,145

(Note 1) The Company has retired 389,489 treasury stocks, resulting in a discrepancy between the total face value of issued shares and the capital.

(Note 2) During the previous period, the Company increased its capital by KRW 32,630,715,000 by executing a capital increase without consideration by using the capital surplus as the financial resource.

26-2 Capital surplus

The details of the capital surplus as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Paid-in capital in excess of par value (Note 1)	237,858,538	235,917,593
Gains from merger	32,942,217	32,942,217
Losses from merger	(112,885,429)	(112,885,429)
Total	157,915,326	155,974,381

(Note 1) During the previous period, the Company executed a capital increase without consideration by using the capital surplus as the financial resource.

26-3 Other capital

(1) The details of other capital as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Treasury stocks (Notes 1, 2)	(8,921,442)	(8,921,443)
Stock options (Note 3)	1,532,449	1,831,164
Other capital adjustments	(5,255,111)	(5,255,111)
Total	(12,644,104)	(12,345,390)

- (Note 1) The Company acquired the shares of the Company at the market price following the acquisition of fractional shares and the exercise of appraisal rights by the shareholders. As of the end of the current period, the Company owns the treasury stocks of 30,857 common stocks and 148,133 preferred stocks.
- (Note 2) During the current period, 389,489 treasury stocks were acquired and subsequently the profit was retired.
- (Note 3) There were no new stock options granted anew during the current period, and they were increased by KRW 9,816,000 due to the recognition of share-based compensation cost for the current period and were decreased by KRW 308,530,000 due to their exercises.

(2) As of the end of the current period, the details of stock options are as follows.

(Unit: stocks, KRW)

Date of grant	Number of stocks to be issued (Note 1)	Period of exercise (Note 2)	Exercise price (Note 1)	Fair value on the date of grant (Note 1)
2018.3.6	29,988	2020.3.7 - 2025.3.6	71,785	15,864
2018.3.26 (1st)	22,491	2020.3.27 - 2025.3.26	72,009	16,226
2018.3.26 (2nd)	22,492	2021.3.27 - 2025.3.26	77,724	13,717
2019.3.25 (1st)	22,491	2021.3.26 - 2026.3.25	47,749	9,184
2019.3.25 (2nd)	22,492	2022.3.26 - 2026.3.25	51,517	7,856

- (Note 1) Following the capital increase without consideration during the previous period, the number of shares to be issued and the exercise price have been adjusted, and the fair value on the date of grant has been adjusted and entered.
- (Note 2) As of December 31, 2022, the weighted average residual maturity of the unexercised stock options is 2.6 years.

(3) The fair value of stock options was calculated in line with the binary option pricing model, and the variables applied thereto are as follows.

(Unit: KRW)

Classification	Portion granted on 2018.3.6	Portion granted on 2018.3.26 (1st)	Portion granted on 2018.3.26 (2nd)	Portion granted on 2019.3.25 (1st)	Portion granted on 2019.3.25 (2nd)
Stock price on the date of grant (Note 1)	69,667	70,000	70,000	45,267	45,267
Exercise price (Note 1)	71,785	72,009	77,724	47,749	51,517
Expected volatility	15.07%	15.75%	15.75%	18.37%	18.37%
Risk-free interest rate	2.66%	2.57%	2.57%	1.92%	1.92%

(Note 1) Following the capital increase without consideration during the previous period, the number of shares to be issued and the exercise price have been adjusted, and the share price on the date of grant has been adjusted and entered.

(4) The changes in stock options for the current period are as follows.

(Unit: stocks, KRW one thousand)

Date of grant	Number of stocks to be issued			Valuation amount			
	Beginning of period	Exercise (Note 2)	End of period	Beginning of period	Increase	Exercised	End of period
2018.3.6 (Note 1)	29,988	-	29,988	475,721	-	-	475,721
2018.3.26 (1st) (Note 1)	22,491	-	22,491	364,940	-	-	364,940
2018.3.26 (2nd) (Note 1)	44,984	(22,492)	22,492	617,060	-	(308,530)	308,530
2019.3.25 (1st) (Note 1)	22,491	-	22,491	206,567	-	-	206,567
2019.3.25 (2nd) (Note 1)	22,492	-	22,492	166,875	9,816	-	176,691
Total	142,446	(22,492)	119,954	1,831,163	9,816	(308,530)	1,532,449

(Note 1) Following the capital increase without consideration during the previous period, the number of shares to be issued has been adjusted.

(Note 2) The weighted average market price as of the date of exercise for the exercised stock options is KRW 90,742.

26-4 Accumulated other comprehensive income

There are no changes in the accumulated other comprehensive income for the current period.

26-5 Retained earnings

The details of retained earnings as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Earned surplus reserve (Note 1)	9,621,033	3,744,031
Unappropriated retained earnings	865,912,286	909,530,048
Total	875,533,319	913,274,079

(Note 1) In accordance with the provisions of the Commercial Act, the Company is required to accumulate over 10% of the dividends in money as earnings surplus reserve for each settlement period until they reach 50% of the capital, and this reserve can only be used to compensate for losses and for capitalization.

26-6 Statement of appropriation of retained earnings

The statements of appropriation of retained earnings for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
I. Unappropriated retained earnings	865,912,286	909,530,048
Unappropriated retained earnings carried over from the previous period	844,883,024	609,948,559
Interim dividend	(7,667,092)	-
Retirement of treasury stock	(49,982,603)	-
Net income	69,270,430	302,502,753
Remeasurement factors of defined benefit liabilities	9,408,527	(2,921,264)
II. Amount of retained earnings disposed of	(28,316,928)	(64,647,024)
Payment of dividends	(25,045,653)	(58,770,022)
Accumulation of legal reserves	(3,271,275)	(5,877,002)
III. Unappropriated retained earnings carried forward	837,595,358	844,883,024

The expected date of disposal of the retained earnings above for the current period is March 28, 2023, and the confirmed date of disposal of the retained earnings for the previous period was March 28, 2022.

26-7 Dividends

The details of cash dividends proposed for approval by the Company at the general meeting of shareholders for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period		Previous period	
	Common stocks	Preferred stocks	Common stocks	Preferred stocks
Number of shares to be distributed	17,222,926 shares	1,967,296 shares	17,589,923 shares	1,967,296 shares
Dividend per share	KRW 1,100	KRW 1,150	KRW 3,000	KRW 3,050
Dividend rate	22%	23%	60%	61%
Amount of cash dividend	18,945,219	2,262,390	52,769,769	6,000,253

The Company decided to pay dividends of KRW 58,770,022,000 for the fiscal period ending on December 31, 2021, and paid them in April 2022 with an interim dividend of KRW 7,667,092,000.

27. Sales division

The Company has 2 reporting divisions, which are strategic operating units. The strategic business units provide different products and services each, and operate separately since the technologies and marketing strategies required for each business unit are different. The chief operating decision maker reviews the internal reporting data for each strategic business unit at least on a monthly basis.

27-1 The reporting divisions of the Company are as follows.

Classification	Goods (or services)
Green Chemicals Biz.	PET resin, DMT, highly functional PETG resin, polyester adhesive, etc.
Life Science Biz.	Pharmaceuticals, medical devices, etc.

27-2 The information on the reporting divisions for the current and previous periods is as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz.	Life Science Biz.	Others	Total
Sales amount	929,572,074	313,933,315	12,524,790	1,256,030,179
Operating income	75,399,620	33,597,396	(1,470,079)	107,526,937
Depreciation (Note 1)	42,428,511	7,163,666	6,212,821	55,804,998

(Note 1) It is the sum of the depreciation for tangible assets, depreciation for investment real estate properties, depreciation for right-to-use assets, and the amortization cost for intangible assets.

<Previous period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz.	Life Science Biz.	Others	Total
Sales amount	785,349,622	300,178,151	7,828,908	1,093,356,681
Operating income	68,920,324	44,696,882	(31,324,229)	82,292,977
Depreciation (Note 1)	46,717,391	7,225,889	5,067,486	59,010,766

(Note 1) It is the sum of the depreciation for tangible assets, depreciation for investment real estate properties, depreciation for right-to-use assets, and the amortization cost for intangible assets.

27-3 As of the end of the reporting period, the assets by reportable segment are as follows, and most of the liabilities are not managed by reportable segment, and thus, the liabilities by reportable segment are not disclosed.

<End of the current period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz.	Life Science Biz.	Others	Total
Total assets	945,503,745	193,262,167	671,711,281	1,810,477,193
Fixed assets (Note 1)	511,922,425	84,285,235	116,685,518	712,893,178

(Note 1) Included are the tangible assets, intangible assets, right-to-use assets, and the investment real estate properties.

<End of the previous period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz.	Life Science Biz.	Others	Total
Total assets	909,116,095	198,483,893	879,549,930	1,987,149,918
Fixed assets (Note 1)	508,579,358	80,732,706	118,045,410	707,357,474

(Note 1) Included are the tangible assets, intangible assets, right-to-use assets, and the investment real estate properties.

28. Profits from the contracts with customers

The revenue from contracts with the customers for the current and previous periods is classified as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz	Life Science Biz.	Others	Total
Types of goods or services:				
Sales of products	850,187,169	202,440,177	-	1,052,627,346
Sales of goods	4,726,056	104,200,507	-	108,926,563
Sales of services	73,238,970	1,588,729	8,206,772	83,034,471
Other sales	1,419,879	5,703,902	4,318,018	11,441,799
Total	929,572,074	313,933,315	12,524,790	1,256,030,179
Geographic markets:				
Korea	184,380,239	278,083,413	12,524,790	474,988,442
China	209,573,735	1,449,147	-	211,022,882
Japan	111,912,788	-	-	111,912,788
Asia (excluding China and Japan)	115,135,365	259,033	-	115,394,398
Americas	133,609,104	3,038,723	-	136,647,827
Europe	144,916,092	28,854,635	-	173,770,727
Others	30,044,751	2,248,364	-	32,293,115
Total	929,572,074	313,933,315	12,524,790	1,256,030,179
Point of revenue recognition:				
Recognized at a point in time	856,056,066	310,808,968	4,318,018	1,171,183,052
Recognized over time	73,516,008	3,124,347	8,206,772	84,847,127
Total	929,572,074	313,933,315	12,524,790	1,256,030,179

<Previous period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz	Life Science Biz.	Others	Total
Types of goods or services:				
Sales of products	687,720,132	198,375,604	-	886,095,736
Sales of goods	9,807,462	96,811,046	-	106,618,508
Sales of services	50,684,888	1,369,208	5,101,995	57,156,091
Other sales	37,137,140	3,622,293	2,726,913	43,486,346
Total	785,349,622	300,178,151	7,828,908	1,093,356,681
Geographic markets:				
Korea	212,695,006	267,061,704	7,828,908	487,585,618
China	157,849,193	8,054,814	-	165,904,007
Japan	75,546,462	-	-	75,546,462
Asia (excluding China and Japan)	106,078,139	200,304	-	106,278,443
Americas	78,513,946	3,899,997	-	82,413,943
Europe	114,516,282	20,873,805	-	135,390,087
Others	40,150,594	87,527	-	40,238,121
Total	785,349,622	300,178,151	7,828,908	1,093,356,681
Point of revenue recognition:				
Recognized at a point in time	734,499,382	297,094,189	2,726,913	1,034,320,484
Recognized over time	50,850,240	3,083,962	5,101,995	59,036,197
Total	785,349,622	300,178,151	7,828,908	1,093,356,681

Meanwhile, only one customer accounted for over 10% of sales during the current period, and the sales amounted to KRW 126,103,558,000. There was no major customer who accounted for over 10% of sales for the previous period.

29. Operating income

29-1 The details of the cost of goods sold and the selling, general and administrative expenses for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Changes in inventories	(107,757,223)	(40,750,406)
Use of raw materials	577,144,290	456,557,331
Cost of merchandise sold	98,304,700	96,330,985
Depreciation (Note 1)	55,804,998	59,010,766
Labor cost	162,779,505	173,585,182
Logistics cost	92,551,692	78,035,766
Fees and expenses	40,905,367	40,028,715
Marketing cost	17,537,271	15,497,409
Other expenses	211,232,641	132,767,955
Total	1,148,503,241	1,011,063,703

(Note 1) It is the sum of the depreciation for tangible assets, depreciation for investment real estate properties, depreciation for right-to-use assets, and the amortization cost for intangible assets.

29-2 The details of the selling, general, and administrative expenses for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Salary	60,629,194	58,591,415
Retirement benefits	4,824,961	9,574,776
Welfare benefits	13,070,732	11,881,604
Travel expenses	5,443,457	3,777,570
Communication expenses	494,622	479,561
Utilities expenses	586,033	479,751
Taxes and public dues	643,784	1,172,294
Rents	367,762	185,328
Share based compensation expenses	9,816	125,937
Depreciation	3,051,175	2,116,414
Repairs and maintenance	548,392	369,719
Insurance premiums	1,162,507	948,609
Entertainment expenses	1,093,949	865,433
Consumables expenses for office	414,657	603,300
Vehicle maintenance cost	538,684	520,045
Education and training expenses	2,798,774	2,053,197
Books	97,801	106,168
Commissions and fees	21,075,633	17,343,910
R&D expenses	42,266,979	38,635,498
Advertising expenses	16,363,032	14,572,334
Sales commissions	7,165,032	9,388,864
Promotions	542,440	139,791
Samples expenses	601,532	780,470
Packaging cost	4,384,016	4,192,196
Bad debt expenses (reversal)	27,362	(208,425)
Meetings and conferences	525,575	308,115
Amortization of intangible assets	3,281,029	2,985,966
Miscellaneous expenses and others	2,308	1,017
Total	192,011,238	181,990,857

30. Non-operating income

30-1 The details of the other income and other expenses for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Other income:		
Gain on disposal of tangible assets	142,230	533,777
Gain on disposal of right-to-use assets	1,972	428,165
Gain on disposal of intangible assets	302,598	19,495
Gain on disposal of stocks invested in subsidiaries	-	467,495,829
Gain on disposal of stocks invested in associates	90,078	-
Gains from sales of business divisions	-	4,081,176
Reversal of allowance for other bad debts	-	211,971
Miscellaneous gains	6,414,110	16,022,089
Total	6,950,988	488,792,502
Other expenses:		
Losses on disposal of tangible assets	6,862,582	1,859,717
Losses on discard of tangible assets	-	1,198,619
Losses on disposal of intangible assets	366,130	102,675
Loss on disposal of stocks invested in subsidiaries	-	213,632
Contributions	1,698,450	1,879,329
Other bad debt expenses	74,035	-
Miscellaneous loss	8,563,916	36,108,720
Total	17,565,113	41,362,692

30-2 The details of the financial income and financial cost for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Financial income:		
Interest income	1,663,932	656,946
Gain on valuation of financial assets measured at fair value through profit or loss	2,030,468	2,484,854
Gain on transaction of financial assets measured at fair value through profit or loss	1,941,449	3,408,499
Dividend income	2,990,000	8,952,750
Gains on foreign currency transactions	32,065,563	16,092,870
Gains on foreign currency translation	5,367,092	795,905
Gains on valuation of derivatives	1,771,396	2,193,610
Gains on transaction of derivatives	9,887,069	8,812,505
Total	57,716,969	43,397,939
Financial cost:		
Interest expenses	13,204,740	7,312,589
Losses on foreign currency transactions	34,690,234	18,070,198
Losses on foreign currency translation	7,038,491	1,914,944
Losses on valuation of financial assets measured at fair value through profit or loss	1,473,471	789,476
Losses on valuation of derivatives	78,412	469,457
Losses on transaction of derivatives	9,743,728	3,678,800
Total	66,229,076	32,235,464

31. Income tax expense

31-1 The details of the income tax expense for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Current tax	22,196,023	105,146,313
Adjustments recognized for the current period for the current income tax for the previous periods	(313,006)	(2,076,149)
Changes in the deferred income tax due to temporary differences	219,812	(139,063)
Income tax expense directly reflected in equity	(2,972,554)	932,646
Income tax expense	19,130,275	103,863,747
Income tax expense on continuing operations	19,130,275	136,417,287
Income tax expense (revenue) from discontinued operations	-	(32,553,540)

31-2 The details of the income tax expense directly reflected in equity for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Income tax expense directly reflected in equity:		
Remeasurement factors for defined benefit plan	(2,972,554)	932,646
Total	(2,972,554)	932,646

31-3 The relationship between the net profit before income tax expense and income tax expense for the current and previous periods is as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Net income from continuing operations before income tax expense	88,400,704	540,885,263
Net income (loss) from discontinued operations before income tax expense	-	(134,518,762)
Net income before income tax expense	88,400,704	406,366,501
Corporate tax according to applicable tax rate (Note 1)	20,930,970	101,388,788
Adjustments:		
Non-taxable income	(315,046)	(867,243)
Non-deductible expenses	428,061	849,303
Deferred tax effect due to tax credits	(1,918,739)	(3,191,131)
Non-recognition effect of deferred tax among temporary differences	68,241	6,006,687
Adjustments recognized for the current period for the current income tax for the previous periods	(313,006)	(2,076,149)
Others	249,794	1,753,492
Income tax expense	19,130,275	103,863,747
Income tax expense on continuing operations	19,130,275	136,417,287
Income tax expense (revenue) from discontinued operations	-	(32,553,540)
Effective tax rate (income tax expense/net profit before income tax expense)	21.64%	25.56%

(Note 1) Considered for the applicable tax rate are the corporate tax rate (10% for KRW 200 million or less; 20% for KRW 200 million to KRW 20 billion; 22% for KRW 20 billion to KRW 300 billion; 25% for over KRW 300 billion) and the local income tax rate for corporate tax.

31-4 The changes in deferred income tax assets (liabilities) for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of the current period	Reflected in the profit or loss	Directly reflected in equity	End of the current period
Government subsidies	2,546,263	(224,237)	-	2,322,026
Accrued interest	(151,939)	33,883	-	(118,056)
Accrued expenses	6,158,562	771,044	-	6,929,606
Inventories	1,050,313	254,421	-	1,304,734
Tangible assets	(12,017,695)	290,364	-	(11,727,331)
Intangible assets	532,812	(22,017)	-	510,795
Securities	579,584	(58,392)	-	521,192
Right-to-use assets	(261,094)	(147,147)	-	(408,241)
Financial lease liabilities	264,801	148,659	-	413,460
Advanced depreciation provision	(6,141,519)	279,259	-	(5,862,260)
Derivatives	(89,056)	(198,070)	-	(287,126)
Retirement benefits	-	2,972,554	(2,972,554)	-
Allowance for bad debts	1,728,753	281,108	-	2,009,861
Provisioning liabilities	5,429,991	(946,197)	-	4,483,794
Contract liabilities	721,929	(473,061)	-	248,868
Stock options	443,142	(87,613)	-	355,529
Tax credits carried forward	28,945	(16,075)	-	12,870
Others	378,410	(105,741)	-	272,669
Total	1,202,202	2,752,742	(2,972,554)	982,390

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of the current period	Reflected in the profit or loss	Directly reflected in equity	End of the current period
Government subsidies	3,451,248	(904,985)	-	2,546,263
Accrued interest	(72,408)	(79,531)	-	(151,939)
Accrued expenses	6,227,341	(68,779)	-	6,158,562
Inventories	3,791,592	(2,741,279)	-	1,050,313
Tangible assets	(14,115,769)	2,098,074	-	(12,017,695)
Intangible assets	532,812	-	-	532,812
Securities	634,743	(55,159)	-	579,584
Right-to-use assets	(330,594)	69,500	-	(261,094)
Financial lease liabilities	345,686	(80,885)	-	264,801
Advanced depreciation provision	(3,154,481)	(2,987,038)	-	(6,141,519)
Derivatives	-	(89,056)	-	(89,056)
Retirement benefits	-	(932,646)	932,646	-
Allowance for bad debts	2,335,647	(606,894)	-	1,728,753
Provisioning liabilities	-	5,429,991	-	5,429,991
Contract liabilities	236,822	485,107	-	721,929
Stock options	457,807	(14,665)	-	443,142
Tax credits carried forward	71,327	(42,382)	-	28,945
Others	651,366	(272,956)	-	378,410
Total	1,063,139	(793,583)	932,646	1,202,202

The possibility of future realization for the deferred income tax assets depends on various factors such as the Company's ability to generate taxable income during the period in which the temporary differences are realized, and the overall economic environment and outlook for the industry. The Company regularly reviews such matters and has recognized the temporary differences to be deducted that are determined to be realizable as the deferred income tax assets as of the end of the reporting period.

31-5 The tax effect due to the temporary differences to be deducted that are not recognized as the deferred income tax assets in the statement of financial position, unused tax losses, unused tax credits, etc., is KRW 52,498,409,000 (previous period: KRW 54,689,781,000).

32. Earnings (losses) per share

32-1 The calculation details of the basic earnings (losses) per share for the current and previous periods are as follows.

(Unit: KRW one thousand, stocks, KRW/stock)

Classification	Current period	Previous period
Net income	69,270,430	302,502,753
Deducted: preferred stock dividend	(3,049,309)	(6,008,027)
Deducted: portion reverted for preferred stocks among additional profits available for dividend	(4,103,518)	(24,526,873)
Net income reverted for common stock ownership	62,117,603	271,967,853
Continuing operating income reverted for common stock ownership	62,117,603	363,640,613
Gain (loss) on discontinued operations reverted for common stock ownership	-	(91,672,760)
Net income reverted for preferred stock ownership	7,152,827	30,534,900
Continuing operating income reverted for preferred stock ownership	7,152,827	40,827,361
Gain (loss) on discontinued operations reverted for preferred stock ownership	-	(10,292,461)
Number of weighted average common stocks outstanding	17,322,897	17,601,765
Number of weighted average preferred stocks outstanding	1,967,296	1,969,845
Basic earnings per common share	3,586	15,451
Basic earnings per common share on continuing operations	3,586	20,659
Basic earnings (losses) per common share on discontinued operations	-	(5,208)
Basic earnings per preferred share (Note 1)	3,636	15,501
Basic earnings per preferred share on continuing operations	3,636	20,726
Basic earnings (losses) per preferred share on discontinued operations	-	(5,225)
Diluted earnings per common share	3,575	15,356
Diluted earnings per common share on continuing operations	3,575	20,531

(Note 1) As the preferred stocks issued in accordance with the old Commercial Act before its revision in 1997, these preferred stocks have the same order of payment as the general common stocks when dividends are paid out or the residual assets are distributed.

32-2 The calculation details of the Company's weighted average number of common shares outstanding for the current and previous periods are as follows.

<Current period>

(Unit: stocks)

Classification	Initial date	Date of settlement	Number of days	Number of shares	Number of weighted average common shares outstanding
Outstanding shares at beginning of period	2022.1.1	2022.12.31	365	17,589,923	17,589,923
Acquisition of treasury stock	2022.3.24	2022.12.31	283	(10,000)	(7,753)
Acquisition of treasury stock	2022.3.25	2022.12.31	282	(8,000)	(6,181)
Acquisition of treasury stock	2022.3.28	2022.12.31	279	(10,000)	(7,644)
Acquisition of treasury stock	2022.3.29	2022.12.31	278	(10,000)	(7,616)
Acquisition of treasury stock	2022.3.30	2022.12.31	277	(1,914)	(1,453)
Acquisition of treasury stock	2022.3.31	2022.12.31	276	(10,000)	(7,562)
Acquisition of treasury stock	2022.4.1	2022.12.31	275	(10,000)	(7,534)
Acquisition of treasury stock	2022.4.4	2022.12.31	272	(8,000)	(5,962)
Acquisition of treasury stock	2022.4.5	2022.12.31	271	(10,000)	(7,425)
Acquisition of treasury stock	2022.4.6	2022.12.31	270	(8,009)	(5,924)
Acquisition of treasury stock	2022.4.7	2022.12.31	269	(7,825)	(5,767)
Acquisition of treasury stock	2022.4.8	2022.12.31	268	(10,000)	(7,342)
Acquisition of treasury stock	2022.4.11	2022.12.31	265	(10,000)	(7,260)
Acquisition of treasury stock	2022.4.12	2022.12.31	264	(10,000)	(7,233)
Acquisition of treasury stock	2022.4.13	2022.12.31	263	(10,000)	(7,205)
Acquisition of treasury stock	2022.4.14	2022.12.31	262	(10,000)	(7,178)
Acquisition of treasury stock	2022.4.15	2022.12.31	261	(10,000)	(7,151)
Acquisition of treasury stock	2022.4.18	2022.12.31	258	(10,000)	(7,068)
Acquisition of treasury stock	2022.4.19	2022.12.31	257	(2,796)	(1,969)
Acquisition of treasury stock	2022.4.20	2022.12.31	256	(10,000)	(7,014)
Acquisition of treasury stock	2022.4.21	2022.12.31	255	(10,000)	(6,986)
Acquisition of treasury stock	2022.4.22	2022.12.31	254	(6,000)	(4,175)
Acquisition of treasury stock	2022.4.25	2022.12.31	251	(10,000)	(6,877)
Acquisition of treasury stock	2022.4.26	2022.12.31	250	(10,000)	(6,849)
Acquisition of treasury stock	2022.4.27	2022.12.31	249	(10,000)	(6,822)
Acquisition of treasury stock	2022.4.28	2022.12.31	248	(9,187)	(6,242)
Acquisition of treasury stock	2022.4.29	2022.12.31	247	(7,479)	(5,061)
Acquisition of treasury stock	2022.5.2	2022.12.31	244	(5,894)	(3,940)
Acquisition of treasury stock	2022.5.3	2022.12.31	243	(10,000)	(6,658)
Acquisition of treasury stock	2022.5.4	2022.12.31	242	(10,000)	(6,630)
Acquisition of treasury stock	2022.5.6	2022.12.31	240	(10,000)	(6,575)
Acquisition of treasury stock	2022.5.9	2022.12.31	237	(10,000)	(6,493)
Acquisition of treasury stock	2022.5.10	2022.12.31	236	(10,000)	(6,466)

Acquisition of treasury stock	2022.5.11	2022.12.31	235	(14,641)	(9,426)
Acquisition of treasury stock	2022.5.12	2022.12.31	234	(10,000)	(6,411)
Acquisition of treasury stock	2022.5.13	2022.12.31	233	(7,585)	(4,842)
Acquisition of treasury stock	2022.5.16	2022.12.31	230	(9,159)	(5,771)
Acquisition of treasury stock	2022.5.17	2022.12.31	229	(10,000)	(6,274)
Acquisition of treasury stock	2022.5.18	2022.12.31	228	(10,000)	(6,247)
Acquisition of treasury stock	2022.5.19	2022.12.31	227	(10,000)	(6,219)
Acquisition of treasury stock	2022.5.20	2022.12.31	226	(8,000)	(4,953)
Acquisition of treasury stock	2022.5.23	2022.12.31	223	(10,000)	(6,110)
Acquisition of treasury stock	2022.5.24	2022.12.31	222	(4,000)	(2,433)
Acquisition of treasury stock	2022.5.25	2022.12.31	221	(1,000)	(605)
Exercise of stock option	2022.11.25	2022.12.31	37	22,492	2,280
Number of weighted average common shares outstanding				17,222,926	17,322,897

<Previous period>

(Unit: stocks)

Classification	Initial date	Date of settlement	Number of days	Number of shares	Number of weighted average common shares outstanding
Outstanding shares at beginning of period	2021.1.1	2021.12.31	365	17,593,152	17,593,152
Exercise of stock option	2021.4.2	2021.12.31	274	15,000	11,260
Acquisition of treasury stock	2021.11.9	2021.12.31	53	(18,229)	(2,647)
Number of weighted average common shares outstanding				17,589,923	17,601,765

32-3 The calculation details of the Company's weighted average number of preferred shares outstanding for the current and previous periods are as follows.

<Current period>

(Unit: stocks)

Classification	Initial date	Date of settlement	Number of days	Number of shares	Number of weighted average preferred shares outstanding
Outstanding shares at beginning of period	2022.1.1	2022.12.31	365	1,967,296	1,967,296
Number of weighted average preferred shares outstanding				1,967,296	1,967,296

<Previous period>

(Unit: stocks)

Classification	Initial date	Date of settlement	Number of days	Number of shares	Number of weighted average preferred shares outstanding
Outstanding shares at beginning of period	2021.1.1	2021.12.31	365	1,970,278	1,970,278
Acquisition of treasury stock	2021.11.9	2021.12.31	53	(2,982)	(433)
Number of weighted average preferred shares outstanding				1,967,296	1,969,845

32-4 Diluted earnings per share

The diluted earnings per share were calculated by applying the number of weighted average common shares outstanding adjusted under the assumption that all dilutive potential common shares will be converted into common shares. The dilutive potential common shares held by the Company include stock options. The number of stocks resulting from stock options is calculated by calculating the number of stocks to be acquired at fair value based on the monetary value of the exercise of the right added to the stock options, and by comparing this number of stocks with the number of stocks to be issued if the stock options are assumed to have been exercised.

(Unit: KRW one thousand, stocks, KRW/stock)

Classification	Current period	Previous period
Net income for common shares	62,117,603	363,640,612
Adjustments: Stock options	7,441	80,629
Net income for common shares for calculation of diluted earnings per share	62,125,044	363,721,241
Number of weighted average common stocks outstanding	17,322,897	17,601,765
Adjustments: Stock options	54,190	114,250
Number of weighted average common shares outstanding for calculation of diluted earnings per share	17,377,087	17,716,015
Diluted earnings per share	3,575	20,531

33. Statement of Cash Flows

33-1 The details of the adjustments made for the cash flows generated from operations for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Depreciation (Note 1)	49,703,451	67,579,318
Amortization of intangible assets	6,101,547	4,829,422
Retirement benefits	9,947,189	11,271,394
Gain on disposal of right-to-use assets	(1,972)	(428,165)
Gain on disposal of tangible assets	(142,230)	(533,780)
Losses on disposal of tangible assets	6,862,582	1,860,736
Losses on discard of tangible assets	-	1,198,619
Impairment losses on tangible assets	-	103,421,162
Gain on disposal of intangible assets	(302,598)	(19,495)
Losses on disposal of intangible assets	366,130	102,675
Interest income	(1,663,932)	(656,946)
Dividend income	(2,990,000)	(8,952,750)
Gain on transaction of financial assets measured at fair value through profit or loss	(1,941,449)	(3,408,499)
Gain on valuation of financial assets measured at fair value through profit or loss	(2,030,468)	(2,484,854)
Loss on valuation of financial assets measured at fair value through profit or loss	1,473,471	789,476
Gain on disposal of stocks invested in subsidiaries	-	(467,495,829)
Loss on disposal of stocks invested in subsidiaries	-	213,632
Gain on disposal of stocks invested in associates	(90,078)	-
Gains on valuation of derivatives	(1,771,396)	(2,193,610)
Losses on valuation of derivatives	78,412	469,458
Interest expenses	13,204,740	11,609,244
Income tax expense	19,130,275	103,863,747
Share based compensation expenses	9,816	125,937
Losses (reversal) on valuation of inventories	1,283,720	(5,516,450)
Bad debt expenses (reversal)	27,362	(119,030)
Other bad debt expenses (reversal)	74,035	(207,222)
Gains on foreign currency translation	(5,367,092)	(795,905)
Losses on foreign currency translation	7,038,491	1,914,944
Gains from sales of business divisions	-	(4,347,143)
Others	406,818	718,426
Total	99,406,824	(187,191,488)

(Note 1) This is the depreciation for tangible assets, investment real estate properties, and the right-to-use assets.

33-2 The changes in assets and liabilities from operating activities for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Trade receivables	(22,565,174)	(47,291,575)
Other receivables	164,745,160	(109,920,796)
Inventories	(68,897,924)	(52,979,670)
Other current assets	604,630	(3,882,716)
Other non-current assets	(78,400)	-
Trade payables	(15,253,855)	33,046,606
Other payables	(157,276,513)	117,997,334
Other current liabilities	(464,122)	(6,346,666)
Contributions for plan asset paid	(25,000,000)	(17,000,000)
Affiliates' transfers	(122,033)	-
Retirement benefits paid	(76,636)	(125,594)
Settlement of derivatives transactions	1,356,151	(3,677,511)
Provisioning liabilities	(3,111,279)	22,437,979
Contract liabilities	(11,550,052)	14,496,828
Total	(137,690,047)	(53,245,781)

33-3 The details of major transactions with no cash inflows and outflows for the current and previous periods are as follows.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Other account replacements for construction in progress and machineries in transit	48,023,750	62,241,499
Other account replacements for tangible assets	169,120	276,270
Other account replacements for investment real estate properties	-	82,210
Exchange transactions for tangible assets	6,350,000	-
Acquisition of accounts payable for construction in progress	(1,485,325)	2,828,518
Replacement of current portion for long-term liabilities	66,000,000	161,068,010
Increase in right-to-use assets and lease liabilities	1,660,991	3,188,634
Write-off of trade and other receivables	530,143	95,709
Deposits received for sale of subsidiaries' investment shares	-	2,110,026
Replacement of current portion for deposits received	2,110,026	-
Replacement of current portion for long-term accounts receivable	2,187,028	-
Accrued retirement benefits	(7,697,309)	8,357,682
Accounts payable for affiliates' investment shares	385,515	385,515
Assets held for sale classification	11,419,751	-
Retirement of treasury stock	49,982,602	-

33-4 Changes in liabilities due to financing activities for the current and previous periods are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Beginning of period	Cash flows from financing activities	Others (Note 1)	End of the current period
Short-term borrowings	-	278,072,600	(4,712,777)	273,359,823
Current portion of bonds payable	159,886,422	(160,000,000)	66,092,062	65,978,484
Debenture	220,560,772	-	(65,773,423)	154,787,349
Current portion of lease liabilities	615,347	(829,098)	1,052,539	838,788
Lease liabilities	478,871	-	464,495	943,366
Total	381,541,412	117,243,502	(2,877,104)	495,907,810

(Note 1) Included are the account reclassification effect for long-term borrowings, replacement of current portion following the lapse of time for financial lease liabilities and liabilities under installment purchase agreements, and the accrued interest on the interest bearing borrowings. The Company classifies the payment of interests as the cash flows from operating activities.

<Previous period>

(Unit: KRW one thousand)

Classification	Beginning of period	Cash flows from financing activities	Physical split-off (Note 1)	Others (Note 2)	End of the previous period
Short-term borrowings	106,636,903	(106,636,903)	-	-	-
Current portion of long-term borrowings	1,003,200	(1,003,200)	-	-	-
Long-term borrowings	9,375,000	(9,375,000)	-	-	-
Current portion of bonds payable	84,949,804	(85,000,000)	-	159,936,618	159,886,422
Debenture	380,007,551	-	-	(159,446,779)	220,560,772
Current portion of lease liabilities	1,786,785	(1,428,642)	(810,805)	1,068,009	615,347
Lease liabilities	5,433,745	-	(4,723,010)	(231,864)	478,871
Total	589,192,988	(203,443,745)	(5,533,815)	1,325,984	381,541,412

(Note 1) During the previous period, SK Multi-Utility Co., Ltd. was established through a physical split-off.

(Note 2) Included are the account reclassification effect for long-term borrowings, replacement of current portion following the lapse of time for financial lease liabilities and liabilities under installment purchase agreements, and the accrued interest on the interest bearing borrowings. The Company classifies the payment of interests as the cash flows from operating activities.

34. Purpose and policies of the financial risk management

The Company's major financial liabilities, excluding derivatives, consist of trade and other payables, borrowings and bonds. The main purpose of these financial liabilities is to raise funds for the operation of the Company. The Company's major financial assets include trade receivables and the cash and short-term deposits directly derived from operating activities. The Company also has investments in debt and equity instruments and trades derivatives.

The Company is exposed to market risk, credit risk, and liquidity risk. The Company's senior management oversees the management of such risks. All derivative activities for the purpose of risk management are carried out by a team of professionals equipped with the appropriate skills, experiences, and oversight. It is the policy of the Company to avoid conducting any trading of derivatives for speculative purposes.

34-1 Market risk

Market risk is the risk related to the fair value or future cash flows of financial instruments fluctuating due to changes in the market prices. Market risk consists of the following three types of risk: interest rate risk, foreign currency risk, and other price risk. The financial instruments affected by the market risk include borrowings and bonds, deposits, debt, and equity investments and derivatives.

The following sensitivity analysis is related to the statement of financial position as of the end of the current and previous periods.

The sensitivity analysis has been prepared based on the designation of a hedging interest rate while the net amount of liabilities, fixed interest rate of liabilities and derivatives, variable interest rate and the ratio of foreign currency financial instruments were all constant as of the end of current period.

This analysis excludes the effect of movements of the market variables on the book values of retirement pensions and other post-retirement liabilities and provisions.

The following assumptions are required when calculating for the sensitivity analysis.

- The sensitivity of the relevant income statement is the effect of an assumed change in each market risk. This is based on the financial assets and financial liabilities held at the end of the current and previous periods, including the effect of hedge accounting.

(1) Interest rate risk

Interest rate risk is the risk related to the fluctuation of the fair value of financial instruments or future cash flows due to the fluctuations in the market interest rates. The Company internally measures the interest rate risk based on a 1% point change in the interest rate, and the rate of change above is reflective of the senior management's assessment of the reasonably possible interest rate change risk.

The book amount of the variable interest bearing financial instruments held by the Company as of the end of the reporting period is as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Short-term borrowings	85,000,000	-

As of the current and previous periods, when all other variables are constant and the interest rate changes by 1% point, the effect on the profit and loss before tax is as follows.

(Unit: KRW one thousand)

Classification	Current period		Previous period	
	1% point increase	1% point decrease	1% point increase	1% point decrease
Short-term borrowings	(850,000)	850,000	-	-

(2) Foreign exchange risk

Foreign exchange risk is one in which the fair value or future cash flows will fluctuate due to foreign exchange fluctuations. The Company's exposure to foreign exchange risk is primarily related to its operating activities (where sales or expenses are denominated in foreign currencies) and financing in foreign currencies. The Company regularly measures the foreign exchange risk of the changes in the KRW exchange rate internally, and in particular, executes and manages currency swap contracts to hedge the risk of exchange rate fluctuations such as foreign currency bonds.

The book amounts of the monetary assets and liabilities denominated in foreign currencies other than the functional currency as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period		End of the previous period	
	Assets	Liabilities	Assets	Liabilities
USD	90,350,072	47,467,842	79,737,732	148,494,232
CNY	11,059,855	682,816	23,888,008	986,456
EUR	52,734,248	18,021,233	54,314,167	1,597,976
GBP	433,923	-	297,848	-
JPY	6,820,072	233,047	4,911,900	16,436
Total	161,398,170	66,404,938	163,149,655	151,095,100

As of the end of the reporting period, if the exchange rate of the functional currency for each foreign currency fluctuates by 5%, the effect on the profit and loss before tax for the current period and the previous period is as follows.

(Unit: KRW one thousand)

Classification	End of the current period		End of the previous period	
	5% increase	5% decrease	5% increase	5% decrease
USD	2,144,112	(2,144,112)	(3,437,825)	3,437,825
CNY	518,852	(518,852)	1,145,078	(1,145,078)
EUR	1,735,651	(1,735,651)	2,635,810	(2,635,810)
GBP	21,696	(21,696)	14,892	(14,892)
JPY	329,351	(329,351)	244,773	(244,773)
Total	4,749,662	(4,749,662)	602,728	(602,728)

The Company internally measures the foreign exchange risk for the exchange rate fluctuations on a regular basis, and effectively manages the foreign exchange risk via the currency futures trading, and thus, the effect on the profit and loss is restrictive.

(3) Other price risks

Among other price risks is the risk where the fair value of financial instruments or future cash flows will fluctuate due to the fluctuations in the market prices other than the interest rate risk or foreign exchange risk. Since the Company has no traded equity instruments, there is no effect on profit or loss due to other price fluctuation risks as of the end of current period. Furthermore, the Company is not significantly exposed to the risk of price fluctuations of specific instruments.

34-2 Credit risk

Credit risk is the risk of financial loss against the Company due to the transaction counterparty's failure to perform its obligations.

(1) Trade and other receivables

The Company in principle conducts creditworthiness verification procedures for all transaction counterparties seeking to trade on credit, and only executes transactions with counterparties having sound creditworthiness. Furthermore, the Company continuously manages the balance of trade receivables, other receivables, and contract assets by taking necessary measures such as continuously reassessing credit ratings to ensure that the Company's exposure to bad debt risk is maintained at an insignificant level. As of the end of the reporting period, the Company individually recognizes whether major customers' receivables and contract assets are impaired. In addition, for multiple receivables of small amounts, they review their impairment by including them in the group of financial assets having similar credit risk related characteristics. As of the end of the reporting period, the extent of maximum exposure to credit risk is the book amount of the financial assets described under Note 5.

(2) Other assets

The credit risk arising from the Company's other assets consisting of cash equivalents, short-term deposits, debt securities, and long-term and short-term loans results from, for example, the default of a transaction counterparty. In such an event, the extent of the Company's credit risk exposure will be equal to the maximum book amount of the relevant financial instruments, excluding the derivative financial instruments. Meanwhile, the Company deposits the cash equivalents and short-term financial instruments with financial institutions including Woori Bank, and trades only with financial institutions having excellent credit ratings, and thus, the credit risk from the financial institutions is restricted.

34-3 Liquidity risk

Liquidity risk is the risk of being unable to raise funds to meet all financial contractual commitments to maturity.

The Company manages the risks arising from a lack of funds through the liquidity strategies and plans, and matches the maturities of financial assets and liabilities by considering the maturities of financial instruments and estimates of the operating cash flows.

The following are the undiscounted contractual amounts as a repayment plan for each financial liability.

<Current period>

(Unit: KRW one thousand)

Classification	Less than 1 year	2 years or less	5 years or less	Over 5 years	Total
Trade and other payables	151,015,407	-	-	-	151,015,407
Short-term borrowings	273,359,823	-	-	-	273,359,823
Current portion of long-term liabilities	66,000,000	-	-	-	66,000,000
Current portion of lease liabilities	852,163	-	-	-	852,163
Other current liabilities (Note 1)	2,972,002	-	-	-	2,972,002
Debenture	-	155,000,000	-	-	155,000,000
Lease liabilities	-	556,662	466,017	-	1,022,679
Total	494,199,395	155,556,662	466,017	-	650,222,074

(Note 1) These are deposits taken.

<Previous period>

(Unit: KRW one thousand)

Classification	Less than 1 year	2 years or less	5 years or less	Over 5 years	Total
Trade and other payables	334,166,346	-	-	-	334,166,346
Current portion of long-term liabilities	160,000,000	-	-	-	160,000,000
Current portion of lease liabilities	621,544	-	-	-	621,544
Other current liabilities (Note 1)	1,102,999	-	-	-	1,102,999
Debenture	-	66,000,000	155,000,000	-	221,000,000
Lease liabilities	-	415,579	78,478	-	494,057
Other non-current liabilities (Note 1)	-	2,110,026	-	-	2,110,026
Total	495,890,889	68,525,605	155,078,478	-	719,494,972

(Note 1) These are deposits taken.

34-4 Capital management

The primary purpose of capital management is to maintain a high credit rating and sound capital ratios with a view to maintaining the Company's operating activities and maximizing the shareholder value.

The Company amends its capital structure in line with the changes in the economic environment, and to this end, requires that amendments be made for their dividend policy, capital reduction be made, and the issuance of new shares be considered. Meanwhile, no changes were made to the purposes, policies, and the procedures of capital management during the current period.

The Company's debt-to-equity ratio as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Total liabilities	690,879,147	831,565,803
(Adjustments: cash and cash equivalents)	(119,021,281)	(102,201,909)
Adjusted liabilities	571,857,866	729,363,894
Equity capital	1,119,598,046	1,155,584,115
Debt-to-equity ratio	51.08%	63.12%

35. Fair value

35-1 Fair value hierarchy

The Company classifies the fair value measurements according to the fair value hierarchy which reflects the significance of the input variables used for the fair value measurement, and the levels of the fair value hierarchy are as follows.

Level 1: (Unadjusted) quoted price level in the active markets for the same asset or liability
 Level 2: Inputs to assets or liabilities that are directly or indirectly observable

Level 3: Inputs to assets or liabilities that are not based on the observable market data (unobservable input variables)

35-2 The fair value measurements for each level of financial instruments as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Level 1	Level 2	Level 3 (Note 2)	Total
Financial assets				
Short-term financial assets	-	60,299,856	-	60,299,856
Trade and other receivables (Note 1)	-	823,372	-	823,372
Long-term investment assets	-	-	37,128,190	37,128,190
Other non-current assets	-	-	1,237,613	1,237,613
Total	-	61,123,228	38,365,803	99,489,031

(Note 1) As for the financial instruments whose book amount is a reasonable approximation of fair value, the separate fair value disclosure has been omitted.

(Note 2) Unless otherwise specified, they consist of unlisted stocks, etc., whose cost can be an appropriate estimate of their fair value (refer to Note 35-3).

<End of the previous period>

(Unit: KRW one thousand)

Classification	Level 1	Level 2	Level 3 (Note 2)	Total
Financial assets				
Short-term financial assets	-	214,551,624	-	214,551,624
Trade and other receivables (Note 1)	-	1,825,609	-	1,825,609
Long-term investment assets	-	-	34,581,491	34,581,491
Other non-current assets	-	-	368,001	368,001
Total	-	216,377,233	34,949,492	251,326,725
Financial liabilities				
Trade and other payables (Note 1)	-	469,458	-	469,458
Total	-	469,458	-	469,458

(Note 1) As for the financial instruments whose book amount is a reasonable approximation of fair value, the separate fair value disclosure has been omitted.

(Note 2) Unless otherwise specified, they consist of unlisted stocks, etc., whose cost can be an appropriate estimate of their fair value (refer to Note 35-3).

35-3 Valuation techniques

The valuation techniques used to measure the fair value of Level 3 are as follows.

<End of the current period>

(Unit: KRW one thousand)

Categories of financial instruments	Type	Fair value	Level	Valuation techniques	Input variables
Derivatives assets	Put option for SK Chemicals Daejung Co., Ltd.	289,589	Level 3	Discounted cash flow method	Liquidation cash flow, weighted average cost of capital
Derivatives assets	Put option for HDC Polyall Co., Ltd.	948,024	Level 3	Discounted cash flow method	Expected future cash flows, weighted average cost of capital
Long-term investment assets	Eastman Fiber Korea Ltd.'s preferred stocks	25,128,024	Level 3	Expected price considering the value of call options and put options	Exchange rate

<End of the previous period>

(Unit: KRW one thousand)

Categories of financial instruments	Type	Fair value	Level	Valuation techniques	Input variables
Derivatives assets	Put option for SK Chemicals Daejung Co., Ltd.	368,001	Level 3	Discounted cash flow method	Liquidation cash flow, weighted average cost of capital
Long-term investment assets	Eastman Fiber Korea Ltd.'s preferred stocks	23,506,094	Level 3	Expected price considering the value of call options and put options	Exchange rate

36. Business transfer and discontinued operations

36-1 The Company, in line with the resolution of the board of directors on October 27, 2021, sold the PPS business division to HDC Polyall Co., Ltd., and the business transfer was classified as discontinued operations. Meanwhile, the comparatively presented statements of comprehensive income for the previous period have been reprepared to demonstrate the discontinued operations separated from the ongoing operations.

36-2 The details of profit or loss from discontinued operations for the reporting period appropriated in the statement of comprehensive income in connection with the PPS business division are as follows.

(Unit: KRW one thousand)

Classification	Previous period
Sales amount	32,439,088
Cost of sales	(49,582,985)
Gross profit	(17,143,897)
Selling and administrative expenses	(9,783,508)
Operating income	(26,927,405)
Other income	310,183
Other expenses	(103,870,851)
Financial cost	(4,296,656)
Income tax expense	32,617,904
Total profit and loss from discontinued operating activities	(102,166,825)
Gain on disposal of discontinued operations before tax	265,968
Relevant income tax expense	(64,364)
Gain on disposal of discontinued operations	201,604
Profit and loss from discontinued operations	(101,965,221)

36-3 The net cash flows from discontinued operations related to the PPS business division are as follows.

(Unit: KRW one thousand)

Classification	Previous period
Cash flows from operating activities	15,760,818
Cash flows from investment activities	37,904,391
Cash flows from financing activities	-
Net cash flows	53,665,209

37. Events following the reporting period

37-1 Events following the reporting period for which corrections are not required

(1) Issuance of bonds

The Company issued unsecured bonds with bearer interest on February 24, 2023, and the details are as follows.

(Unit: KRW one thousand)

Classification	Date of issuance	Date of maturity	Issuance interest rate (%)	Method of redemption	Total amount
The 13-1st public placement bonds	2023.2.24	2024.08.23	4.474%	Redemption at maturity	35,000,000
The 13-2nd public placement bonds	2023.2.24	2025.02.24	4.605%	Redemption at maturity	95,000,000
The 13-3rd public placement bonds	2023.2.24	2026.02.24	4.595%	Redemption at maturity	70,000,000

(2) Payment guarantee for subsidiaries

On February 28, 2023, through a resolution of the board of directors, the Company decided to provide payment guarantee to its subsidiary, SK Multi-Utility Co., Ltd. The creditor is SK Gas International, PTE. Ltd., and the subject of the guarantee is the unpaid fuel cost and all related debts.

(3) Decision to establish subsidiaries and acquire tangible assets

The Company paid a capital of RMB 350 million to establish a 100% overseas subsidiary Shuye-SK Environmental Materials (Shantou) Co., Ltd. Shuye-SK Environmental Materials (Shantou) Co., Ltd. decided to acquire tangible assets of RMB 670 million from Shuye Environmental Technology Co., Ltd. for the purpose of securing r-BHET early, securing expansion opportunities in recycling-related businesses, building a business foundation in China as a strategic market, and securing operational capabilities.

37-2 Events following the reporting period for which corrections are required

(1) Additional contributions for humidifier disinfectant damage relief

During the previous period, as the possibility of contributing to damage relief funds increased under the Special Act on Remedy for Damage Caused by Humidifier Disinfectants, the Company set up a provision for liabilities of KRW 21,281,360,000 based on the best estimate. On February 24, 2023, a notice of additional contribution payment was received, and the difference of KRW 1,954,660,000 was reversed.

(2) Reversal of advance payment impairment loss

During the previous period, the Company signed a contract to acquire a 10% stake in Shuye Environmental Technology Co., Ltd. and paid a contract fee of KRW 3,843,168,000 (CNY 22,400,000). The Company identified signs of impairment in this prepaid contract fee at the end of the current period and recognized a total impairment loss. However, on March 6, 2023, according to the terms of the agreement for the acquisition of equity interests in Shuye-SK Environmental Materials (Shantou) Co., Ltd., a subsidiary of the parent company, and the acquisition of tangible assets of Shuye Environmental Technology Co., Ltd., the signs of impairment were eliminated, and the recognized impairment loss was completely reversed during the current period.

6. Matters Concerning Dividends

A. Matters Concerning Dividends

In accordance with the Articles of Incorporation, the Company pays dividends out as a major means of returning a certain portion of the Company's profits to its shareholders based on the resolutions of the board of directors and the general meeting of shareholders. In addition, dividends are determined by considering factors such as the investment and management performance for the Company's sustainable growth and the enhancement of shareholder value within the scope of the profits available for dividend.

Furthermore, since the corporate division executed in 2017, the dividend has incrementally expanded following the increases in profits, and the interim dividend policy was announced in October, 2021 to enhance the predictability of the investors' return for the shareholders by specifying the return to shareholders.

(Dividend policy)

- Determination of the total amount of dividends at the level of 30% of the dividend payout ratio (based on the separate net income)
- Interim dividend implemented from 2022

The above dividend policy is subject to change depending on the business management environment and other conditions, and the separate net income, which is the basis for determining the total amount of dividends, is the adjusted amount excluding the non-recurring profits and losses.

The details of dividends in the Company's Articles of Incorporation are as follows.

Article 13 (Record Date of Dividend Payout for New Shares)

When the Company issues new shares for capital increase with or without consideration, or share dividend, for the purpose of the distribution of dividends thereon, such new shares shall be deemed to have been issued at the end of the fiscal year immediately preceding the fiscal year in which the new shares are issued.

Article 50 (Payment of Dividends)

- ① Dividends of profits may be paid with money, stocks, or other assets. However, the dividends paid by stock shall not exceed an amount equivalent to 1/2 of the total amount of dividends.
- ② The dividends of Paragraph 1 shall be paid out to the shareholders or registered pledgees entered in the list of shareholders as of the end of each settlement period.
- ③ For dividends paid out in stocks, if the Company has issued several types of stocks, a different type of stock may be used by a resolution of the general meeting of shareholders.

Article 51 (Statute of Limitations for the Right to Claim Dividend Payments)

- ① If the right to claim dividends payment is not exercised for 5 years, the statute of limitations shall be deemed as complete.
- ② Dividends resulting from the completion of the statute of limitations as per Paragraph 1 shall be reverted to the Company.
- ③ No interest shall be added to the unpaid dividends.

Article 50-1 (Interim Dividend)

- ① The Company may pay out an interim dividend in accordance with applicable laws and regulations.
- ② The interim dividend referred to in Paragraph 1 shall be determined by the resolution of the board of directors, and the resolution should be made within 45 days after the reference date of Paragraph 1.
- ③ The interim dividend shall not exceed the amount obtained by deducting the following amounts from the net asset value on the balance sheet for the immediately preceding fiscal year.
 1. The amount of capital stock in the immediately preceding fiscal year
 2. The total amount of capital reserve and profit reserve accumulated up to the immediately preceding fiscal year
 3. Unrealized gains defined by the Enforcement Decree of the Commercial Act
 4. The amount of profit distribution decided at the regular meeting of shareholders in the immediately preceding fiscal year
 5. Discretionary reserve set aside for a specific purpose by the regulations in articles of incorporation or by resolution of the general meeting of shareholders up to the immediately preceding fiscal year
 6. The profit reserve to be set aside in the current fiscal year due to the interim dividend

On March 28, 2023, the Company proposed a cash dividend at the 6th regular meeting of shareholders as follows, and in the event of a rejection or revision at the regular meeting of shareholders, the details and reasons will be reflected in the correction report.

- KRW 1,100 per share (common share) / KRW 1,150 (preferred share)
- Total amount of dividends: KRW 21,207,609,000

B. Major indicators of dividend

Classification	Type of stock	Current period	Previous period	Period before the previous period
		The 6th Period	The 5th Period	The 4th Period
Par value per share (KRW)		5,000	5,000	5,000
(Consolidated) Net income (KRW one million)		191,266	168,140	254,321
(Separate) Net income (KRW one million)		69,270	302,503	215,743
(Consolidated) Earnings per share (KRW)		9,910	8,586	12,947
Total amount of cash dividends (KRW one million)		28,874	58,770	26,150
Total amount of stock dividends (KRW one million)		-	-	-
(Consolidated) Cash dividend payout ratio (%)		15.1	35.0	10.3
Cash dividend yield (%)	Common stocks	1.9	2.0	0.5
	Preferred stocks	3.9	3.3	1.2
Stock dividend yield (%)	Common stocks	-	-	-
	Preferred stocks	-	-	-
Cash dividend per share (KRW)	Common stocks	1,500	3,000	2,000

	Preferred stocks	1,550	3,050	2,050
Stock dividend per share (stocks)	Common stocks	-	-	-
	Preferred stocks	-	-	-

※ The cash dividends for the current period in the table above include the interim dividend. As it is subject to approval at the regular meeting of shareholders, if any rejections or revisions are made at the future regular meeting of shareholders, the details and reasons will be reflected in the correction report.

※ The '(Consolidated) Net income' above has been prepared based on the ownership interest of the controlling company.

※ The '(Consolidated) Earnings per share' above is the earnings per share for common stocks.

C. History of dividends

(Unit: times, %)

Number of consecutive dividends		Average dividend yield	
Quarterly (interim) dividend	Year-end dividend	For last 3 years	For last 5 years
1	5	1.5	1.1

※ The settlement of dividends for 2022 (6th term) is made before the approval of the regular meeting of shareholders, and in the event of a rejection or revision at the regular meeting of shareholders in the future, the relevant details and reason will be reflected in the correction report. ※ The average dividend yield is for the dividend yield for common shares. For the preferred stocks, the average dividend yield for the last 3 years is 2.8%, and the average dividend yield for the last 5 years is 2.4%.

※ The Company was not able to pay dividends out for the 1st period since the actual business period ran for merely 1 month from the date of new establishment, December 1, 2017, until the date of settlement, and thus, there was no retained earnings, the financial resource for dividends.

7. Matters Concerning Financing via the Issuance of Securities

7-1. Performance in Financing via the Issuance of Securities

[Matters related to the issuance of equity securities, etc.]

A. Status of capital increase (decrease) [SK Chemicals]

(Reference date: 2022.12.31)

(Unit: KRW, stocks)

Date of stock issuance (decrease)	Form of issuance (decrease)	Details of the shares issued (decreased)				
		Type	Quantity	Par value per share	Issuance (decrease) price per share	Note
2019.05.24	Paid-in capital increase (through third-party allocation)	Common stocks	161,544	5,000	69,600	New shares issued for the purpose of maintaining a continuous PPS business cooperation with Teijin
2021.04.02	Exercise of stock option	Common stocks	10,000	5,000	72,824	-
2021.10.22	Capital increase without consideration	Preferred stocks	656,759	5,000	5,000	-
2021.10.22	Capital increase without consideration	Common stocks	5,869,384	5,000	5,000	-

2022.11.11	Exercise of stock option	Common stocks	22,492	5,000	5,000	-
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[SK Bioscience]

(Reference date: 2022.12.31)

(Unit: KRW, stocks)

Date of stock issuance (decrease)	Form of issuance (decrease)	Details of the shares issued (decreased)				
		Type	Quantity	Par value per share	Issuance (decrease) price per share	Note
2018.12.11	Paid-in capital increase (through third-party allocation)	Common stocks	40,000	5,000	274,621	Treasury share association
2020.10.20	Capital increase without consideration	Common stocks	4,080,000	5,000	5,000	2 shares allocated per share
2020.12.01	Stock split	Common stocks	55,080,000	500	500	Stock split (1/10)
2021.03.13	Capital increase (by public placement)	Common stocks	15,300,000	500	65,000	Newly listed
2022.03.11	Exercise of stock option	Common stocks	100,000	500	9,154	-
2022.04.05	Exercise of stock option	Common stocks	65,556	500	9,154	-
2022.04.11	Exercise of stock option	Common stocks	118,490	500	9,154	-

B. Status of the issuance of outstanding convertible bonds

- Not applicable

C. Status of the issuance of outstanding bonds with warrants, etc.

- Not applicable

D. Status of the issuance of outstanding contingent convertible bonds of conversion type

- Not applicable

[Matters related to the issuance of debt securities, etc.]

A. Performance in the issuance of debt securities

(Reference date: 2022.12.31)

(Unit: KRW one million, %)

Issuing company	Type of securities	Method of issuance	Date of issuance	Total par value (electronic registration)	Interest rate	Rating (rating agency)	Date of maturity	Whether redeemed	Managing company
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.05.30	50,000	3.06	A2+ (Korea Investors Service, NICE)	2022.08.30	Redeemed	Shinhan Bank
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.08.30	50,000	4.02	A2+ (Korea Investors Service, NICE)	2022.11.30	Redeemed	Shinhan Bank
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.10.17	30,000	5.81	A2+ (Korea Investors Service, NICE)	2023.04.17	Unredeemed	Korea Investment & Securities Co., Ltd.
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.11.11	30,000	8.00	A2+ (Korea Investors Service, NICE)	2023.02.10	Unredeemed (Note 1)	KB Securities
SK Chemicals Co., Ltd.	Commercial papers and securities	Private placement	2022.11.30	50,000	5.13	A2+ (Korea Investors Service, NICE)	2023.02.28	Unredeemed (Note 1)	Shinhan Bank
Total	-	-	-	210,000	-	-	-	-	-

(Note 1) The aforementioned commercial papers and securities have been fully redeemed as of the public disclosure submission date.

B. Outstanding balance of commercial papers and securities

(Reference date: 2022.12.31)

(Unit: KRW one million)

Residual maturity		10 days or less	Over 10 days 30 days or less	Over 30 days 90 days or less	Over 90 days 180 days or less	Over 180 days 1 year or less	Over 1 year 2 years or less	Over 2 years 3 years or less	Over 3 years	Total
Outstanding balance	Public placement	-	-	-	-	-	-	-	-	-
	Private placement	-	80,000	30,000	-	-	-	-	-	110,000
	Total	-	80,000	30,000	-	-	-	-	-	110,000

C. Outstanding balance of short-term bonds

(Reference date: 2022.12.31)

(Unit: KRW one million)

Residual maturity		10 days or less	Over 10 days 30 days or less	Over 30 days 90 days or less	Over 90 days 180 days or less	Over 180 days 1 year or less	Total	Issuance limit	Remaining limit
Outstanding balance	Public placement	-	-	-	-	-	-	-	-
	Private placement	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-

D. Outstanding balance of corporate bonds [SK Chemicals]

(Reference date: 2022.12.31)

(Unit: KRW one million)

Residual maturity		1 year or less	Over 1 year 2 years or less	Over 2 years 3 years or less	Over 3 years 4 years or less	Over 4 years 5 years or less	Over 5 years 10 years or less	Over 10 years	Total
Outstanding balance	Public placement	66,000	155,000	-	-	-	-	-	221,000
	Private placement	-	-	-	-	-	-	-	-
	Total	66,000	155,000	-	-	-	-	-	221,000

[SK Bioscience]

(Reference date: 2022.12.31)

(Unit: KRW one million)

Residual maturity		1 year or less	Over 1 year 2 years or less	Over 2 years 3 years or less	Over 3 years 4 years or less	Over 4 years 5 years or less	Over 5 years 10 years or less	Over 10 years	Total
Outstanding balance	Public placement	-	-	-	-	-	-	-	-
	Private placement	38,019	-	-	-	-	-	-	38,019
	Total	38,019	-	-	-	-	-	-	38,019

※ The privately placed corporate bonds are the foreign currency denominated bonds, and as for the exchange rate for the KRW translation, the initial basic exchange rate of December 31, 2022 was applied.

E. Outstanding balance of hybrid securities

(Reference date: 2022.12.31)

(Unit: KRW one million)

Residual maturity		1 year or less	Over 1 year 5 years or less	Over 5 years 10 years or less	Over 10 years 15 years or less	Over 15 years 20 years or less	Over 20 years 30 years or less	Over 30 years	Total
Outstanding balance	Public placement	-	-	-	-	-	-	-	-
	Private placement	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-

F. Outstanding balance of contingent convertible bonds

(Reference date: 2022.12.31)

(Unit: KRW one million)

Residual maturity		1 year or less	Over 1 year 2 years or less	Over 2 years 3 years or less	Over 3 years 4 years or less	Over 4 years 5 years or less	Over 5 years 10 years or less	Over 10 years 20 years or less	Over 20 years 30 years or less	Over 30 years	Total
Outstanding balance	Public placement	-	-	-	-	-	-	-	-	-	-
	Private placement	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-

G. Key details of the bond management contracts and whether they are satisfied [SK Chemicals]

(Reference date: 2022.12.31)

(Unit: KRW one million, %)

Name of bond	Date of issuance	Date of maturity	Amount of issuance	Date of execution of bond management contract	Bond management company
The 9-2nd public placement bonds	2018.04.30	2023.04.30	66,000	2018.04.18	Korea Securities Finance
The 11-2nd public placement bonds	2019.01.31	2024.01.31	80,000	2019.01.21	Korea Securities Finance
The 12-2nd public placement bonds	2019.10.30	2024.10.30	75,000	2019.10.18	Korea Securities Finance

(Reference date for performance status:

2022.08.19)

Status of financial ratio maintenance	Details of agreements	400% or less of debt-to-equity ratio (on a consolidated basis)
	Status of performance	Performed (54.11% of debt-to-equity ratio as of June 30, 2022)
Status of restrictions on the placement of security right	Details of agreements	400% or less of total equity combining payment guarantees and assets provided for collateral (on a consolidated basis)
	Status of performance	Performed (0.00% of total equity combining payment guarantees and secured assets as of June 30, 2022)
Status of restrictions on asset disposal	Details of agreements	KRW 2 trillion or less of asset disposal (on a consolidated basis), 70% or less of total assets for asset disposal (on a consolidated basis)
	Status of performance	Performed (KRW 1,656 million of asset disposal, 0.04% of total assets, January 1, 2022 - June 30, 2023)
Status of restrictions on changes in governance	Details of agreements	Corporate groups with restrictions on cross investment maintained
	Status of performance	Complied with
Status on submission of performance status report	Status of performance	Performed (August 2022)

※ The reference date for the status of performance is the date of preparation of the latest financial statements in which the auditor's opinion (confirmation and expression of opinion) was applied when the status of performance is expressed, and the status of restrictions on the changes in governance is the reference date of preparation of disclosure documents.

※ The details above are the performance status of debt securities transferred to SK Chemicals.

※ In the case of the 9-2nd, the details of the asset disposal restriction contract have been changed.

[SK Bioscience]

- Not applicable

[SK Multi-Utility]

- Not applicable

7-2. Performance in the Use of Funds Raised via the Issuance of Securities

A. History of the use of public placement bonds

[SK Chemicals]

(Reference date: 2022.12.31)

(Unit: KRW one million)

Classification	Session	Date of payment	Plans for use of funds such as securities declarations		History of the actual funds used		Reason for difference, etc.
			Purpose of use	Amount raised	Details	Amount	
Public placement bonds	The 11-1st	2019.01.31	For repayment of debt	30,000	For repayment of debt	30,000	-
Public placement bonds	The 11-1st	2019.01.31	Operating capital	40,000	Operating capital	40,000	-
Public placement bonds	The 11-2nd	2019.01.31	Operating capital	80,000	Operating capital	80,000	-
Public placement bonds	The 12-1st	2019.10.30	For repayment of debt	46,000	For repayment of debt	46,000	-
Public placement bonds	The 12-1st	2019.10.30	Operating capital	24,000	Operating capital	24,000	-
Public placement bonds	The 12-2nd	2019.10.30	Operating capital	75,000	Operating capital	75,000	-

※ The history of the use of public placement bonds above are the details of the bonds issued after the split-off on December 1, 2017.

※ Included in the debt service related funds are the amounts of repayment for corporate bonds, and in the operating capital are the purchase prices of raw materials, etc.

[SK Bioscience]

(Reference date: 2022.12.31)

(Unit: KRW one million)

Classification	Session	Date of payment	Plans for use of funds such as securities declarations		History of the actual funds used		Reason for difference, etc.
			Purpose of use	Amount raised	Details	Amount	
Newly listed on the securities market	-	2021.03.12	Facility funds	393,400	Facility funds	99,819	-
Newly listed on the securities market	-	2021.03.12	Operating capital	223,567	Operating capital	101,059	-
Newly listed on the securities market	-	2021.03.12	Others	368,196	Others	4,197	-
Total	-	-	-	985,163	-	205,075	-

※ The details of 'Others' among the purpose of use of the plan for the use of funds above are KRW 18.2 billion for Glocalization, KRW 150 billion for the basic vaccine portfolio's expansion, and KRW 200 billion for the bio CMO business acceleration until 2023 as planned.

B. History of the use of privately placed funds

(Reference date: 2022.12.31)

(Unit: KRW one million)

Classification	Session	Date of payment	Plan for use of funds for the report on major issues		History of the actual funds used		Reason for difference, etc.
			Purpose of use	Amount raised	Details	Amount	
Paid-in capital increase through third party	-	2019.05.23	-	11,243	Operating capital	11,243	-

allocation							
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※ As for the paid-in capital increase above, no securities declaration was submitted in line with the resale restrictions.

※ All funds raised were used for the repayment of general loans.

[SK Multi-Utility]

- Not applicable

8. Other Matters Concerning Finance

A. Cautions for reparation of financial statements, etc.

1) Reparation of financial statements

The Company completed the sale of the bio-energy business division and the PPS business division on May 29, 2020 and December 31, 2021, respectively, and reprepared the consolidated and separate financial statements for the comparative period.

2) Merger, split-off, asset transfer, and business transfer

The details of mergers, split-offs, asset transfers, and business transfers that have taken place during the last three fiscal years are as below.

(1) Transfer of bio-energy business

On February 5, 2020, the Company decided to transfer the bio-energy business to “Han & Co No. 16 Co., Ltd.” via a resolution of the board of directors, and the business transfer was completed on May 29, 2020. Accordingly, we have submitted a report on major issues, a report on the completion of the merger, etc. as follows.

[Related disclosure]

[Corrected] Report on major issues (decision on the transfer of business), 2020.07.14

Report on the completion of merger, etc. (business transfer), 2020.05.29

(2) Split-off of the utility supply business division

On September 13, 2021, the Company decided to split off the utility supply business division as of December 1, 2021, the date of split-off, via a resolution of the board of directors, and the split-off was completed as of this date.

[Related disclosure]

Report on major issues (decision of split-off), 2021.09.13 (Corrected: 2021.12.01)

Report on the completion of merger, etc. (split-off), 2021.12.02

(3) Transfer of PPS business

On October 27, 2021, the Company decided to sell its PPS business to ‘HDC Hyundai EP Co., Ltd.’ via a resolution of the board of directors, and the business transfer was completed on December 31, 2021. Consequently, a disclosure statement regarding the decision to dispose of tangible assets was submitted, as detailed below.

[Related disclosure]

Decision to dispose of tangible assets, 2021.10.27

3) Matters concerning the accounting of asset sales related to asset securitization, contingent liabilities, etc.
For the matters concerning contingent liabilities, refer to 24. Contingent situations and agreements of “III. Matters Concerning Finance - 3. Notes to the Consolidated Financial Statements.”

4) Other matters to be cautionary about when using the financial statements

As for the details on other matters to be aware of when using the consolidated financial statements, refer to “III. Matters Concerning Finance - 3. Notes to the Consolidated Financial Statements.”

As for the details on the matters to be aware of when using the financial statements, refer to “III. Matters Concerning Finance - 5. Notes to the Financial Statements.”

B. Status of the setting of the bad debt provisions (based on the consolidated financial statements)

1) Details of the placement of bad debt provisions for each account item

The details of the trade and other receivables during the period subject to disclosure are as follows.

(Unit: KRW one thousand)

Classification	Account title	Amount of receivables	Allowance for bad debts	Provision ratio for bad debt
The 6th Period	Trade receivables	188,942,419	4,714,759	2.50%
	Accounts receivable	64,068,419	144,517	0.23%
	Short-term loans	3,400,877	3,400,000	99.97%
	Accrued revenue	1,787,938	-	
	Derivative financial assets	10,460,927	-	
	Total	268,660,580	8,259,276	3.07%
The 5th Period	Trade receivables	184,875,238	4,767,211	2.58%
	Accounts receivable	183,517,371	232,871	0.13%
	Short-term loans	3,750,000	3,750,000	100.00%
	Accrued revenue	1,195,538	-	-
	Derivative financial assets	2,277,046	-	-
	Total	375,615,193	8,750,082	2.33%
The 4th Period	Trade receivables	152,717,476	5,735,033	3.76%
	Accounts receivable	78,804,538	109,347	0.14%
	Short-term loans	11,260,343	4,050,000	35.97%
	Accrued revenue	17,270	-	-
	Derivative financial assets	287,361	-	-
	Total	243,086,988	9,894,380	4.07%

2) Status of changes in allowance for bad debts

The details of changes in the bad debt provisions for the trade and other receivables during the period subject to disclosure are as follows.

(Unit: KRW one thousand)

Classification	The 6th Period	The 5th Period	The 4th Period
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Beginning of period	8,750,082	9,894,380	10,128,090
Placement (reversal) (Note 1)	570,555	(214,347)	2,918,720
Removal, exchange rate fluctuations, etc.	(679,634)	28,829	(2,822,349)
Business transfer (Note 2)	-	(958,780)	(106,242)
Held for sale classification	(381,727)	-	-
Changes in the scope of consolidation	-	-	(223,839)
End of period	8,259,276	8,750,082	9,894,380

(Note 1) The allowance for bad debts of KRW 94,144,000 arising from the discontinued division during the previous period was reclassified as the profit or loss from discontinued operations.

(Note 2) During the previous period, the composite material business division and the PPS business division were each sold to Toray Advanced Materials Korea Inc. and HDC Polyall Co., Ltd.

3) Policy for the setting of the bad debt provisions related to trade receivables

For contract assets, trade receivables, and other receivables, the consolidated companies apply the simple method and calculate the expected credit loss based on the expected life of credit loss.

The consolidated companies design the loss provisioning ratio table based on the past credit loss experiences adjusted to reflect the borrower's unique future forecast factors and economic environment.

For other debt instruments (i.e., deposits and loans), the expected credit loss is based on the 12-month expected credit loss. The 12-month expected credit loss is part of the expected credit loss for the entire period, which represents the expected credit loss due to events of default on the financial instruments that may occur within 12 months after the end of the reporting period.

(Provisioning rate)

Normal bonds	Classification	Experience rate
Court receivership/composition obligation	Debentures within the scope of collateral	0%
	Amount in excess of the scope of collateral	100%
Other accident receivables	Debentures within the scope of collateral	0%
	Amount in excess of the scope of collateral	100%

4) Status of the balance of trade and other receivables by the elapsed period

(Reference date: 2022.12.31)

(Unit: KRW one thousand)

Classification	The 6th Period	The 5th Period	The 4th Period
Unmatured	194,813,921	329,933,375	198,722,371
Within 90 days	46,160,540	40,867,330	37,272,957
Within 180 days	21,843,756	250,000	2,614,060
Over 180 days	6,705,880	4,564,488	4,477,600
Subtotal	269,524,097	375,615,193	243,086,988
(Deducted: allowance for bad debts)	(8,259,276)	(8,750,082)	(9,894,380)

Deductions	261,264,821	366,865,111	233,192,608
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C. Status of inventories, etc. (based on the consolidated financial statements)

1) Status of the inventories held by business division

[SK Chemicals]

The details of the inventories by business division as of the date of preparation of disclosure documents are as follows.

(Reference date: 2022.12.31)

(Unit: KRW one thousand)

Business division	By account title	The 6th Period	The 5th Period	The 4th Period
Green Chemicals Biz.	Goods	3,817,060	2,153,482	1,304,021
	Products	150,412,801	97,956,711	75,618,106
	Processed products	28,655,096	25,576,879	18,306,650
	Half finished products	4,802,695	6,266,509	3,030,250
	Goods in process	4,561,160	2,121,484	346,643
	Raw materials	25,064,612	23,592,551	35,531,106
	Stored goods	-	235,074	186,259
	Goods to arrive	22,109,018	6,919,008	1,989,594
	Others	1,106,953	589,064	823,760
	Subtotal	240,529,396	165,410,762	137,136,389
Life Science Biz.	Goods	17,838,138	16,495,619	9,400,863
	Products	16,541,491	13,595,479	14,584,356
	Processed products	1,620,557	1,812,572	1,855,433
	Half finished products	60,623,376	64,564,258	31,263,396
	Goods in process	12,884,060	10,398,197	9,779,036
	Raw materials	70,828,412	45,293,181	28,086,134
	Stored goods	-	31,592,874	18,180,342
	Goods to arrive	1,177,497	136,284	2,644,362
	Others	60,710,154	-	-
	Subtotal	242,223,685	183,888,464	115,793,921
Total		482,753,081	349,299,226	252,930,310
Inventory composition ratio to total assets (%) [Sum of inventory assets ÷ Total assets at the end of the period × 100]		12.20	8.83	11.93
Inventory turnover (number of times) [Annualized cost of sales ÷ {(Stock at beginning of period + Stock at end of period) ÷ 2}]		2.92	4.01	2.96

The details of the inventories as of the date of preparation of disclosure documents are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Acquisition cost	Assessment allowance	Book amount
Goods	24,328,964	(2,673,766)	21,655,198

Products	171,502,022	(4,547,730)	166,954,292
Processed products	31,293,747	(1,018,094)	30,275,653
Half finished products	75,945,901	(10,519,829)	65,426,072
Goods in process	17,445,220	-	17,445,220
Raw materials	107,045,895	(11,152,871)	95,893,024
Stored goods	87,444,483	(26,542,443)	60,902,040
Goods to arrive	23,286,515	-	23,286,515
Other inventories	915,067	-	915,067
Total (Note 1)	539,207,814	(56,454,733)	482,753,081

(Note 1) Included are KRW 37,092,497,000 for the amount of contract assets related to the CMOs and CDMOs.

<End of the previous period>

(Unit: KRW one thousand)

Classification	Acquisition cost	Assessment allowance	Book amount
Goods	19,738,982	(1,089,881)	18,649,101
Products	113,932,193	(2,380,003)	111,552,190
Processed products	28,932,174	(1,542,724)	27,389,450
Half finished products	73,216,391	(2,385,624)	70,830,767
Goods in process	12,519,681	-	12,519,681
Raw materials	71,938,574	(3,052,841)	68,885,733
Stored goods	32,683,672	(855,723)	31,827,949
Goods to arrive	7,055,291	-	7,055,291
Other inventories	589,064	-	589,064
Total (Note 1)	360,606,022	(11,306,796)	349,299,226

(Note 1) Included are KRW 36,960,182,000 for the amount of contract assets related to the CMOs and CDMOs.

[SK Bioscience]

(Reference date: 2022.12.31)

(Unit: KRW one million)

Business division	Account title	The 5th Period	The 4th Period	The 3rd Period
Vaccine	Goods	2,217	441	1,676
	Products	1,915	4,993	2,441
	Half finished products	54,548	60,110	27,317
	Goods in process	12,884	5,549	5,127
	Raw materials	56,863	33,799	17,391
	Stored goods	58,979	30,129	16,279
	Goods to arrive	-	25	45
	Total	187,406	135,046	70,276
Inventory composition ratio to total assets (%)		8.7%	6.4%	12.5%

[Sum of inventory assets ÷ Total assets at the end of the period × 100]			
Inventory turnover (number of times) [Annualized cost of sales ÷ {(Stock at beginning of period + Stock at end of period) ÷ 2}]	1.3 times	3.5 times	2.4 times

[SK Multi-Utility]

(Reference date: 2022.12.31)

(Unit: KRW one million)

Business division	Account title	The 2nd Period	The 1st Period
Supply of utilities such as electricity and steam	Raw materials	1,452	1,794
	Total	1,452	1,794
Inventory composition ratio to total assets (%) [Sum of inventory assets ÷ Total assets at the end of the period × 100]		48.3%	98.2%
Inventory turnover (number of times) [Annualized cost of sales ÷ {(Stock at beginning of period + Stock at end of period) ÷ 2}]		83.7 times	73.9 times

2) Details of the due diligence of inventories (including the consolidated major subsidiaries)

[SK Chemicals]

(1) Purpose of the inventories' due diligence

- Confirmation of the existence of the inventories as of the date of the statement of financial position
- Presence of a certified public accountant of an external audit firm (Hanyoung Accounting Corporation) for the due diligence of inventories by the person in charge of each plant as of the end of December

(2) Year-end inventories' due diligence and the due diligence procedures

Place, date, and time	Observer	Performer of due diligence	Note
Ulsan Plant: 2023.01.06	3 persons	1 person	Due diligence of inventories
Cheongju Plant: 2023.01.03	1 person	1 person	Due diligence of inventories
Cheonan Outsourced Warehouse: 2022.12.30	2 persons	1 person	Due diligence of inventories

(3) Method of due diligence

- Performed the sample surveys by business division and product, and verified the storage certificate for the stocks in storage and in transit
- The external auditor witnessed and confirmed the Company's inventories' due diligence and sampled some of the items to confirm their existence and completeness

(4) Status of long-term accumulated inventories, etc. (based on the consolidated financial statements)

Where the market price of inventories fell below the acquisition cost, the value of the inventories is determined by using the low-cost method, etc., and the evaluative details of the inventories as of the date of preparation of the disclosure documents are as follows.

(Reference date: 2022.12.31)

(Unit: KRW one million)

Account title	Account title	Acquisition cost	Amount held	Assessment allowance	Balance at end of the current period	Note
Green Chemicals Biz	1. Products/Goods	188,405	188,405	(5,520)	182,885	-

	2. Half finished products/Goods in process	9,371	9,371	(7)	9,364	-
	3. Raw materials	25,086	25,086	(22)	25,065	-
	4. Goods to arrive	22,109	22,109	-	22,109	-
	5. Others	1,107	1,107	-	1,107	-
	Subtotal	246,078	246,078	(5,549)	240,529	-
Life Science Biz.	1. Products/Goods	38,720	38,720	(2,720)	36,000	-
	2. Half finished products/Goods in process	84,020	84,020	(10,513)	73,507	-
	3. Raw materials	81,959	81,959	(11,131)	70,828	-
	4. Goods to arrive	1,177	1,177	-	1,177	-
	5. Others	87,253	87,253	(26,542)	60,710	-
	Subtotal	293,129	293,129	(50,906)	242,224	-
Total		539,208	539,208	(56,455)	482,753	-

[SK Bioscience]

(1) Purpose of the inventories' due diligence

- Confirmation of the existence of the inventories as of the date of the statement of financial position

(2) Year-end inventories' due diligence and the due diligence procedures

Place, date, and time	Observer	Performer of due diligence	Note
Andong Plant: 2023.01.05 (Thu)	2 persons	2 persons	Due diligence of inventories
Hwasung Logistics Warehouse: 2023.01.05 (Thu)	2 persons	2 persons	Due diligence of inventories

(3) Method of due diligence

- Performed the sample surveys by business division and product
- Verified the storage certificate for the stocks in storage and in transit
- The external auditor witnessed and confirmed the Company's inventories' due diligence and sampled some of the items to confirm their existence and completeness

(4) Status of long-term accumulated inventories, etc.

SK Bioscience holds some long-term accumulated stocks (1 year or longer) and has appropriately provisioned allowances for assessment.

The details of the inventories as of the reference date of the preparation of the report are as follows.

(Reference date: 2022.12.31)

(Unit: KRW one million)

Classification	Acquisition cost	Assessment allowance	Book amount
Goods	4,720	(2,503)	2,217
Products	2,049	(134)	1,915
Half finished products	65,061	(10,513)	54,548
Goods in process	12,884	-	12,884
Raw materials	67,994	(11,131)	56,863
Stored goods	85,521	(26,542)	58,979

Goods to arrive	-	-	-
Total	238,229	(50,823)	187,406

[SK Multi-Utility]

(1) Purpose of the inventories' due diligence

- Confirmation of the existence of the inventories as of the date of the statement of financial position
- Presence of a certified public accountant of an external audit firm (Hanyoung Accounting Corporation) for the due diligence of inventories by the person in charge of each plant as of the end of December

(2) Year-end inventories' due diligence and the due diligence procedures

Place, date, and time	Observer	Performer of due diligence	Note
Ulsan Plant: 2023.01.02	1 person	1 person	Due diligence of inventories

(3) Method of due diligence

- Performed the sample surveys by business division and product
- Verified the storage certificate for the stocks in storage and in transit
- The external auditor witnessed and confirmed the Company's inventories' due diligence and sampled some of the items to confirm their existence and completeness

(4) Status of long-term accumulated inventories, etc.

SK Multi-Utility does not hold long-term accumulated stocks (1 year or longer).

The details of the inventories as of the reference date of the preparation of the report are as follows.

(Reference date: 2022.12.31)

(Unit: KRW one million)

Classification	Acquisition cost	Assessment allowance	Book amount
Goods	-	-	-
Products	-	-	-
Half finished products	-	-	-
Goods in process	-	-	-
Raw materials	1,452	-	1,452
Stored goods	-	-	-
Goods to arrive	-	-	-
Total	1,452	-	1,452

D. Details of the fair value assessment (based on the consolidated financial statements)

The consolidated companies classify the fair value measurements according to the fair value hierarchy which reflects the significance of the input variables used for the fair value measurement, and the levels of the fair value hierarchy are as follows.

Level 1: (Unadjusted) quoted price level in the active markets for the same asset or liability

Level 2: Inputs to assets or liabilities that are directly or indirectly observable

Level 3: Inputs to assets or liabilities that are not based on the observable market data

(unobservable input variables)

The fair value measurements for each level of financial instruments as of the end of the reporting period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification	Level 1	Level 2	Level 3 (Note 2)	Total
Financial assets				
Trade and other receivables (Note 1)	-	10,460,927	-	10,460,927
Short-term financial assets	-	1,314,442,323	-	1,314,442,323
Long-term investment assets	-	-	38,628,272	38,628,272
Other non-current assets (Note 1)	-	-	1,237,613	1,237,613
Total	-	1,324,903,250	39,865,885	1,364,769,135
Financial liabilities				
Trade and other payables (Note 1)	-	67,152	-	67,152
Total	-	67,152	-	67,152

(Note 1) As for the financial instruments whose book amount is a reasonable approximation of fair value, the separate fair value disclosure has been omitted.

(Note 2) Except as otherwise provided, they consist of unlisted stocks, etc., whose cost can be an appropriate estimate of their fair value (refer to Note 35-3).

<End of the previous period>

(Unit: KRW one thousand)

Classification	Level 1	Level 2	Level 3 (Note 2)	Total
Financial assets				
Trade and other receivables (Note 1)	-	2,277,046	-	2,277,046
Short-term financial assets	-	1,794,156,437	-	1,794,156,437
Long-term investment assets	-	-	35,081,486	35,081,486
Other non-current assets (Note 1)	-	1,639,873	368,001	2,007,874
Total	-	1,798,073,356	35,449,487	1,833,522,843
Financial liabilities				
Trade and other payables (Note 1)	-	1,364,347	-	1,364,347
Total	-	1,364,347	-	1,364,347

(Note 1) As for the financial instruments whose book amount is a reasonable approximation of fair value, the separate fair value disclosure has been omitted.

(Note 2) Except as otherwise provided, they consist of unlisted stocks, etc., whose cost can be an appropriate estimate of their fair value (refer to Note 35-3).

Regarding the assets and liabilities which are repeatedly measured at fair value in the consolidated financial statements, at the end of each reporting period, the consolidated companies determine whether there is any movement between the levels of the hierarchy by undertaking a reevaluation of the classification based on the input variable of the lowest level significant for the fair value measurement.

For the fair value's disclosure purposes, the consolidated companies determine the classification of assets and liabilities and the levels of the fair value hierarchy based on their nature, characteristics, and their risks.

IV. Management Diagnosis & Analysis and Opinions of the Directors

1. Cautions for the forward-looking information

The activities, events or phenomena expected or predicted by the Company to occur in the future in this Business Report are reflective of the Company's views on the events and financial performance at the time of the preparation of the disclosure documents for the relevant period. This forward-looking information is based on various assumptions related to the future business environment, and these assumptions may turn out to be inaccurate as a result.

Furthermore, these assumptions include risks, uncertainties and other factors which might cause material differences between the estimates and actual results entered in the forward-looking information. The factors which might cause such material differences include without limitations the factors related to the Company's internal management and the factors related to the external environment.

The Company has no obligation to disclose a correction report that revises the matters stated in the forward-looking information to reflect the risks or uncertainties that arise after the time of preparation of the forward-looking information.

Consequently, the Company cannot provide the assurance that the results or matters expected by the Company in this business report will be realized or that the Company's initially anticipated impact will be materialized in effect. Be advised that the forward-looking information entered in this Report was prepared as of the time of the preparation of this Report, and the Company does not plan to update such risk factors or the forward-looking information.

2. Overview

SK Chemicals Co., Ltd. was established through a split-off from SK Discovery Co., Ltd. (formerly SK Chemicals Co., Ltd.) on December 1, 2017, the date of split-off. After the split-off, the business structure was focused on both the Green Chemicals Biz. and the Life Science Biz., and based on this, the eco-friendly sector and the health care sector were selected as the next-generation related sectors to intensively nurture toward laying the foundation for stable revenue generation and continuous growth. In support of this, the Company is investing in building an organizational system and securing core competencies such as R&D.

In 2022, a difficult business environment continued, including macroeconomic uncertainty and geopolitical risks, and there were many issues around the world, such as inflation and interest rate hikes. Despite the deterioration of the business environment, the Company was able to achieve meaningful financial results thanks to improved profitability, such as the expansion of copolyester's high-value portfolio, and sales exceeding KRW 300 billion in the Pharma business.

In 2022, based on the consolidated financial statements, the Company posted sales of KRW 1,829.2 billion, an operating profit of KRW 230.5 billion, and a net income of KRW 231.5 billion. Furthermore, based on separate financial statements, the sales were posted at KRW 1,256 billion, the operating profit at KRW 107.5 billion, and the net income at KRW 69.3 billion.

Green Chemicals Biz. has expanded its sales volume with stable production and sales despite the decline in demand for consumer goods due to the global downturn, and realized solid profitability through continuous development of new uses and reinforcement of its high-value-added product portfolio.

For the Life Science Biz., the Pharma business has achieved steady sales growth due to the development of existing products and the introduction of more new products. However, the operating profit decreased compared to the previous year due to the increase in marketing expenses under the influence of the business environment and due to the impact of drug price cuts. SK Bioscience, a subsidiary that oversees the vaccine business, successfully launched Korea's first corona vaccine, SKYCovione™ (GBP510), in collaboration with related organizations around the world based on its R&D and production capabilities, and through this, the Company laid the groundwork for materializing its plan to expand its business in the future.

The Green Chemicals Biz. will continue to drive the eco-transition strategy with speed in 2023 as well. We will push forward with global expansion such as securing core technologies related to the Recycle Solution and investing in copolyester #5, improvement of PO3G business performance, and more. In addition, we will focus our capabilities on discovering new businesses that are in line with the transition to green materials and are expected to have high growth potential.

The Pharma business of the Life Science Biz. will continue to carry out mid- to long-term value expansion measures, such as strengthening market dominance in key product areas and accelerating Open Innovation. SK Bioscience also plans to accelerate its growth as a global vaccine/bio company by expanding its vaccine pipeline, securing new vaccine platforms such as mRNA, expanding its infrastructure, including the expansion of Andong L House and the construction of Songdo R&PD center.

3. Financial position and operating performance results (on a consolidated basis)

1) Financial position

(Unit: KRW one million, %)

Account	The 6th period	The 5th period	Amount of increase	Rate of increase
[Current assets]	2,518,694	2,784,059	(265,365)	(9.53)
[Non-current assets]	1,426,989	1,171,574	255,415	21.80
Total assets	3,945,683	3,955,632	(9,949)	(0.25)
[Current liabilities]	1,058,819	1,086,649	(27,830)	(2.56)
[Non-current liabilities]	177,958	302,246	(124,288)	(41.12)
Total liabilities	1,236,777	1,388,895	(152,118)	(10.95)
[Shares owned by the controlling company]	2,146,699	2,053,542	93,157	4.54
[Non-controlling interest]	562,207	513,196	49,011	9.55
Total equity	2,708,906	2,566,737	142,169	5.54
Total liabilities and stockholders' equity	3,945,683	3,955,632	(9,949)	(0.25)

※ The 6th period (current period) is the consolidated financial statement prior to being approved at the general meeting of shareholders. Moving forward, if any agenda related to the approval of the financial statements is rejected or revised at a regular meeting of shareholders, the relevant details and reasons, etc., will be reflected in the correction report.

- On a consolidated basis in 2022, the total assets decreased by KRW 9.9 billion (-0.25%) from the previous year to KRW 3945.7 billion. The current assets decreased by KRW 265.4 billion (-9.53%) while the non-current assets increased by KRW 255.4 billion (21.80%).
- The total liabilities decreased by KRW 152.1 billion (-10.95%) from the previous year to KRW 1236.8 billion. The current liabilities decreased by KRW 27.8 billion (-2.56%), while the non-current liabilities decreased by KRW 152.1 billion (-10.95%).
- The total equity increased by KRW 142.2 billion (5.54%) from the previous year to KRW 2708.9 mainly due to the increase in retained earnings. The controlling company's ownership is KRW 2,146.7 billion and the non-controlling interests are KRW 562.2 billion.

2) Operating performance results

(Unit: KRW one million, %)

Account	The 6th period	The 5th period	Amount of increase	Rate of increase
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Sales amount	1,829,191	2,089,632	(260,441)	(12.46)
Cost of sales	1,214,096	1,208,252	5,844	0.48
Gross profit	615,095	881,380	(266,285)	(30.21)
Selling and administrative expenses	384,614	326,194	58,420	17.91
Operating income	230,481	555,186	(324,705)	(58.49)
Other income	9,572	27,410	(17,838)	(65.08)
Other expenses	24,926	44,231	(19,305)	(43.65)
Financial income	174,295	62,589	111,706	178.48
Financial cost	151,958	63,950	88,008	137.62
Gain on equity method valuation	- 763	1,619	(2,382)	(147.13)
Net income from continuing operations before income tax expense	236,701	538,622	(301,921)	(56.05)
Net income	231,476	268,743	(37,267)	(13.87)

※ Following the sale of the PPS business, the sales and profits and losses of the 5th periods' discontinued businesses were excluded.

※ The 6th period (current period) is the consolidated financial statement prior to being approved at the general meeting of shareholders. Moving forward, if any agenda related to the approval of the financial statements is rejected or revised at a regular meeting of shareholders, the relevant details and reasons, etc., will be reflected in the correction report.

- In 2022, the consolidated sales recorded KRW 1,829.2 billion, down by KRW 260.4 (-12.46%) from the previous year. Although it maintained a sound performance level by developing new uses and strengthening its high-value-added portfolio centering on the copolyester business of the Green Chemicals Biz., the size of its profits declined due to the sales decline of its subsidiary, SK Bioscience.

<Operating performance by business division>

<Current period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz.	Life Science Biz.	Internal transactions, etc.	Total
Sales amount	1,401,946,579	770,659,186	(343,414,442)	1,829,191,323
Operating income	88,746,511	148,611,013	(6,876,851)	230,480,673

<Previous period>

(Unit: KRW one thousand)

Classification	Green Chemicals Biz.	Life Science Biz.	Internal transactions, etc.	Total
Sales amount	1,037,059,042	1,229,179,081	(176,606,247)	2,089,631,876
Operating income	76,514,410	520,208,920	(41,537,420)	555,185,910

3) Overview of new business

[SK Chemicals]

Due to the governments around the world strengthening their eco-friendly policies and increased consumer awareness of environmental pollution, existing petroleum-based plastic materials will be converted to recycled, eco-friendly, and bio-based materials in the future. Through steady investment and research in the field of eco-friendly and bio materials for more than 20 years, we have secured pure domestic technology centered on copolyester, and have shown continuous growth in the global market and acquired unrivaled business competitiveness. Utilizing these accumulated competencies, we will complete an eco-friendly material business model centered on chemical recycling and bio material businesses. In addition, we aim to

achieve Carbon Net Zero by 2040 by actively increasing the use of green energy.

In accordance with this business direction, on November 07, 2022, the Company announced a mid to long-term strategy (eco-transition) for sustainable management, and the detailed strategy is as follows.

① Building a circular economy business portfolio centered on green materials

By taking the lead in establishing an eco-friendly circular economy for PET, we aim to create a positive cycle in which ecosystem development is also linked to business success. We will contribute to solving social problems by turning PET bottle waste generated in Korea into resources and establish a stable foundation for business operations through domestic supply and demand of recycled raw materials. In 2021, we commercialized the copolyester produced using the chemical recycling method for the first time in the world. Starting with commercial production of corn-based PO3G in 2022, we are planning to expand investment in business value-chains and promising biomaterials based on our biomaterial technology, such as highly flexible PLA, and grow into a global leader in the copolyester business by 2026 through continuous application and technological development of related technologies, while expanding the weight of recycled copolyester production to 100% by 2030.

② Net Zero and Life Cycle Assessment (LCA)

The Company is currently promoting a fuel transition from coal to LNG, and plans to prepare for a transition to zero-carbon energy by establishing a hydrogen economy in the future. We will achieve net zero greenhouse gas emissions by converting our current product portfolio to green materials and using green energy to reduce greenhouse gas emissions by 2040. In addition, we plan to generate additional revenues through carbon credits based on greenhouse gas reduction performance.

[SK Bioscience]

① Expansion of the preventive vaccine pipeline

A pipeline refers to a new drug development project that is being researched and developed (R&D) by a company. SK Bioscience plans to make continuous efforts, such as R&D investment and manpower input, to develop a new preventive vaccine pipeline from the existing domestic premium vaccine-centered portfolio. In particular, as the COVID-19 pandemic increased overall interest in vaccines for prevention, and global interest in securing vaccine supply against major diseases, the momentum is building for additional pipelines. We have already accumulated experience in global joint development projects through the next-generation pneumococcal vaccine, COVID-19 vaccine, and typhoid vaccine projects, and we expect to discover many leading global cooperation projects in the future.

② Expansion of the new bio/platform

In the vaccine and bio industry, the significance of the platform is that it can be applied to multiple pipelines based on the same technology, and the mRNA platform that emerged during the COVID-19 pandemic is a prime example. A key characteristic of our R&D and production capabilities is that we have multiple platforms at the same time and can flexibly and quickly switch as needed. SK Bioscience has already demonstrated its capabilities in various platforms, including synthetic antigens (SKYCovione and Novavax COVID-19 vaccine), cell culture (SkyCellflu), and virus carriers (AstraZeneca COVID-19 vaccine). Currently, we are working on a project to secure an mRNA technology and production platform through collaboration with global initiatives, and we will also strive to secure a new innovation platform through continuous networking and cooperation within the bio ecosystem.

In addition, the significance of the platform is that it can promote synergies in bio fields other than vaccines. For example, we can consider expanding into the bio field by utilizing our virus carrier production capacity, etc., and we are continuously trying to enter the CGT business by promoting M&A in this direction for example.

③ Promotion of the CDMO/CMO business

SK Bioscience's CDMO contract plays the role of receiving antigen manufacturing technology from a company with original vaccine technology to make products or supply vaccines around the world by developing additional processes. SK Bioscience expanded its business areas to CDMO by carrying out contract manufacturing of COVID-19 vaccine with existing synthetic antigen and viral vector technology, and plans to start business in earnest by expanding its business to

COVID-19 vaccine production contracts and Non COVID-19 CDMO in individual countries in Asia.

There are many companies around the world that are developing vaccines such as the COVID-19 vaccine, but only a limited number of companies have the capacity to commercialize vaccines and secure production facilities that require a lot of cost and a long time. Therefore, the vaccine CDMO/CMO market is expected to grow centering on global base vaccine producers. In fact, recently, a significant number of global biopharmaceutical companies are increasingly carrying out production process development and mass production on consignment, and partnerships with CDMO companies are actively taking place, centering on bio ventures that lack in-house development and production capabilities.

④ Promotion of the Sky Shield business

In the face of the COVID-19 pandemic, several governments have pushed for localization of vaccine-related capabilities, such as production. Accordingly, SK Bioscience is working to localize vaccine development/production infrastructure in each country through partnerships with overseas governments and local companies. We intend to promote the localization of vaccine capabilities through our know-how of vaccine-related products, technologies, and facilities, institutional support of overseas governments, technology transfer to local companies, and operational synergies. We are conceiving and promoting business models that are specialized for regional characteristics, centering on the base countries of each region around the world.

4) Effect of the exchange rate fluctuations

Exchange risk is the risk where the fair value of financial instruments or future cash flows will fluctuate due to the fluctuations in the exchange rates. The book amounts of the monetary assets and liabilities denominated in foreign currencies other than the functional currency as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period		End of the previous period	
	Assets	Liabilities	Assets	Liabilities
USD	283,760,059	95,426,426	162,654,290	216,682,711
CNY	3,610,762	542,830	15,918,457	986,456
EUR	3,764,548	18,599,899	9,032,243	1,597,977
GBP	433,923	130,384	297,848	2,654
JPY	6,820,072	233,047	4,911,900	16,436
Total	298,389,364	114,932,586	192,814,738	219,286,234

(Note 1) The foreign currency borrowings and foreign currency bonds for which currency swaps are executed are excluded since they are not exposed to the exchange risk.

As of the end of the reporting period, if the exchange rate of the functional currency for each foreign currency fluctuates by 5%, the effect on the profit and loss before tax for the current period and the previous period is as follows.

(Unit: KRW one thousand)

Classification	End of the current period		End of the previous period	
	5% increase	5% decrease	5% increase	5% decrease
USD	9,416,682	(9,416,682)	(2,701,421)	2,701,421
CNY	153,397	(153,397)	746,600	(746,600)
EUR	(741,768)	741,768	371,713	(371,713)
GBP	15,177	(15,177)	14,760	(14,760)
JPY	329,351	(329,351)	244,773	(244,773)
Total	9,172,839	(9,172,839)	(1,323,575)	1,323,575

4. Liquidity and financing and expenditure

1) Status of borrowings, etc.

(1) The details of the bonds and borrowings as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	End of the current period	End of the previous period
Short-term borrowings	436,109,819	11,671,373
Current portion of long-term liabilities:		
Current portion of bonds payable	103,986,944	207,864,113
Subtotal	103,986,944	207,864,113
Debenture	154,787,349	256,063,407
Long-term borrowings	7,172,699	-
Total	702,056,811	475,598,893

(2) The details of the short-term borrowings as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Lender	Details	Annual interest rate at end of current period (%)	End of the current period	End of the previous period
KEB Hana Bank, etc.	General borrowings from banks	4.41 - 6.34	202,200,000	-
KEB Hana Bank, etc.	Trade receivable discounts	0.82 - 6.71	78,359,823	-
Shinhan Bank, etc.	Commercial paper (CP)	5.13 - 8.00	110,000,000	-
Coalition for Epidemic Preparedness Innovations (CEPI)	Other borrowings (Note 1)	-	45,549,996	11,671,373
Total			436,109,819	11,671,373

(Note 1) As the product was commercialized with a subsidy for the R&D support for 'GBP510', a COVID-19 vaccine candidate under development by the consolidated companies, part of it was reimbursed during the current period.

(3) The details of the bonds as of the end of the reporting period are as follows.

(Unit: KRW one thousand)

Classification	Date of maturity	Annual interest rate at end of current period (%)	End of the current period	End of the previous period
The 2-2nd public placement bonds	2022.07.26	-	-	48,000,000
The 9-2nd public placement bonds	2023.04.30	3.52	66,000,000	66,000,000
The 10-2nd private placement bonds	2022.10.30	-	-	20,000,000
The 11-1st public placement bonds	2022.01.28	-	-	70,000,000
The 11-2nd public placement bonds	2024.01.31	2.91	80,000,000	80,000,000
The 12-1st public placement bonds	2022.10.30	-	-	70,000,000
The 12-2nd public placement bonds	2024.10.30	2.77	75,000,000	75,000,000
Overseas bonds	2023.06.29	US 3M Libor + 1.88	38,019,000	35,565,000
Total			259,019,000	464,565,000
(Deducted: discount on bonds premium)			(244,707)	(637,480)
(Deducted: current portion of bonds payable)			(103,986,944)	(207,864,113)
Deductions			154,787,349	256,063,407

2) Annual repayment plan for borrowings, etc.

The Company manages the risks arising from a lack of funds through the liquidity strategies and plans, and matches the maturities of financial assets and liabilities by considering the maturities of financial instruments and estimates of the operating cash flows.

The following are the undiscounted contractual amounts as a repayment plan for each financial liability.

<Current period>

(Unit: KRW one thousand)

Classification	Less than 1 year	2 years or less	5 years or less	Over 5 years	Total
Trade and other payables	219,159,228	-	-	-	219,159,228
Short-term borrowings	436,109,819	-	-	-	436,109,819
Current portion of long-term liabilities	104,019,000	-	-	-	104,019,000
Current portion of lease liabilities	12,000,694	-	-	-	12,000,694
Other current liabilities (Note 1)	4,932,758	-	-	-	4,932,758
Debenture (Note 2)	-	-	155,000,000	-	155,000,000
Long-term borrowings	7,172,699	-	-	-	7,172,699
Lease liabilities	-	6,637,793	5,089,589	4,526,978	16,254,360
Total	783,394,198	6,637,793	160,089,589	4,526,978	954,648,558

(Note 1) These are deposits taken.

(Note 2) Included are the interest expenses.

<Previous period>

(Unit: KRW one thousand)

Classification	Less than 1 year	2 years or less	5 years or less	Over 5 years	Total
Trade and other payables	452,892,821	-	-	-	452,892,821
Short-term borrowings	11,671,373	-	-	-	11,671,373
Current portion of long-term liabilities	208,000,000	-	-	-	208,000,000
Current portion of lease liabilities	2,835,307	-	-	-	2,835,307
Other current liabilities (Note 1)	11,827,891	-	-	-	11,827,891
Debenture (Note 2)	-	101,565,000	155,000,000	-	256,565,000
Lease liabilities	-	2,276,326	3,414,156	5,257,899	10,948,381
Other non-current liabilities (Note 1)	-	2,110,026	-	-	2,110,026
Total	687,227,392	105,951,352	158,414,156	5,257,899	956,850,799

(Note 1) These are deposits taken.

(Note 2) Included are the interest expenses.

3) Matters concerning liquidity

As of the end of 2022, the Group' cash and cash equivalents posted KRW 400 billion, and the possibility of a liquidity risk is limited as the maturities of borrowings are evenly distributed.

(Unit: KRW one thousand)

Classification	Current period	Previous period
Cash flows from operating activities	(186,535,765)	509,316,465
Cash flows from investment activities	230,967,889	(1,566,583,813)
Cash flows from financing activities	107,152,680	1,223,951,948
Net cash flows	151,584,803	166,684,600

5. Off-balance sheet transactions

For the matters related to the Company's off-balance sheet transactions, refer to "XI. Other Matters Required for Investor Protection - 2. Matters concerning contingent liabilities."

6. Other matters required for investment decision making

1) Matters concerning important accounting policies and estimates

For the matters related to the Company's important accounting policies and estimates, refer to "III. Matters Concerning Finance - 3. Notes to the Consolidated Financial Statements and 8. Other Matters Concerning Finance" or the attached Notes to the Consolidated Audit Report.

2) Matters concerning environment and employees

- For the matters concerning the environment related sanctions and administrative measures, etc., refer to "XI. Other Matters Required for the Investor Protection - 3. Matters Related to Sanctions, Etc."
- There were no significant employee related changes during the current period, such as the transfer of key personnel.

3) Matters concerning the regulation under laws and regulations

- For an overview of key legal and regulatory issues related to the Company's business, refer to "XI. Other Matters Required for the Investor Protection - 3. Other matters such as the status of sanctions."

4) Matters related to derivatives and risk management policies

For the matters related to the Company's important accounting policies and estimates, refer to " II . Details of the Business - 7. Status of Transactions such as Derivatives and Put Back Options (including Major Consolidated Subsidiaries) - 1) Derivatives."

V. Audit Opinion of the Auditor, Etc.

1. Matters Concerning External Audit

A. Auditor's name and audit opinion

Business Year	Auditor	Auditor's opinion	Matters of emphasis, etc.	Key matters of audit
The 6th period (current period)	Ernst & Young Han Young	Unqualified opinion	None	Time-specific export sales Reviewing the adequacy of C(D)MO contract revenue recognition
The 5th period (previous period)	Ernst & Young Han Young	Unqualified opinion	None	Time-specific export sales Reviewing the adequacy of C(D)MO contract revenue recognition
The 4th period (period before previous period)	Ernst & Young Han Young	Unqualified opinion	None	Impairment of cash-generating unit

B. Status of the execution of audit services

(Unit: KRW one million, hour)

Business Year	Auditor	Details	Details of audit contract		Details of actual audit performed	
			Remuneration	Hours	Remuneration	Hours
The 6th period (current period)	Ernst & Young Han Young	Review and audit of the financial statements	480	4,800	480	4,805
The 5th period (previous period)	Ernst & Young Han Young	Review and audit of the financial statements	440	4,600	440	4,618
The 4th period (period before previous period)	Ernst & Young Han Young	Review and audit of the financial statements	422	4,600	422	4,741

(The 6th Audit Period)

Classification	Schedule	
Q4 of the 6th period	Separately reviewed	2023.01.25 - 2023.01.27
	Reviewed on a consolidated basis	2023.01.30 - 2023.02.03
Q3 of the 6th period	Separately reviewed	2022.10.17 - 2022.10.21
	Reviewed on a consolidated basis	2022.10.24 - 2022.10.28
Half year of the 6th period	Separately reviewed	2022.07.18 - 2022.07.22
	Reviewed on a consolidated basis	2022.07.25 - 2022.07.29
Q1 of the 6th period	Separately reviewed	2022.04.18 - 2022.04.22
	Reviewed on a consolidated basis	2022.04.25 - 2022.04.29

C. Status of the contracts for non-audit services executed with the auditor

Business Year	Contract execution date	Details of services	Period of service performance	Remuneration for services	Note
The 6th period (current period)	-	-	-	-	-
	-	-	-	-	-
The 5th period (previous period)	-	-	-	-	-
	-	-	-	-	-
The 4th period (period before previous period)	-	-	-	-	-
	-	-	-	-	-

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D. Details of the discussions by and between the internal audit organization and the auditor

Classification	Date	Attendees	Method	Key details discussed
1	2022.05.25	Audit Committee / Accounting Team and External Audit Team	Face-to-face meeting	- 2022 audit performance plan
2	2022.08.24	Audit Committee / Accounting Team and External Audit Team	Face-to-face meeting	- Review results for Q2 2022 and internal accounting control system audit progress status
3	2022.11.23	Audit Committee / Accounting Team and External Audit Team	Face-to-face meeting	- Review results for Q3 2022 and changes in major laws and the accounting environment
4	2023.01.22	Audit Committee / Accounting Team and External Audit Team	Face-to-face meeting	- Results of the audit of financial statements and internal audit for the fiscal year of 2022

E. Change of the auditor

- Not applicable

F. Audit opinion of the auditor for the subsidiary

- Not applicable

G. Change of the auditor for the subsidiary

The changes of the auditor for the subsidiary during the period subject to disclosure are as follows.

Subsidiary	Fiscal year of change	Before change	After change	Reasons for change
SK Bioscience	2021	Samil PwC	Ernst & Young Han Young	Newly appointed
	Q3 2020	Ernst & Young Han Young	Samil PwC	Appointed the auditor for listing on the securities market (Note 1)

(Note 1) For SK Bioscience, Samil PwC was designated as the auditor by the Financial Supervisory Service in September 2020 in accordance with the Act on External Audit of Stock Companies and the Enforcement Decree of the same Act for listing on the securities market.

2. Matters Concerning Internal Controls

A. Auditor's review opinion of the internal accounting control system

Business Year	Review opinion and audit opinion	Matters pointed out
The 6th period (current period)	[Audit opinion] As of December 31, 2022, the Company's internal accounting control system is effectively designed and operated from the perspective of materiality in line with the "Conceptual System for the Design and Operation of the Internal Accounting Control System."	Not applicable
The 5th period (previous period)	[Audit opinion] As of December 31, 2021, the Company's internal accounting control system is effectively designed and operated from the perspective of materiality in line with the "Conceptual System for the Design and Operation of the Internal Accounting Control System."	Not applicable

<p>The 4th period (period before previous period)</p>	<p>[Audit opinion] As of December 31, 2020, the Company's internal accounting control system is effectively designed and operated from the perspective of materiality in line with the "Conceptual System for the Design and Operation of the Internal Accounting Control System."</p>	<p>Not applicable</p>
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VI. Matters Concerning the Company's Organizations Such as the Board of Directors

1. Matters Concerning the board of directors

A. Overview of the board of directors' structure

As of the date of preparation of the disclosure documents, the board of directors of the Company consists of 2 inside directors, 4 outside directors, and 1 non-executive director. The board of directors operates the Audit Committee, the Outside Director Candidate Nomination Committee, the ESG Committee, and the Human Resources Committee, and other committees such as the Finance Committee can be formed later if needed. Furthermore, the entire Audit Committee consists of outside directors.

The board of directors is chaired by Moon Seong-hwan, an outside director. As an expert in corporate management, Chairman Moon Seong-hwan is expected to make a significant contribution to the Company's continuous growth and development based on his capabilities and wealth of experiences.

(Reference date: 2022.12.31)

Number of persons	Inside director	Outside director	Non-executive director
A total of 7 people	Kim Cheol, and Jeon Kwang-hyun (Note 1)	Park Jeong-su (Note 2), Moon Seong-hwan, Jo Hong-hui, and An Yang-ho	Ahn Jae-hyun (Note 3)

(Note 1) Inside director Jeon Kwang-hyun was reappointed at the 5th regular meeting of shareholders which was held on March 28, 2022.

(Note 2) Outside director Park Jeong-su was reappointed at the 5th regular meeting of shareholders which was held on March 28, 2022.

(Note 3) Non-executive director Ahn Jae-hyun was newly appointed at the 5th regular meeting of shareholders which was held on March 28, 2022.

(Outside directors and the status of their changes)

The status of changes from the date of commencement of the business year in which the reference date of preparation of disclosure documents belongs until the date of submission of disclosure documents is as follows.

(Unit: Number of persons)

Number of directors	Number of outside directors	Status of changes in the outside directors		
		Appointment	Dismissal	Interim resignation
7	4	1	-	-

※ These are the results of the 5th regular meeting of shareholders held on March 28, 2022.

1) Details of the authorities of the board of directors

- The Board decides on the matters provided under the laws or the Articles of Incorporation, matters delegated by the general meeting of shareholders, and the important matters related to the Company's basic management policies and business execution.
- The Board oversees the business execution by and of the directors.

Classification	Key details
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Authorities of the board of directors	<p>1. Matters determined by the authorities of the board of directors under the laws (Commercial Act, Financial Investment Services and Capital Markets Act, and Fair Trade Act, etc.) and the Articles of Incorporation</p> <p>2. Matters of major decision-making for the Company (Board regulations)</p> <ul style="list-style-type: none"> - Matters concerning the general meeting of shareholders - Matters concerning management - Matters concerning finance - Matters related to human resource and organizational management - Other important matters of management
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B. Matters of important resolutions, etc.

(2022)

Session	Date convened	Details of proposal	Inside director			Outside director			
			Kim Cheol (rate of attendance:100%)	Jeon Kwang-hyun (Note 1) (rate of attendance:100%)	An Yang-ho (rate of attendance:100%)	Park Jeong-su (Note 2) (rate of attendance:100%)	Moon Seong-hwan (rate of attendance:100%)	Jo Hong-hui (rate of attendance:100%)	Ahn Jae-hyun (Note 3) (rate of attendance:91%)
Whether approved or disapproved									
1st	2022.01.25	※ Reported Matters ① Report on the Human Resources Committee's operation plan for 2022 ② Report on the business performance results of 2021 and the business plans of 2022 ③ Report on the internal transaction status for 2022	-	-	-	-	-	-	Not applicable (Newly appointed on March 28, 2022)
2nd	2022.02.10	1. Approval of financial statements and business reports ※ Reported Matters ① Report on the KPIs of the CEO for 2022 ② Report on the CEO's individual remuneration (draft) for 2022	Approved	Approved	Approved	Approved	Approved	Approved	
3rd	2022.02.24	1. Revision of compliance control standards ※ Reported Matters ① Report on the operation status of the internal accounting control system in 2021 ② Report on shareholder proposals ③ Report on major management issues	Approved	Approved	Approved	Approved	Approved	Approved	
4th	2022.03.03	1. Convocation of the regular meeting of shareholders and confirmation of agenda 2. Health and safety plan for 2022 ※ Reported Matters ① Report on the assessment results regarding the operation status of the internal accounting control system in 2021	Approved	Approved	Approved	Approved	Approved	Approved	
5th	2022.03.21	1. Execution of treasury stock acquisition trust contract ※ Reported Matters ① Report on major management issues	Approved	Approved	Approved	Approved	Approved	Approved	
6th	2022.03.28	1. Appointment of CEO 2. Appointment of committee member in the board of directors 3. New construction of the general management building at the Ulsan Plant 4. Decision to accept the mediation proposal ※ Reported Matters ① Changes in the roles of the SUPEX Implementation Council ② Report on evaluation results for board of directors' operation in 2021	Approved	Approved	Approved	Approved	Approved	Approved	

7th	2022.04.27	1. Changes in the building lease contract	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		2. Revision of the Corporate Governance Charter	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		3. Revision of the ESG Committee regulations	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		4. Investment for facility expansion	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		※ Reported Matters							
① Report on Q1 business performance results/Q2 business plans	-	-	-	-	-	-	-		
② Report on the independence/diversity guidelines of outside directors	-	-	-	-	-	-	-		
③ Major management status update	-	-	-	-	-	-	-		
8th	2022.05.25	1. Relocation of the Japanese branch	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		※ Reported Matters							
		① Lessons learned from the PPS business	-	-	-	-	-	-	-
		② SK Multi-Utility business status and future plans	-	-	-	-	-	-	-
③ Report on the Q1 SHE diagnosis results and actions taken	-	-	-	-	-	-	-		
9th	2022.06.15	1. Setting the reference date for interim dividend	Approved	Approved	Approved	Approved	Approved	Approved	Approved
10th	2022.06.22	1. Approval of limit for corporate bond issuing	Approved	Approved	Approved	Approved	Approved	Approved	Approved
11th	2022.07.27	1. Purchase of liability insurance for executives in 2022	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		2. Decision on the interim dividend	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		3. Signing of the cash deficiency support	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		※ Reported Matters							
		① Report on the business performance of the first half of 2022	-	-	-	-	-	-	-
② Report on the CEO KPI review for first half of 2022	-	-	-	-	-	-	-		
③ Report on the green materials growth strategy	-	-	-	-	-	-	-		
④ Report on management issues	-	-	-	-	-	-	-		
12th	2022.08.24	1. Execution of agreements, etc. on the operation of the committee	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		※ Reported Matters							
① Report on the fuel purchase status for SKMU	-	-	-	-	-	-	-		
13th	2022.09.28	1. Decision to cancel treasury stock	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		※ Reported Matters							
① Measurement system for the ethical management of the Group	-	-	-	-	-	-	-		
14th	2022.10.26	1. Contribution to the incorporated foundation	Approved	Approved	Approved	Approved	Approved	Approved	Absent
		※ Reported Matters							
		① Report on Q3 2022 business performance	-	-	-	-	-	-	-
② Report on the CEO evaluation (draft) for 2022	-	-	-	-	-	-	-		
15th	2022.11.23	1. Debt guarantee for the Chinese subsidiary	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		※ Reported Matters							
		① Report on MU project progress and future plans	-	-	-	-	-	-	-
		② Report on the progress of cooperation with a Chinese subsidiary (Company S)	-	-	-	-	-	-	-
		③ Report on the compliance operation system of the Pharma business	-	-	-	-	-	-	-
		④ Report on the results of the Human Resources Committee	-	-	-	-	-	-	-
⑤ Report on reorganization and appointment of executives	-	-	-	-	-	-	-		
16th	2022.12.21	1. Approval of limit for corporate bond issuing	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		2. Appointment of legal compliance officer	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		3. Appointment of fair trade voluntary compliance manager	Approved	Approved	Approved	Approved	Approved	Approved	Approved
		※ Reported Matters							
① Report on the results of the committee activities	-	-	-	-	-	-	-		

(Note 1) Inside director Jeon Kwang-hyun was reappointed on March 28, 2022.

(Note 2) Outside director Park Jeong-su was reappointed on March 28, 2022.

(Note 3) Non-executive director Ahn Jae-hyun was newly appointed on March 28, 2022.

(Note 4) This is a case related to the approval of transactions on one's account, and thus, please refer to the following for details.

Target company	Major shareholders	Date of resolution	Matters of approval
SK Chemicals Co., Ltd. SK Gas Co., Ltd. SK Plasma Co., Ltd.	SK Discovery Co., Ltd.	2022.04.27	- Key details: Changes in the rent and management fee contract for ECO Lab, SK Chemicals' office building, in accordance with the 2022 appraisal of ECO Lab and application of the surrounding market price - Contract details: The rent and management fee are settled according to the actual area used, and may increase or decrease according to external appraisal and surrounding market price every year. - Contract period: Adjusted (May 2022 -)

※ These are the details of the agenda of the board held from the date of the start of the business year in which the reference date of the preparation of disclosure documents belongs until the reference date.

※ Matters of reference <Results of evaluation of the board activities in 2021 (self-evaluation)>

In March 2022, an evaluation of the board activities was conducted targeting outside directors, and the improvement needs revealed as a result of the evaluation will be actively reflected.

- Overall average score: 4.4 points (out of 5 points)

(Unit: points)

Structure of the board	Role of the board	Responsibility of the board	Operation of the board	Composition of the Committee	Role/Operation of the Committee	Comprehensive Evaluation
4.3	4.3	4.4	4.5	4.0	4.2	4.4

※ Evaluation items

Classification	Evaluation items (25 in total)
Structure of the board	- Adequacy of size
	- Expertise/experience
	- Independence
Role of the board	- Establish the company vision and strategy
	- Adequacy of the scope of authorities
	- Advice to the management
	- Enhance corporate value
	- Risk management
Responsibility of the board	- Supervision of management performance
	- Confidentiality
	- Corporate governance
	- Corporate social responsibility
Operation of the board	- Adequacy of the number of meetings held/agendas
	- Usefulness of management data
	- Participation of directors
	- Adequacy of discussions
	- Provision of education
	- Information collection
Structure of the Committee	- Adequacy of the structure
	- Structure of members
Roles/operation of the Committees	- Adequacy of roles
	- Adequacy of the number of meetings held
	- Information provision and adequacy of discussions

C. Committees within the board of directors

1) Audit Committee

As for the Audit Committee, refer to “VI. Matters Concerning the Company’s Organizations Such as the board of directors - 2. Matters concerning the audit system.”

2) Outside Director Candidate Nomination Committee

As for the Outside Director Candidate Nomination Committee, refer to “VI. Matters Concerning the Company’s Organizations Such as the board of directors - 1. Matters concerning the board of directors - D. Independence of the directors.”

3) ESG Committee

- Chairman: Outside director Park Jeong-su
- Structure of the Committee 1 inside director (Jeon Kwang-hyun), 2 outside directors (Park Jeong-su and An Yang-ho)
- Purpose of establishment & authorities: Conduct advance review of the key ESG related matters across business management
- Details of activities

(2022)

Name of Committee	Date convened	Details of proposal	Whether approved	Park Jeong-su	An Yang-ho	Jeon Kwang-hyun
				(rate of attendance:100%)	(rate of attendance:100%)	(rate of attendance:100%)
Whether approved or disapproved						
ESG Committee	2022.03.03	※ Reported Matters ① Report on the results of evaluating the materiality of Sustainability Report 2021	-	-	-	-
	2022.04.14	1. Appointment of ESG Chairman	Approved	Approved	Approved	Approved
		2. Investment for facility expansion	Approved	Approved	Approved	Approved
		3. Revision of the ESG Committee regulations	Approved	Approved	Approved	Approved
	2022.06.22	※ Reported Matters ① Report on the revision of the Investment Deliberation Committee regulations	-	-	-	-
		※ Reported Matters ① Publication of Sustainability Report 2021 ② Human Rights management promotion plan ③ Establishment of the biodiversity policy ④ Report on the tax policy	-	-	-	-
2022.09.28		※ Reported Matters ① Establishment of the SBTI-based Net Zero roadmap and publication of the TCFD report	-	-	-	-
2022.12.21	1. Establishment of the Human Rights Management Committee	Approved	Approved	Approved	Approved	
	2. Organization of the Risk Management Committee	Approved	Approved	Approved	Approved	
	※ Reported Matters ① Report on 2022 business performance results and 2023 business plans ② Report on 2022 ESG performance and 2023 plans	-	-	-	-	

4) Human Resources Committee

- Chairman: Outside director Moon Seong-hwan
- Structure of the Committee: 2 outside directors (Moon Seong-hwan and Jo Hong-hui), and 1 non-executive director (Ahn Jae-hyun)
- Purpose of establishment & authorities: Evaluation of the CEO and whether he or she stays in office, review of the adequacy of inside director’s remuneration, and results of evaluation of key executives and determination of remuneration amounts

– Details of activities

(2022)

Name of Committee	Date convened	Details of proposal	Whether approved	Moon Seong-hwan	Jo Hong-hui	Kim Cheol	Ahn Jae-hyun
				(rate of attendance:100%)	(rate of attendance:100%)	(rate of attendance:100%)	(rate of attendance:100%)
Whether approved or disapproved							
Human Resources Committee	2022.01.19	※ Reported Matters ① Report on the operation of the Human Resources Committee (draft) for 2022	-	-	-	-	Not applicable (newly appointed on March 28, 2022)
	2022.02.09	1. Review of CEO KPIs for 2022	Approved	Approved	Approved	Approved	
		2. Review of the CEO's individual remuneration	Approved	Approved	Approved	Approved	
	2022.07.25	※ Reported Matters ① Report on the individual remuneration of key executives	-	-	-	-	Not applicable (resigned on March 28, 2022)
		1. Review of the CEO KPIs for the first half of 2022	Approved	Approved	Approved	Approved	
※ Reported Matters ① Report on the evaluation of key executives for the first half		-	-	-	-		
2022.10.19	1. Review of CEO evaluation (draft) for 2022	Approved	Approved	Approved	Approved	Approved	
2022.11.17	1. Review of CEO evaluation for 2022	Approved	Approved	Approved	Approved	Approved Approved	
	2. Review of whether the CEO will remain in office	Approved	Approved	Approved	Approved		
	※ Reported Matters ① Report on the evaluation of key executives for 2022	-	-	-	-	-	

D. Independence of Directors

1) Independence standards for the election of directors, etc.

The director candidates to be appointed at the general meeting of shareholders are selected by the board of directors (inside directors) and the Outside Director Candidate Nomination Committee (outside directors), and the agenda for submission for the general meeting of shareholders are finalized. The Outside Director Candidate Nomination Committee (3 outside directors) considers the candidates' careers and fields of expertise to make balanced decision-makings and management supervisions possible, and examines whether they are applicable under any of the causes for disqualification provided under the relevant regulations such as the Commercial Act and the Enforcement Decree of the Commercial Act, and finally, make recommendations to the general meeting of shareholders.

2) Background for the appointment of directors and recommenders, etc.

Name of position	Name	Recommender	Field of activity (task in charge)	Transaction with the Company	Relationship with the largest shareholder or major shareholder	Term of appointment	Whether retained for another term of office (number of reappointments)
Inside director	Kim Cheol	Board of directors	CEO	Not applicable	Executive concurrently holding positions	2023.03	Y (1)
	Jeon Kwang-hyun (Note 1)	Board of directors	CEO		Executive concurrently holding positions	2025.03	Y (1)
Outside director	Park Jeong-su (Note 2)	Outside Director Candidate Nomination Committee	Outside director (member of the Audit Committee)		-	2025.03	Y (1)
	Moon Seong-hwan	Outside Director Candidate Nomination Committee	Outside director (member of the Audit Committee)		-	2023.03	N
	Jo Hong-hui	Outside Director Candidate Nomination Committee	Outside director (member of the Audit Committee)		-	2023.03	N
	An Yang-ho	Outside Director Candidate Nomination Committee	Outside director (member of the Audit Committee)		-	2024.03	Y (1)
Non-executive director	Ahn Jae-hyun (Note 3)	Board of directors	Non-executive director		Executive concurrently holding positions	2025.03	N

Name	Background to appointment
Kim Cheol	After joining SK Co., Ltd., Kim Cheol served as the head of SK Innovation's petroleum development division and SK Chemicals' resin business division, and since has served as the CEO of SK Chemicals. To date, he has played a significant role in achieving the business growth of each company, and based on his extensive experience and capabilities, was appointed in the belief that he will be very helpful in implementing the Company's new businesses.
Jeon Kwang-hyun (Note 1)	After joining SK Chemicals Co. Ltd., Jeon Kwang-hyun served as the president of Life Science Biz., and since has served as the CEO of SK Chemicals. He has contributed largely in regards to the improvement and growth of the performance of each business division, and based on his hands-on experience and excellent capabilities, was appointed in the belief that he will contribute to future performance by providing business insights.

Park Jeong-su (Note 2)	Park Jeong-su is currently a professor of Economics at Sogang University and was appointed as he is expected to play an important role in SK Chemicals' decision-making based on his diverse experiences and professional insight, including extensive activities as a policy advisor and evaluation member for government agencies.
Moon Seong-hwan	Moon Seong-hwan was appointed as based on his knowledge and wealth of experience as a corporate management expert who has served as the CEO of a listed company for over 10 years, he is expected to enhance the diversity and present new perspectives in making major decisions, and will also be able to contribute to the growth and development of the Company through his professional insight and competencies.
Jo Hong-hui	Jo Hong-hui has been appointed because in addition to his knowledge and wealth of experience as an expert in the field of taxation (particularly corporate) for more than 30 years at the National Tax Service, he has served as an outside director and audit member of a listed company for many years, and will be able to contribute to the growth and development of the Company through his professional insight and competencies.
An Yang-ho	As a human resources and finance and accounting expert who has served as the Director General for Planning and Budget, Director General of the Human Resources Development Bureau of the Central Personnel Committee, and the 2nd Vice Minister of the Ministry of Public Administration and Security, An Yang-ho has actively expressed his opinions from a balanced perspective based on his wealth of experience and competencies during his tenure as an outside director of SK Chemicals. He was appointed because at a time when the enhancement of ESG management is required, he would be suitable to contribute to business promotion and sustainable growth for SK Chemicals.
Ahn Jae-hyun (Note 3)	As the current CEO of SK Discovery, Ahn Jae-hyun served as CEO of SK D&D, head of SK Gas Management Support Division and Chairman of the New Growth Energy Committee, and CEO of SK Ecoplant, leading various investments and M&A. In particular, he successfully converted to the eco-friendly and new energy business structure of SK Ecoplant. Based on this experience, he was appointed as he could contribute to building our green material, bio-centered portfolio and accelerating ESG management.

(Note 1) Inside director Jeon Kwang-hyun was reappointed on March 28, 2022.

(Note 2) Outside director Park Jeong-su was reappointed on March 28, 2022.

(Note 3) Non-executive director Ahn Jae-hyun was newly appointed on March 28, 2022.

3) Status of the establishment and structure of the Outside Director Candidate Nomination Committee

(Reference date: 2022.12.31)

Name	Whether an outside director	Note
An Yang-ho	O	<ul style="list-style-type: none"> – Outside directors comprise 100% of the total membership of the Committee. – The requirement that the Committee should be composed of 50% or more of outside directors is met (Article 542-8 of the Commercial Act).
Jo Hong-hui	O	
Park Jeong-su	O	

4) Details of the key activities of the Outside Director Candidate Nomination Committee

(2022)

Name of Committee	Date convened	Details of proposal	Whether approved	An Yang-ho	Jo Hong-hui	Park Jeong-su
				(rate of attendance:100%)	(rate of attendance:100%)	(rate of attendance:100%)
Outside Director Candidate Nomination Committee	2022.02.10	Nomination of outside director candidates	Approved	Approved	Approved	Approved

E. Expertise of the outside directors

1) Status of the outside directors' support organization

Name of department (team)	Number of employees	Position (number of years of continued service)	Details of key activities
Secretariat of the board of directors	2	Head of Team (11), Manager (5)	Providing assistance with the execution of duties for outside directors

The support organizations within the Company provide assistance to the outside directors to ensure that they can perform their professional duties at the board and the committees within the board. The data and materials are provided in advance so that the contents of the agenda can be thoroughly reviewed by the outside directors before the board and committee meetings are held, and if needed, a separate briefing session is held, and the information is provided on other major internal issues from time to time.

2) Status of the implementation of education and training for the outside directors

Date of education and training	Subject of the implementation of education and training	Outside directors in attendance	Reason for absence	Key details of education and training
2022.01.25	Planning Team	Moon Seong-hwan, An Yang-ho, Jo Hong-hui, Park Jeong-su	-	Mid-to long-term business portfolio
2022.05.12	SK Discovery	Moon Seong-hwan, An Yang-ho, Jo Hong-hui, Park Jeong-su	-	Financial Story SHE DT

2. Matters Concerning the Audit System

A. Whether the Audit Committee (auditor) is established, and how it is structured, etc.

1) Establishment of the Audit Committee

Composed of 3 or more directors who satisfy the qualifications according to the relevant laws and the Articles of Incorporation (however, the number of outside directors must be two thirds or greater of the total Committee members)

(Reference date: 2022.12.31)

Whether established	Method of organization	Note
Established	4 people (All of whom are outside directors)	Performing business audits and accounting audits of the Company

Purpose of establishing the Audit Committee	The Audit Committee was established in compliance with Article 415-2 of the Commercial Act, and composed of at least 3 outside directors in accordance with the provisions of Article 415-2 Paragraph 2 of the Commercial Act.
Authorities / Responsibilities	<ul style="list-style-type: none"> - Audit the directors' execution of their duties - Request directors to report on business - Investigate the Company's business status and properties' status
Operational plan	Accounting and business audits are conducted on a regular basis by applying appropriate procedures such as reviewing, collation, and due diligence of related documents such as books, financial statements, and annexed specifications. And reports are made and corrective actions are taken in a timely manner for the matters pointed out.

2) Personal information of the Audit Committee members and whether they are outside directors

Name	Whether an outside director	Professional experience	Accounting and financial experts related		
			Whether applicable	Type of expert	Relevant experience
Park Jeong-su	Yes	<ul style="list-style-type: none"> - Seoul National University/Economics, Seoul National University/Economics (Master) - Stanford University/Economics (PhD) - Current) Professor of Economics, Sogang University - Current) Dean of the College of Economics, Sogang University 	-	-	-

Moon Seong-hwan	Yes	<ul style="list-style-type: none"> - Seoul National University/Business Administration, - Helsinki School of Economics, Finland (MBA) - Former) CEO and President of Huvis - Former) CEO and President of Samyang Corporation 	-	-	-
Jo Hong-hui	Yes	<ul style="list-style-type: none"> - Sungkyunkwan University/International Trade - UK University of Bath/Tax Studies (Master) - Former) Commissioner of Seoul Regional Tax Office - Former) Outside director of Daekyo Co. Ltd. and Celltrion - Current) Advisor of Bae, Kim & Lee LLC - Current) Outside director of Meritz Financial Group 	Yes	<p>Person with experience in financial institutions, government, and securities related institutions, etc. (Type 4)</p>	<ul style="list-style-type: none"> - 1996 - 1997, Deputy Director, Corporate Tax Department, National Tax Service - 2002 - 2004, Head of Investigation Bureau 2, Investigation Bureau 4 (for Corporate Taxation and International Investigation), Seoul Regional Tax Service - 2007 - 2008, Head of Investigation Bureau 3, Central Regional Tax Service (in charge of corporate tax investigation) - 2009 - 2010, Director General, Tax Collection and Legal Affairs Bureau, National Tax Service (in charge of corporate tax litigations and authoritative interpretations) <p>► Equivalent to 5 years or longer in total for the combination of the periods of service</p>
An Yang-ho	Yes	<ul style="list-style-type: none"> - Korea University/Public Administration - London School of Economics/Governmental Studies (Master) - Korea University Graduate School/Ph.D. in Public Administration - Former) Second Vice Minister of the Ministry of Public Administration and Security - Current) Outside director of Lutronic Inc. - Current) Senior Advisor, Economic Regulation and Administrative Consulting (ERAC) 	Yes	<p>Person with experience in financial institutions, government, and securities related institutions, etc. (Type 4)</p>	<ul style="list-style-type: none"> - 2001 - 2002 Deputy Mayor of Gwangmyeong-si, Gyeonggi-do Local Government General management and supervision of fund management and accounting, budget and settlement of accounts - 2002 - 2004 Director General of Gyeonggi-do Autonomous Administrative Bureau, responsible for general accounting and special accounting tax revenue and tax expenditure, taxation management and supervision - 2008 - 2010 Governor of Gyeonggi-do Administrative Department 1, responsible for general management and supervision of Gyeonggi-do's tax revenue and tax expenditure accounting, budget and settlement, investment and contribution review - 2010 - 2011 Second Vice Minister of the Public Administration and Safety, responsible for the supervision of ethical service of central ministries and local governments, audit of the Ministry of Public Administration and Security and its affiliated institutions and public institutions and local governments, financial expansion and supervision of local governments, management and operation of local tax and local grant system and overall management of financial soundness monitoring and debt management of self-governing bodies and local public enterprises - 2011 - 2014 Chairman of the Government Employees Pension Service, responsible for management of the Service's asset (real and financial assets), the Service's budget and settlement of accounts and accounting and finance, CEO of government employees pension fund management, preparation and evaluation of public institution related management evaluation report and fund management performance report - 2015 - 2016 Head of Supervision Team for the Ministry of Strategy and Finance's 'Public Institution Management Evaluation Unit', and supervision of the management performance evaluation of the heads of public institutions, e.g. public enterprises and quasi government agencies <p>► Equivalent to 5 years or longer in total for the combination of the periods of service</p>

B. Independence of the members of the Audit Committee

1) Selection criteria

Key details of the selection criteria	Whether selection criteria are satisfied	Related laws and regulations
Composed of 3 or more directors	Satisfied (4 people)	Article 415-2 Paragraph 2 of the Commercial Act
Two thirds or more of the committee members are outside directors	Satisfied (All of them are outside directors)	
1 or more members are accounting or finance related experts	Satisfied (Director An Yang-ho, Director Jo Hong-hui)	Article 542-11 Paragraph 2 of the Commercial Act
Chair of the Audit Committee is an outside director	Satisfied (Director Jo Hong-hui)	
Other requirements for disqualification (related parties of the largest shareholder, etc.)	Satisfied (Not applicable)	Article 542-11 Paragraph 3 of the Commercial Act

2) Background to appointment

(Reference date: 2022.12.31)

Name	Background to appointment	Recommender	Term of appointment	Whether retained for another term of office (number of reappointments)	Relationship with the largest shareholder or major shareholder

Park Jeong-su (Note 1)	Park Jeong-su is currently a professor of Economics at Sogang University and was appointed as he is expected to actively engage with the audit committee based on his diverse experiences and professional insight, including extensive activities as a policy advisor and evaluation member for government agencies.	Outside Director Candidate Nomination Committee	2022.03.28 - 2025.03.28	1 time	Unrelated
Moon Seong-hwan	Moon Seong hwan was appointed as based on his knowledge and wealth of experience as a corporate management expert who has served as the CEO of a listed company for over 10 years, he is expected to enhance the diversity and present new perspectives in making major decisions, and will actively perform duties of the Committee and contribute to improvement of the transparency and independence of the Committee.	Outside Director Candidate Nomination Committee	2020.03.25 - 2023.03.25	-	Unrelated
An Yang-ho	As a human resources and finance and accounting expert who has served as the Director General for Planning and Budget, Director General of the Human Resources Development Bureau of the Central Personnel Committee, and the 2nd Vice Minister of the Ministry of Public Administration and Security, An Yang-ho has actively expressed his opinions from a balanced perspective based on his wealth of experience and competencies during his tenure as an outside director of SK Chemicals. He was appointed because at a time when the enhancement of ESG management is required, he would be suitable to contribute to business promotion and sustainable growth for SK Chemicals.	Outside Director Candidate Nomination Committee	2021.03.31 - 2024.03.31	1 time	Unrelated
Jo Hong-hui	Jo Hong-hui has been appointed because in addition to his knowledge and wealth of experience as an expert in the field of taxation (particularly corporate) for more than 30 years at the National Tax Service, he has served as an outside director and audit member of a listed company for many years, and will be able to enhance the expertise and transparency of the Committee.	Outside Director Candidate Nomination Committee	2020.03.25 - 2023.03.25	-	Unrelated

(Note 1) Outside director Park Jeong-su was reappointed at the 5th regular meeting of shareholders which was held on March 28, 2022.

C. Whether internal devices are prepared for access to the management information needed for audit work of the Audit Committee - attendance at the board

- Can audit the Company's accounting and business in accordance with relevant laws and regulations and articles of incorporation
- Can request data and review them as needed
- Can request subsidiaries to report on business as needed

D. Details of the key activities of the Audit Committee

(2022)

Date convened	Details of proposal	Whether approved	Name of outside director			
			An Yang-ho (rate of attendance:100%)	Park Jeong-su (rate of attendance:100%)	Moon Seong-hwan (rate of attendance:100%)	Jo Hong-hui (rate of attendance:100%)
			Whether approved or disapproved			
2022.02.24	※ Reported Matters ① Report on the operation status of the internal accounting control system in 2021 ② Report on the audit by external auditors for the fiscal year 2021	-	-	-	-	-
2022.03.03	1. Confirmation of the audit report 2. Confirmation of the report on the operation status evaluation of the internal accounting control system in 2021 3. Confirmation of the agenda of the regular meetings of shareholders and the results of document investigation ※ Reported Matters ① 2021 audit result and 2022 audit plan	Approved	Approved	Approved	Approved	Approved
2022.04.27	1. Changes in the building lease contract	Approved	Approved	Approved	Approved	Approved
2022.05.25	※ Reported Matters ① Report on the audit work policy of the Autonomous Responsible Management Support Group ② Report on the results of the audit review by external auditors for the 1st quarter	-	-	-	-	-

2022.07.27	※ Reported Matters ① Report on progress of establishment of the consolidated internal accounting control system and trends in internal accounting ② Report on the internal accounting design and the operation evaluation plan for 2022 ③ Report on the external auditors' compliance for 2021	-	-	-	-	-
2022.08.24	1. Prior deliberation regarding the execution of agreements on the operation of the committee, etc. ※ Reported Matters ① Report on the results of the audit review by external auditors for the 2nd quarter	Approved	Approved	Approved	Approved	Approved
2022.11.29	※ Reported Matters ① Report on the results of ethical management level measurement for 2022 ② Report on the result of the leader's exemplary behavior for 2022 ③ Report on the results of the audit review by external auditors for the 3rd quarter	-	-	-	-	-

E. Status of the implementation of education and training for the Audit Committee

Date of education and training	Subject of the implementation of education and training	Audit Committee members in attendance	Reason for absence	Key details of education and training
2020.02.26	Samil PwC	Choi Jeong-hwan, Park Jeong-su, An Yang-ho	-	Changes in the internal accounting control system
2021.07.27	Samil PwC	Jo Hong-hui, Moon Seong-hwan, Park Jeong-su, An Yang-ho	-	Recent trends in internal accounting and the consolidated internal accounting control system
2022.07.27	Samil PwC	Jo Hong-hui, Moon Seong-hwan, Park Jeong-su, An Yang-ho	-	Report on progress of establishment of the consolidated internal accounting control system and trends in internal accounting

F. Status of the support organizations of the Audit Committee

Name of department (team)	Number of employees	Position (number of years of continued service)	Details of key activities
Secretariat of the board of directors	3	Executive (1), Head of Team (11), Manager (5)	Operation of the Audit Committee

G. Matters concerning the compliance officer

Name	Date of birth (year and month)	Rank / Position	Professional experience
Yang Hui-jin	1975.07	Head of the Legal Office	<ul style="list-style-type: none"> - 1997 B.S. in Biochemistry, Yonsei University - 2004 Passed the 46th bar exam (training institute 36th class) - 2007 - 2009 Seoul Central District Court Judge - 2009 - 2010 Seoul Western District Court Judge - 2010 - 2022 Partner Attorney, Law Firm Lee & Ko - 2012 - 2013 FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP (Reston, VA) - 2014 American Univ. Washington College of Law, LL.M. - Current) Head of the Legal Office of SK Chemicals

H. Details of key activities of the compliance officer and their handling results

Date/frequency	Details of key activities	Handling results
Always	<ul style="list-style-type: none"> ※ Conducted compliance control activities for overall company management activities - Diagnosed/reduced the possibility of violation - Provided various legal advices for legal risk-related tasks - Inspected compliance with laws/compliance standards (subcontracting law compliance status in June) - Revised compliance standards (February), revised the CP regulations of the Life Science Biz. (June) 	Reorganization of in-house systems, establishment of legal compliance processes, provision of legal advice on overall management activities, etc.
Always	<ul style="list-style-type: none"> ※ Created compliance environment and implemented training for employees - Educated and trained employees to recognize and deal with legal risks - Provided information on prohibition of use of undisclosed information (once a quarter) 	Provided subcontracting/fair trade training (September) Provided information on prohibition in January, April, and July
Always	<ul style="list-style-type: none"> ※ Carried out a program for dissemination of the ethical management culture - Provided ethical management online education (May - June) - Held the ethical management practice workshop (May - July) - Members' pledge to practice ethical management (September) - Conducted the ethical management practice survey (September) - Disseminated ethical management best practices (6 times) - Sent a letter about the ethics management policy within business partners - Video training on ethical management for new hires 	Nothing significant to report
Always	<ul style="list-style-type: none"> ※ Operated the ethical management consultation/report system - Provided information on reporting channels/procedures and whistleblower protection (February, May, August, November) - Received/managed reports 	Nothing significant to report
Always	<ul style="list-style-type: none"> ※ Internal audit - Inspected the SHE RM management diagnosis implementation of the GC Division for 2021 (March) - Inspected the implementation of inventory management diagnosis for 2021 (September) - Periodic audit of internal control of funds (September) - Periodic audit of materials management at the Ulsan Plant (November) 	Nothing significant to report
2022.03	- Report on the audit performance of 2021 and the audit plan for 2022	Nothing significant to report
2022.07 - 10	- Checked the self-cleaning system: Self-checked 87 risk items in 6 areas	Nothing significant to report
2022.08	- Diagnosed and improved the Risk Management (RM) status	Diagnosis has been completed, and improvement measures will be taken according to the results.
2022.09	- Enacted new internal audit regulations	Nothing significant to report

I. Status of the support organizations such as compliance officer

Name of department (team)	Number of employees	Position (number of years of continued service)	Details of key activities
Legal Affairs Office (legal affairs)	6	Head of Team (11), Manager (1 - 9)	Compliance education, compliance check, contract review, legal advice
Compliance Team	3	Manager (10 - 20)	Receipt and processing of reports related to internal affairs, and business audit

3. Matters concerning the general meeting of shareholders, etc.

A. Status of the voting system

(Reference date: 2022.12.31)

Type of voting system	Concentrated voting system	Written voting system	Electronic voting system
Whether introduced	Excluded	Unintroduced	Introduced
Whether executed	-	-	The 4th (2020) regular meeting of shareholders The 1st extraordinary meeting of shareholders in 2021 The 5th (2021) regular meeting of shareholders

※ As of the date of submission of the disclosure documents, the Company has introduced and implemented a system for recommending voting via proxy, and the methods of delegation include “delivery in person,” “postal mail or facsimile transmission,” and “sending the Letter of Authority form via email.”

B. Minority shareholders' rights

The Company has never seen the minority shareholders' rights exercised during the period subject to disclosure.

C. Competition for the management rights

During the period subject to the disclosure, the Company has never seen any competition for the Company's management rights.

D. Status of the voting rights

(Reference date: 2022.12.31)

(Unit: stocks)

Classification	Type of stock	Number of shares	Note
Total number of issued shares (A)	Common stocks	17,253,783	-
	Preferred stocks	2,115,429	-
Number of shares without voting rights (B)	Common stocks	30,857	Treasury stocks
	Preferred stocks	2,115,429	Treasury stocks included
Number of shares excluded from exercising voting rights by the Articles of Incorporation (C)	Common stocks	-	-
	Preferred stocks	-	-
Number of shares whose voting rights exercises have been restricted by other laws (D)	Common stocks	186,808	Restrictions on the voting rights of public interest corporations
	Preferred stocks	-	-
Number of shares whose voting rights have been reinstated (E)	Common stocks	-	-
	Preferred stocks	-	-
Number of stocks whose voting rights may be exercised (F = A - B - C - D + E)	Common stocks	17,036,118	-
	Preferred stocks	-	-

E. Stock related affairs

Details of preemptive rights under the Articles of Incorporation	<p>Article 10 (Issuance and Allocation of Shares)</p> <p>① When the Company issues new shares by a resolution of the board of directors, one of the following methods shall be used.</p> <p>1. A method of giving shareholders an opportunity to subscribe for new shares in order to allocate such shares according to the number of shares they own</p> <p>2. A method of granting an opportunity to subscribe for new shares in order to allocate new shares to persons other than shareholders in a method other than those in Subparagraph 1, if it is necessary to achieve the Company's management purposes, such as the introduction of new technologies and improvement of financial structure, within a limit not exceeding 25% of the total number of issued shares</p> <p>A method of granting an opportunity to subscribe for new shares to a number of unspecified persons (including shareholders of the Company) in a method other than those in Subparagraph 1, and allocating new shares to such persons who have subscribed accordingly (within a limit not exceeding 25% of the total number of issued shares).</p>
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	<p>② If allocating new shares in the method specified under Paragraph 1 Subparagraph 3, the new shares shall be allocated in any of the following methods by a resolution of the board of directors.</p> <p>1. A method of allocating new shares to a number of unspecified people without classifying the type of persons to be granted an opportunity to subscribe for new shares</p> <p>2. A method of allocating new shares to employees of the treasury stock association in accordance with relevant laws and giving an opportunity to subscribe for new shares, including shares that have not been subscribed, to a number of unspecified people</p> <p>3. A method of granting an opportunity to subscribe for new shares with priority to shareholders, and then granting an opportunity to be allocated new shares to a number of unspecified people if there are unsubscribed shares</p> <p>4. A method of granting an opportunity to subscribe for new shares to a specific type of people in line with reasonable standards provided under relevant laws, such as demand forecast as underwriters or brokers by the investment trading business operator or investment broker.</p> <p>③ In the case of allocating new shares in accordance with Paragraph 1 Subparagraphs 2 and 3, the matters stipulated in Article 416 Subparagraphs 1, 2, 2-2, 3, and 4 of the Commercial Act shall be notified to shareholders or announced by 2 weeks before the date of payment. However, in accordance with Article 165-9 of the Financial Investment Services and Capital Markets Act, such notification and announcement may be substituted by disclosing a report on major issues to the Financial Services Commission and the Exchange.</p> <p>④ In the case of issuing new shares in any of the methods of any Subparagraphs of Paragraph 1, the type and number of shares to be issued and the issuing price, etc. shall be determined by a resolution of the board of directors.</p> <p>⑤ When allocating new shares, if the Company does not subscribe for new shares by the due date or if there are shares for which the value has not been paid, the method of handling such shares shall be determined by a resolution of the board of directors in accordance with the relevant laws, such as the adequacy of the issuing price.</p> <p>⑥ The Company shall determine the method of handling fractional shares generated while allocating new shares by a resolution of the board of directors.</p> <p>⑦ When allocating new stocks in accordance with Paragraph 1 Subparagraph 1, the Company shall issue preemptive right certificates for the shareholders.</p>		
Date of settlement	December 31	Regular meeting of shareholders	Within 3 months from the date of settlement of accounts
Reference date	Last day of each settlement period		
Title of transfer agent	Securities Agency Department, KEB Hana Bank (Gukjegeumyung-ro 72, Yeongdeungpo-gu, Seoul, 02-368-5800)		
Shareholders' privilege	None	Method of posting announcements	Corporate website: https://www.skchemicals.com/ However, if an announcement cannot be made on the Company's website due to a computing failure or another unavoidable reason, it shall be posted via Maeil Business Newspaper daily published in the city of Seoul.

F. Summary of the minutes of the general meeting of shareholders

(Reference date: 2022.12.31)

Date of the general meeting of shareholders	Agenda	Details of resolution
The 2nd regular meeting of shareholders (2019.03.25)	Agendum No. 1: The 2nd period (2018.01.01~2018.12.31) Approval of financial statements and consolidated financial statements	Approved as the original plan
	Agendum No. 2: Appointment of directors	Approved as the original plan
	– Agendum No. 2-1: Appointment of inside director (Candidate: Jeon Kwang-hyun)	Approved as the original plan
	– Agendum No. 2-2: Appointment of outside director (Candidate: Park Jeong-su)	Approved as the original plan
	Agendum No. 3: Appointment of Audit Committee member (Candidate: Park Jeong-su)	Approved as the original plan
	Agendum No. 4: Partial changes in the Articles of Incorporation	Approved as the original plan
	Agendum No. 5: Approval of the ceiling of remuneration for directors	Approved as the original plan
Approval of the granting of stock options	– Agendum No. 6-1: Granting of stock option (Eligible: Jeon Kwang-hyun)	Approved as the original plan
	– Agendum No. 6-2: Approval of the granting of stock option (Eligible: An Dong-hyun)	Approved as the original plan
	Agendum No. 7: Reduction of the capital reserve	Approved as the original plan

The 1st extraordinary meeting of shareholders in 2020 (2020.03.17)	Agendum No. 1: Transfer of bio-energy business	Approved as the original plan
The 3rd regular meeting of shareholders (2020.03.25)	<p>Agendum No. 1: The 3rd period (2019.1.1~2019.12.31) Approval of financial statements and consolidated financial statements</p> <p>Agendum No. 2: Appointment of directors</p> <ul style="list-style-type: none"> - Agendum No. 2-1: Appointment of inside director (Candidate: Kim Cheol) - Agendum No. 2-2: Appointment of outside director (Candidate: Moon Seong-hwan) - Agendum No. 2-3: Appointment of outside director (Candidate: Jo Hong-hui) <p>Agendum No. 3: Appointment of Audit Committee member</p> <ul style="list-style-type: none"> - Agendum No. 3-1: Appointment of Audit Committee member (Candidate: Moon Seong-hwan) - Agendum No. 3-2: Appointment of Audit Committee member (Candidate: Jo Hong-hui) <p>Agendum No. 4: Change of the Articles of Incorporation</p> <p>Agendum No. 5: Approval of the ceiling of remuneration for directors</p> <p>Agendum No. 6: Revision of executive severance pay regulations</p>	<p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p>
The 4th period Regular meeting of shareholders (2021.03.31)	<p>Agendum No. 1: The 4th period (2020.1.1~2020.12.31) Approval of financial statements and consolidated financial statements</p> <p>Agendum No. 2: Appointment of an outside director who is an Audit Committee member (Candidate : An Yang-ho)</p> <p>Agendum No. 3: Partial changes in the Articles of Incorporation</p> <p>Agendum No. 4: Approval of the ceiling of remuneration for directors</p>	<p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p>
The 1st extraordinary general meeting of shareholders in 2021 (2021.10.25)	Agendum No. 1: Approval of the split-off plan	Approved as the original plan
The 5th regular meeting of shareholders (2022.03.28)	<p>Agendum No. 1: The 5th period (2021.1.1~2021.12.31) Approval of financial statements and consolidated financial statements</p> <p>Agendum No. 2: Change of the Articles of Incorporation</p> <p>Agendum No. 3: Appointment of directors</p> <ul style="list-style-type: none"> - Agendum No. 3-1: Appointment of inside director (Candidate: Jeon Kwang-hyun) - Agendum No. 3-2: Appointment of a non-executive director (Candidate: Ahn Jae-hyun) - Agendum No. 3-3: Appointment of outside director (Candidate: Park Jeong-su) <p>Agendum No. 4: Appointment of Audit Committee member (Candidate: Park Jeong-su)</p> <p>Agendum No. 5: Approval of the ceiling of remuneration for directors</p>	<p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p> <p>Approved as the original plan</p>

VII. Matters Concerning Shareholders

1. Status of the Share Ownership of the Largest Shareholder and Related Parties

(Reference date: 2022.12.31)

(Unit: stocks, %)

Name	Relationship	Type of stock	Number of shares owned and equity interest				Note
			Beginning of period		End of period		
			Number of shares	Equity interest	Number of shares	Equity interest	
SK Discovery	Largest shareholder	Common stocks	6,137,781	34.83	7,056,899	40.90	Changes in equity interest ratio due to the largest shareholder's tender offer
Choi Chang-won	Related party	Preferred stocks	9,312	0.44	9,312	0.44	-
Choi Tae-won	Related party	Preferred stocks	67,971	3.21	67,971	3.21	-
Choi Jeong-won	Related party	Common stocks	12,177	0.07	12,177	0.07	-
Choi Jeong-won	Related party	Preferred stocks	4	0.00	4	0.00	-
Choi Ji-won	Related party	Common stocks	37,359	0.21	37,359	0.22	-
Choi Ji-won	Related party	Preferred stocks	649	0.03	649	0.03	-
Choi Ye-jeong	Related party	Common stocks	62,389	0.35	62,389	0.36	-
Lee Yoo-mi	Related party	Common stocks	903	0.01	903	0.01	-
Lee Charles Hwan	Related party	Common stocks	762	0.00	762	0.00	-
Korea Foundation for Advanced Studies	Related party	Common stocks	186,808	1.06	186,808	1.06	-
Kim Cheol	Executive	Common stocks	3,000	0.02	3,000	0.02	-
Jeon Kwang-hyun	Executive	Common stocks	775	0.00	775	0.00	-
Park Chan-joong	Affiliate's executive	Common stocks	1,164	0.01	0	0.00	Excluding related parties following the resignation of executives registered in affiliates
Total		Common stocks	6,443,118	36.57	7,361,072	41.77	-
		Preferred stocks	77,936	3.68	77,936	3.68	-

※ The beginning of the period is January 1, 2022, and the end of the period is December 31, 2022.

2. Key Experience and Overview of the Largest Shareholder

A. Basic information of the largest shareholder (corporation or organization)

(1) Basic information of the largest shareholder (corporation or organization)

Name	Number of investors	Chief executive officer (representative member of the association)		Business executive (business executive members of the association)		Largest shareholder (largest investor)	
		Name	Equity interest (%)	Name	Equity interest (%)	Name	Equity interest (%)
SK Discovery Co., Ltd.	33,943	Choi Chang-won	40.18	-	-	Choi Chang-won	40.18
		Ahn Jae-hyun	0.08	-	-	-	-

※ The equity interest ratio above is calculated and stated based on common stocks.

※ The number of investors is entered based on the common stocks as of December 31, 2022.

(Changes in the CEO, business executive, and the largest shareholder of a corporation or organization)

Date of change	Chief executive officer (representative member of the association)		Business executive (business executive members of the association)		Largest shareholder (largest investor)	
	Name	Equity interest (%)	Name	Equity interest (%)	Name	Equity interest (%)

	Name	Equity interest (%)	Name	Equity interest (%)	Name	Equity interest (%)
2018.03.27	Kim Cheol	0.02	-	-	-	-
2018.04.19	Choi Chang-won	39.92	-	-	Choi Chang-won	39.92
2018.05.25	Kim Cheol	0.03	-	-	-	-
2018.07.05	Choi Chang-won	40.02	-	-	Choi Chang-won	40.02
2018.07.06	Choi Chang-won	40.13	-	-	Choi Chang-won	40.13
2018.07.09	Choi Chang-won	40.18	-	-	Choi Chang-won	40.18
2019.12.19	Park Chan-joong	0	-	-	-	-
2022.03.29	Ahn Jae-hyun	0.08	-	-	-	-

※ The details of the changes above are based on common stocks, and as for the details such as the date, number of shares, and cause of change, refer to SK Discovery's "Report on the Status of Ownership of Executives and Major Shareholders' Specific Securities" and the "Report on Changes in the Shares Owned by the Largest Shareholder, Etc.," which are disclosed via the electronic disclosure system.

B. Financial status of the largest shareholder (corporation or organization) for the latest settlement period

(Unit: KRW one million)

Classification	
Name of corporation or organization	SK Discovery Co., Ltd.
Total assets	11,780,098
Total liabilities	5,826,777
Total equity	5,953,321
Sales amount	8,717,115
Operating income	362,229
Net income	534,038

※ The financial status of SK Discovery Co., Ltd. above has been prepared based on the consolidated financial statements before the completion of the external auditor's audit. For the final consolidated financial statements including the audit opinion of the external auditor, refer to SK Discovery's 'Submission of Audit Report', which is scheduled to be posted on electronic disclosure system (<http://dart.fss.or.kr>).

C. Key details which may impact the Company's business management stability such as business status

- Not applicable

D. Representative of the largest shareholder (SK Discovery Co., Ltd.)

(Reference date: 2022.12.31)

Name	Position (whether full-time)	Year of birth	Professional background
Choi Chang-won	CEO and Vice Chairman (full-time)	1964.08	Psychology, Seoul National University Former) CEO and Vice Chairman of SK Gas Concurrent) Inside director and Vice Chairman of SK Gas

Ahn Jae-hyun	CEO and President (full-time)	1966.02	University of Pennsylvania, USA / MBA Former) CEO and President of SK Ecoplant Concurrent) Non-executive director of SK Gas/SK Chemicals
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E. Overview of the largest shareholder (SK Discovery Co., Ltd.)

1) Legal and commercial name of the company

The company shall be called SK Discovery Co., Ltd., and which shall be 에스케이디스커버리주식회사 in Korean, and SK Discovery Co., Ltd. in English.

2) Date of foundation

Sunkyung Synthetic Fiber Co., Ltd., SK Discovery Co., Ltd.'s former corporation, was founded on July 1, 1969, and SK Discovery was listed on the securities market on June 29, 1976.

Since Sunkyung Synthetic Fiber Co., Ltd. merged with Sunkyung Fiber Co., Ltd. in 1976, the former's date of foundation is the SK Discovery's date of foundation.

SK Discovery changed its trade name to SK Discovery Co., Ltd. on December 1, 2017, the date of split-off, and it was split off into SK Discovery Co., Ltd., which is the investment unit, and SK Chemicals Co., Ltd. which is the business unit.

3) Address, phone number and website address of the head office

- Address: 332 Pangyo-ro (Sampyeong-dong), Bundang-gu, Seongnam, Gyeonggi-do
- Phone number: 02-2008-7399
- Website: www.skdiscovery.com

4) Details of the Main Businesses

SK Discovery is a holding company whose purpose of business is to control another company by owning stocks of another company. As a pure holding company which does not engage in a separate business, the main revenue is the dividend income received from the subsidiaries, etc. The businesses conducted by the Company's major subsidiaries include the eco-friendly materials production and pharmaceutical business (SK Chemicals Co., Ltd.), gas business selling LPG, etc. (SK Gas Co., Ltd.), and blood products business producing and selling blood products (SK Plasma Co., Ltd.), and the real estate properties related data solution business (Korea Marketplace Systems Co., Ltd.). Other businesses include the vaccine/biopharmaceutical manufacturing business (SK Bioscience Co., Ltd.), the energy power generation business (Ulsan GPS Co., Ltd.), and the integrated energy supply business (SK Multi-Utility) operated by consolidated subsidiaries.

5) Status of registered executives

(Reference date: 2022.12.31)

(Unit: stocks)

Name	Gender	Date of birth (year and month)	Position	Whether a registered executive	Whether full-time	Tasks in charge	Professional background	Number of shares owned		Relationship with the Largest Shareholder	Period of service	Date of expiration for the term of office
								Shares with voting rights	Shares without voting rights			
Choi Chang-won	Male	1964.08	Vice Chairman	Inside director	Full-time	CEO	Psychology, Seoul National University Former) CEO and Vice Chairman of SK Gas Concurrent) Inside director and Vice Chairman of SK Gas	7,650,128	5,782	Largest shareholder himself	28 years and 9 months	2024.03.30

Ahn Jae-hyun	Male	1966.02	President	Inside director	Full-time	CEO	University of Pennsylvania, USA / MBA Former) CEO and President of SK Ecoplant Concurrent) Non-executive director of SK Gas/SK Chemicals	14,423	-	Registered executive of issuing company	1 year and 1 month	2025.03.28
Song Jae-yong	Male	1964.03	Director	Outside director	Part-time	Outside director	University of Pennsylvania, US / Former Doctor of Business Administration) President of Korea Society of Strategic Management Former) President of International Business Division, US Academy of Management (AOM) Current) Professor of Business Administration, Seoul National University	-	-	Registered executive of issuing company	4 years and 9 months	2024.03.30
Kim Yong-joon	Male	1964.07	Director	Outside director	Part-time	Outside director	Syracuse University, US / Former Master of Economics) Director of International Tax Administration, National Tax Service Former) Director of the Central Regional Tax Office Current) Advisor at Kim & Chang	-	-	Registered executive of issuing company	10 months	2025.03.28
Kim Hyeon-jin	Female	1968.08	Director	Outside director	Part-time	Outside director	University of Tokyo, Japan / PhD in International Relations Current) Professor at Seoul School of Integrated Sciences & Technologies Current) Member of the Fiscal Policy Advisory Committee, Ministry of Strategy and Finance Concurrent) Outside director, Korea Gas Corporation	-	-	Registered executive of issuing company	10 months	2025.03.28

3. Details of Changes in the Largest Shareholder

(Reference date: 2022.12.31)

(Unit: stocks, %)

Date of change	Name of the largest shareholder	Number of shares owned	Equity interest	Reason of change	Note
2019.03.25	SK Discovery Co., Ltd. and 11 others	4,263,827	32.28	Jeon Kwang-hyun was newly appointed as CEO (SK Chemicals)	-
2020.12.09	SK Discovery Co., Ltd. and 11 others	4,188,827	31.71	Two related parties traded after hours (75,000 shares)	-
2020.12.23	SK Discovery Co., Ltd. and 11 others	4,185,827	31.69	CEO Kim Cheol sold off on the floor (3,000 shares)	-
2021.09.03	SK Discovery Co., Ltd. and 11 others	4,347,371	32.91	SK Discovery Co., Ltd. tender offered (161,544 shares)	-
2021.11.10	SK Discovery Co., Ltd. and 11 others	6,521,054	33.04	Changes in number of shares due to bonus issue (2,173,683 shares)	-
J2022.07.08	SK Discovery Co., Ltd. and 10 others	6,519,890	33.04	CEO Park Chan Joong resigned (SK Discovery)	-
2022.09.23	SK Discovery Co., Ltd. and 10 others	7,439,008	37.69	SK Discovery's tender offer (919,118 shares)	-

※ The "number of shares owned" and the "equity interest" above are based on the total number of issued shares.

※ The Company re-listed the share certificates on the securities market on January 5, 2018.

※ The relationship with the largest shareholder was entered by making reference to the relationship provided under Article 3 Paragraph 1 of the Enforcement Decree of the Act on Corporate Governance of Financial Companies.

4. Distribution of Shares

A. Status of share ownership

(Reference date: 2022.12.31)

(Unit: stocks)

Classification	Name of shareholder	Number of shares owned	Equity interest (%)	Note
Shareholders owning 5% or more	SK Discovery Co., Ltd.	7,056,899	40.90	-
	National Pension Service	1,099,579	6.37	-
Treasury share association		-	-	-

※ The number of shares owned and the equity interest above are based on the common stocks.

※ Based on the stock ownership status of shareholders as of December 31, 2022, the date of the recent shareholder registry closure, only changes in stock ownership that can be confirmed (disclosed) until December 31, 2022 were reflected. For the National Pension Service, we referred to the 'Report on Stocks Held in Bulk' announced on January 03, 2023.

B. Status of minority shareholders

(Reference date: 2022.12.31)

(Unit: stocks)

Classification	Shareholders			Shares owned			Note
	Number of minority shareholders	Total number of shareholders	Ratio (%)	Number of shares owned by minority shareholders	Total number of issued shares	Ratio (%)	
Minority shareholders	98,318	98,324	99.99	11,401,291	17,222,926	66.20	-

※ The status of minority shareholders above is as of December 31, 2022, the date of the recent shareholder register closure, and the shares held are based on common stocks.

※ The minority shareholders are those who own less than 1% of the total number of issued shares, and the total number of issued shares is based on the total number of issued shares with voting rights.

5. Share Price and Share Trading Performance

The share price and the share trading performance for the last 6 months from the date of preparation of the disclosure documents are as follows.

(Unit: KRW, stocks)

Type		July 2022	August 2022	September 2022	October 2022	November 2022	December 2022	
Common stocks	Share price	Highest	105,500	107,000	106,000	92,300	107,500	88,500
		Lowest	89,700	95,700	91,000	78,700	87,000	73,200
		Average	102,114	101,991	101,705	86,853	94,241	82,348
	Trading volume	Highest (daily)	159,354	83,677	491,066	147,142	1,374,484	221,366
		Lowest (daily)	30,949	30,190	32,640	33,952	45,732	46,723
		Monthly	1,482,664	1,174,539	2,020,869	1,378,294	3,147,140	1,893,431
Preferred stocks	Share price	Highest	54,000	55,500	106,000	42,400	44,200	41,600
		Lowest	47,450	50,100	91,000	37,700	38,500	37,700
		Average	52,098	52,755	101,705	40,053	40,964	40,536
	Trading volume	Highest (daily)	107,312	9,565	491,066	11,913	28,632	8,939
		Lowest (daily)	2,545	1,330	32,640	1,519	2,395	2,160
		Monthly	291,739	111,554	2,020,869	93,697	211,612	105,121

VIII. Matters Concerning Executives and Employees, Etc.

1. Status of Executives and Employees, Etc.

A. Status of executives

(Reference date: 2022.12.31)

(Unit: stocks)

Name	Gender	Date of birth (year and month)	Position	Whether a registered executive	Whether full-time	Tasks in charge	Professional background	Number of shares owned		Relationship with the largest shareholder	Period of service	Date of expiration for the term of office
								Shares with voting rights	Shares without voting rights			
Kim Cheol	Male	1961.05	CEO and President	Inside director	Full-time	CEO	Seoul National University/Economics London School of Economics/Economics (Master) Former Head of the Resource Development Division at SK Innovation	3,000	-	Affiliate's executive	5 years and 1 month	2023.03.25
Jeon Kwang-hyun	Male	1964.12	CEO and President	Inside director	Full-time	CEO (Human Resources Committee member)	Korea University/Business Administration Concurrent) Non-executive director of SK Bioscience Concurrent) CEO of the Pharma Biz	775	-	Affiliate's executive	5 years and 3 months	2025.03.28
Ahn Jae-hyun	Male	1966.02	executive director	executive director	Part-time	Non-executive director (ESG Committee member)	Yonsei University/Applied Statistics Former) CEO and President of SK Ecoplant Current) CEO of SK Discovery Concurrent) President of SK Plasma Concurrent) Non-executive director of SK Gas	-	-	Executive concurrently holding positions	9 months	2025.03.28
Park Jeong-su	Male	1966.02	Director	Outside director	Part-time	Outside director (chairman of the ESG Committee, Outside Director Candidate Nomination Committee member, Audit Committee member)	Seoul National University/Economics, Seoul National University/Economics (Master), Stanford University/Economics (PhD) Current) Professor of Economics, Sogang University Current) Dean of the College of Economics, Sogang University	-	-	-	3 years and 9 months	2025.03.28
Moon Seong-hwan	Male	1954.01	Director	Outside director	Part-time	Outside director (chairman of the board of directors, member of the Audit Committee chairman of the Human Resources Committee)	Seoul National University/Business Administration, Helsinki School of Economics, Finland (MBA) Former CEO and President of Huis Former) CEO and President of Samyang Corporation	-	-	-	2 years and 9 months	2023.03.25
Jo Hong-hui	Male	1959.07	Director	Outside director	Part-time	Outside director (chairman of the Audit Committee, Outside Director Candidate Nomination Committee member, Human Resources Committee member)	Sungkyunkwan University/International Trade University of Bath, UK/Tax Studies (Master) Former Commissioner of the Seoul Regional Tax Service Former) Outside director at Daegyo and Celltrion Current) Advisor at Bae, Kim & Lee LLC Current) Outside director of Meritz Financial Group	-	-	-	2 years and 9 months	2023.03.25
An Yang-ho	Male	1957.04	Director	Outside director	Part-time	Outside director (chairman of the Outside Director Candidate Nomination Committee, Audit Committee member, and ESG Committee member)	Korea University/Public Administration London School of Economics/Government Studies (Master) Korea University Graduate School/PhD in Public Administration Former) Second Vice Minister of the Ministry of Public Administration and Security Current) Outside Director of Lutronic Inc. Current) Senior Advisor, Economic Regulation and Administrative Consulting (ERAC)	-	-	-	1 year and 9 months	2024.03.31
Hwang Chun-hyun	Male	1957.08	Executive	Unregistered	Full-time	Chief of Production	Pusan National University/Bachelor in Business Administration Concurrent) Chief of safety and environment at SK Discovery	1,164	-	-	5 years and 1 month	-
Yang Jeong-il	Male	1970.05	Executive	Unregistered	Full-time	Assistant to the President	Seoul National University/Bachelor in Law Former) Head of Legal Affairs Office, SK Gas, Head of Ethical Management Division, SK Eco Plant	-	-	-	5 years and 1 month	-
Lee Kwang-seok	Male	1962.07	Executive	Unregistered	Full-time	Assistant to the President	Pusan National University/Bachelor in Business Administration Former) Head of Public Relations Office, SK Eco Plant Concurrent) Executive at SK Gas Headquarters	-	-	-	5 years and 1 month	-

Kim Hyun-suk	Male	1966.06	Executive	Unregistered	Full-time	Head of the Business Development Division	Yonsei University/Biochemistry Univ. of North Carolina at Chapel Hill (MBA)	1,024	-	-	5 years and 1 month	-
Kim Cheol-jin	Male	1966.02	Executive	Unregistered	Full-time	Assistant to the President	Seoul National University/Bachelor and Master in Chemical Engineering (Former) Head of G-CUBE Business Division, SK Gas Concurrent) Head of the Strategic Planning Office, Head of the Digital Innovation Center	-	-	-	1 year and 1 month	-
Bae Hyeock	Male	1967.07	Executive	Unregistered	Full-time	Head of Corporate Culture Office	Yonsei University/Chinese Language and Literature	-	-	-	5 years and 1 month	-
Yoo Ho-seob	Male	1966.01	Executive	Unregistered	Full-time	Head of Ulsan Plant	Seoul National University/Chemical Engineering	-	-	-	5 years and 1 month	-
Kim Yun-ho	Male	1967.09	Executive	Unregistered	Full-time	CEO of the Pharma Biz	Konkuk University/Microbial Engineering, Yonsei University MBA (Former) CEO of SK Plasma Concurrent) Head of SK Plasma business support	-	-	-	1 month	-
Kim Han-seok	Male	1968.02	Executive	Unregistered	Full-time	Head of Chemistry Research Center	Sogang University/Bachelor, Master & PhD in Chemical Engineering	477	-	-	5 years and 1 month	-
Cho Su-dong	Male	1971.08	Executive	Unregistered	Full-time	Head of Pharma Business Marketing Division 1	Suwon University/Genetic Engineering, Hanyang University (MBA)	90	-	-	5 years and 1 month	-
Yu Hyung-jun	Male	1970.01	Executive	Unregistered	Full-time	Head of Pharma Business Marketing Division 3	Konkuk University/Microbial Engineering,	17	-	-	5 years and 1 month	-
Kim Kwang-jin	Male	1970.03	Executive	Unregistered	Full-time	Head of Pharma Business Marketing Division 4	Hannam University/Department of Regional Development	-	-	-	5 years and 1 month	-
Kim Tae-hwan	Male	1976.03	Executive	Unregistered	Full-time	In charge of ER, Management Support Office, Pharma Business	Sungkyunkwan University/Business Administration Concurrent) In charge of ER, Corporate Culture Office, SK Plasma	-	-	-	1 year and 8 months	-
Kim Eung-soo	Male	1969.08	Executive	Unregistered	Full-time	Head of the GC Business Headquarters	Sungkyunkwan University/Textile Engineering Concurrent) Head of Copolyester Business Department	-	-	-	5 years and 1 month	-
Jun Sung-chul	Male	1966.05	Executive	Unregistered	Full-time	Head of Communications Office	Korea University/Bachelor in Mass Communication NGO Graduate School, Sungkonghoe University/MAINS (Master of Arts in Inter-Asia NGO Studies)	-	-	-	1 year and 8 months	-
Kim Kee-dong	Male	1971.02	Executive	Unregistered	Full-time	Head of the Management Support Division	Korea University/Economic, Indiana University/MBA Former) Head of the Finance Office, SK Discovery Concurrent) Head of the Finance Office	317	-	-	1 year	-
Kim Hak-sung	Male	1970.06	Executive	Unregistered	Full-time	Head of the Functional Materials Business Department	Seoul National University/Bachelor in Industrial Chemistry, Seoul National University/Master in Polymer Composite Materials Concurrent) CEO of ENTIS, CEO of SK Chemicals Daejeon	327	-	-	5 years and 1 month	-
Park Jeong-ho	Male	1969.06	Executive	Unregistered	Full-time	Head of the Basic Technology Research Office	Seoul National University/Bachelor in Chemistry, Seoul National University/Master in Organic Chemistry	-	-	-	5 years and 1 month	-
Jung Jee-joon	Male	1976.10	Executive	Unregistered	Full-time	Head of the New Business Development Office	Hanyang University/Chemical Engineering	-	-	-	5 years and 1 month	-
Kim Dong-ryul	Male	1969.10	Executive	Unregistered	Full-time	Head of the Management Support Office	Inha University/Chemical Engineering Concurrent) Head of the SHE Planning Office	-	-	-	5 years and 1 month	-
Lee Hyeong-won	Male	1960.02	Executive	Unregistered	Full-time	Chief of Infrastructure Support	Seoul National University/Bachelor and Master in Resource Engineering, Seoul National University/PhD in Rock Mechanics Former) Head of the Eco Energy Division, SK Eco Plant Concurrent) Chief of Infrastructure Support, SK Gas Chief of Infrastructure Support, SK Bioscience	-	-	-	1 year	-
Ahn Jae-hoon	Male	1976.05	Executive	Unregistered	Full-time	Head of the Growth Support Office	Yonsei University/Business Administration, Northwestern University/MBA (Former) Senior Managing Director, Morgan Stanley Concurrent) Head of the Growth Support Office, SK Bioscience	-	-	-	1 year	-
Song Gi-suk	Male	1970.05	Executive	Unregistered	Full-time	Head of the Value Innovation Office	Yonsei University/Economics, Columbia Univ./MBA, Sungkyunkwan University/Business Administration (PhD) Former) Executive Director, Merrill Lynch Concurrent) Head of the Value Innovation Office, SK Bioscience, Head of the Value Innovation Office, SK Discovery, and Head of the Value Innovation Office, SK Gas	-	-	-	5 months	-
An Young-il	Male	1972.11	Executive	Unregistered	Full-time	Head of Pharma Business Marketing Division 2	Daejeon University/Environmental Engineering, Chungnam National University (MBA)	-	-	-	5 years and 1 month	-
Yoo Hun-seung	Male	1975.12	Executive	Unregistered	Full-time	Head of the Cheongju Plant, Pharma Biz	Seoul National University/Bachelor in Pharmacy, Seoul National University/Master and PhD in Pharmacognosy Concurrent) Head of the R&D Center	-	-	-	5 years and 1 month	-

Park Hyun-sun	Male	1971.02	Executive	Unregistered	Full-time	Pharma Planning Director, Pharma Biz	Sungkyunkwan University/Pharmaceutics, Sungkyunkwan University/Pharmacy (Master), Korea University/MBA Former) Research Center Director/Sales Manager, Yonsung Fine Chemicals Former) Pharma Biz Marketing Planning Director, SK Chemicals	-	-	-	1 month	-
Koo Min-hoe	Male	1968.12	Executive	Unregistered	Full-time	Head of the Management Support Office, Pharma Business	Sungkyunkwan University/Bachelor in Accounting Concurrent) Head of the Management Support Office, SK Plasma	-	-	-	5 years and 1 month	-
Yang Hui-jin	Female	1975.07	Executive	Unregistered	Full-time	Head of the Legal Office	Yonsei University/Biochemistry American Univ. Washington College of Law/LLM Former) Partner Attorney, Law Firm Lee & Ko	-	-	-	1 month	-

※ Inside director Jeon Kwang-hyun was reappointed at the 5th regular meeting of shareholders which was held on March 28, 2022.

※ Outside director Park Jeong-su was reappointed at the 5th regular meeting of shareholders which was held on March 28, 2022.

※ Non-executive director Ahn Jae-hyun was newly appointed at the 5th regular meeting of shareholders which was held on March 28, 2022.

※ The relationship with the largest shareholder was entered by making reference to the relationship provided under Article 3 Paragraph 1 of the Enforcement Decree of the Act on Corporate Governance of Financial Companies.

※ The "number of shares owned" above is the number excluding the number of treasury shares owned.

(Newly appointed and retired executives on or after the date of preparation)

Classification	Name	Gender	Date of birth (year and month)	Position	Whether a registered executive	Whether full-time	Tasks in charge	Professional background	Number of shares owned		Relationship with the Largest Shareholder
									Shares with voting rights	Shares without voting rights	
Newly appointed	Kang Seok-ho	Male	1972.02	Executive	Unregistered	Full-time	Head of the Strategy Center	Seoul National University/Electronic Engineering, Seoul National University/Electronic Engineering (Master) Univ. of Chicago/MBA Former) Head of the Tractor Business Division, LS Mtron Concurrent) Head of the Strategic Planning Office	-	-	-
	Cho Hyun-jun	Male	1971.07	Executive	Unregistered	Full-time	Head of the Eco-friendly Materials Research Office	Hanyang University/Chemical Engineering, Hanyang University/Chemical Engineering (Master) Hanyang University/Chemical Engineering (PhD)	-	-	-
	Son Dong-yeoul	Male	1968.07	Executive	Unregistered	Full-time	Head of the Engineering Office	University of Ulsan/Electronic Engineering	-	-	-
	Kim Sung-gi	Male	1969.03	Executive	Unregistered	Full-time	Head of the New Materials Development Office	Sogang University/Bachelor and Master in Chemical Engineering Toledo Univ./Engineering (PhD)	-	-	-

※ The relationship with the largest shareholder was entered by making reference to the relationship provided under Article 3 Paragraph 1 of the Enforcement Decree of the Act on Corporate Governance of Financial Companies.

※ The "number of shares owned" above is the number excluding the number of treasury shares owned.

B. Status of candidates for the appointment and dismissal of registered executives

(Reference date: 2022.12.31)

Classification	Name	Gender	Date of birth (year and month)	Whether an outside director candidate	Professional background	Scheduled date of appointment or dismissal	Relationship with the Largest Shareholder
Appointment	Kim Cheol	Male	1961.05	-	Seoul National University/Economics London School of Economics/Economics (Master) Former) Head of the Resource Development Division, SK Innovation	2023.03.28	Affiliate's executive

Appointment	Ahn Jae-hyun	Male	1966.02	-	Yonsei University/Applied Statistics Former) CEO and President of SK Ecoplant Current) CEO of SK Discovery Concurrent) President of SK Plasma Concurrent) Non-executive director of SK Gas	2023.03.28	Affiliate's executive
Appointment	Jeon Kwang-hyun	Male	1964.12	-	Korea University/Business Administration Concurrent) Non-executive director of SK Bioscience Concurrent) CEO of the Pharma Biz	2023.03.28	Affiliate's executive
Appointment	Moon Seong-hwan	Male	1954.01	Outside director	Seoul National University/Business Administration, Helsinki School of Economics, Finland (MBA) Former) CEO and President of Huvis Former) CEO and President of Samyang Corporation	2023.03.28	-
Appointment	Jo Hong-hui	Male	1959.07	Outside director	Sungkyunkwan University/International Trade University of Bath, UK/Tax Studies (Master) Former) Commissioner of the Seoul Regional Tax Service Former) Outside director at Daegyo and Celltrion Current) Advisor at Bae, Kim & Lee LLC Current) Outside director of Meritz Financial Group	2023.03.28	-

※ They are the agenda for the 6th regular meeting of shareholders scheduled to be held after the date of report submission, and if the appointment related agenda are rejected or revised, the details and reasons will be reflected via the correction report.

※ Inside director Kim Cheol and outside director Moon Seong-hwan and Jo Hong-hui are to be re-appointed, and inside director Ahn Jae-hyun and non-executive director Jeon Kwang-hyun are to be newly appointed.

※ The relationship with the largest shareholder was entered by making reference to the relationship provided under Article 3 Paragraph 1 of the Enforcement Decree of the Act on Corporate Governance of Financial Companies.

C. Status of the registered executives' concurrent positions held

(Reference date: 2022.12.31)

Classification		Status of concurrent positions held			
Name	Position	Name of Company	Position	Time of appointment	Whether full-time or not
Jeon Kwang-hyun	CEO / President	SK Bioscience	Non-executive director	2022.03.24	Part-time
Ahn Jae-hyun	Non-executive director	SK Discovery	CEO	2022.03.29	Full-time
		SK Gas	Non-executive director	2022.03.24	Part-time
An Yang-ho	Outside director	Lutronic	Outside director	2021.03.31	Part-time
Jo Hong-hui	Outside director	Meritz Financial Group	Outside director	2022.03.24	Part-time

※ Based on the Company's registered executives, this is the status of the registered executives' concurrent positions held in Korean companies.

※ The date of appointment above is the latest date of appointment.

D. Status of employees, etc.

(Reference date: 2022.12.31)

(Unit: KRW one million)

Employees	Non-affiliated employees	Note
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Business Division	Gender	Number of employees				Total	Average number of years of continuous service	Total amount of annual salaries	Amount of salary per person	Male	Female	Total	
		Employees with no fixed term contract		Employees with fixed term contract									
		Overall	(Short-term workers)	Overall	(Short-term workers)								
Management Support Division	Male	76	-	6	-	82	3.02	7,409	90	375	81	456	-
Management Support Division	Female	37	-	11	-	48	2.96	2,815	59				-
Green Chemicals Biz	Male	482	-	23	-	505	4.14	50,483	100				-
Green Chemicals Biz	Female	89	-	15	-	104	3.76	6,377	61				-
Life Science Biz	Male	505	-	20	-	525	3.97	40,457	77				-
Life Science Biz	Female	148	-	13	-	161	3.68	8,965	56				-
Genders combined	Male	1,063	-	49	-	1,112	3.98	98,349	88				-
Genders combined	Female	274	-	39	-	313	3.59	18,157	58				-
Total		1,337	-	88	-	1,425	3.82	116,506	82				-

※ The "average number of years of continuous service" above is based on the number of years of continued service since the new establishment of the corporation dated December 1, 2017.

※ The details above were prepared including the unregistered executives, and the registered executives are excluded.

※ According to Article 20 of the Income Tax Act, the employees' salaries above are based on the earned income of the statement of earned income payment submitted to the competent tax office.

※ The "average salary per person" above is the sum of the average monthly salaries, and the average monthly salary is the total salary for the relevant month divided by the average number of employees in service of the relevant month.

E. Status of the unregistered executives' remuneration

(Reference date: 2022.12.31)

(Unit: KRW one million)

Classification	Number of persons	Total amount of annual salaries	Amount of salary per person	Note
Unregistered executive	26	7,143	255	-

※ The "number of persons" above is as of December 31, 2022, and the "average salary per person" is the sum of the average monthly salaries.

※ According to Article 20 of the Income Tax Act, the salaries above are based on the earned income of the statement of earned income payment submitted to the competent tax office.

2. Remuneration of the Executives, Etc.

<Status of the remuneration for all directors and auditors>

A. Status of the remuneration for all directors and auditors

(Unit: KRW one million)

Classification	Number of persons	Amount approved at and by the general meeting of shareholders	Note
Registered executive	7	5,000	Inside and outside directors combined

2. Amount of remuneration paid

(1) For all directors and auditors

(Unit: KRW one million)

Number of persons	Total amount of remuneration	Average amount of remuneration per person	Note
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7	3,534	505	-
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※ The 'number of persons' above is as of the date of preparation of the disclosure documents.

※ According to Article 20 of the Income Tax Act, the salaries above are based on the earned income of the statement of earned income payment submitted to the competent tax office.

※ At the 5th regular meeting of shareholders held on March 28, 2022, a new non-executive director was appointed.

(2) By type

(Unit: KRW one million)

Classification	Number of persons	Total amount of remuneration	Average amount of remuneration per person	Note
Registered director (excluding outside directors and members of the Audit Committee)	3	3,154	1,051	-
Outside director (excluding members of the Audit Committee)	-	-	-	-
Member of the Audit Committee	4	380	95	-
Auditor	-	-	-	-

※ The 'number of persons' above is as of the date of preparation of the disclosure documents.

※ According to Article 20 of the Income Tax Act, the salaries above are based on the earned income of the statement of earned income payment submitted to the competent tax office.

※ At the 5th regular meeting of shareholders held on March 28, 2022, a new non-executive director was appointed.

(3) Criteria for remuneration payment

Classification	Grounds of payment
Registered director (excluding outside directors and members of the Audit Committee)	The base salary was determined by comprehensively reflecting the duties, expertise, and the extent of contribution to the Company, etc., under the ceiling of the directors' remuneration for 2022. Furthermore, the performance-based compensation can be paid by comprehensively considering the quantitative evaluation results such as the Company's sales and operating income and qualitative evaluation results such as the strategic goal achievement and leadership.
Outside director (excluding members of the Audit Committee)	-
Member of the Audit Committee	The base salary was determined by comprehensively reflecting the duties, expertise, and the business environment of the Company, etc., under the ceiling of the directors' remuneration for 2022.
Auditor	-

<Status of the individual remuneration for directors and auditors whose remuneration paid is KRW 500 million or greater>

1. Individual remuneration

(Unit: KRW one million)

Name	Position	Total amount of remuneration	Remuneration not included in the total amount of remuneration
Jeon Kwang-hyun	President	1,840	-
Kim Cheol	President	1,250	-

2. Criteria and method of calculation

(Unit: KRW one million)

Name	Type of remuneration	Total amount	Criteria and method of calculation
Jeon Kwang-hyun	Earned income	Salary	840 In accordance with the executives' treatment standards, the base salary was decided at KRW 900 million by comprehensively reflecting the duty (CEO), position (President), leadership, expertise, and contribution to the Company, and KRW 75 million, 1/12 of the total, was paid monthly.
		Bonus	1,000 Remuneration was paid within 0 - 200% of the base salary by comprehensively evaluating the quantitative indicators consisting of sales, operating income, pre-tax income, and net income, etc. and non-quantitative indicators consisting of leadership, expertise, and contribution to the Company. Quantitative indicators including the sales of KRW 2.08 trillion and the operating profit of KRW 555.1 billion (consolidated basis) for 2021 were taken into consideration, and in relation to non-quantitative indicators, his contribution to growth, such as the best-ever performance of the Copolyester business, successful improvement of the business portfolio through the sale of composite materials and PPS businesses, successful promotion of IPO of SK Bioscience, reinforcement of new products, successful management improvement activities, and effective cost execution, was taken into consideration to calculate and pay KRW 1,000 million as a bonus.
		Income from the exercise of stock option	-
		Other earned income	-
	Retirement income	-	
	Other income	-	
Kim Cheol	Earned income	Salary	950 In accordance with the executives' treatment standards, the base salary was decided at KRW 950 million by comprehensively reflecting the duty (CEO), position (President), leadership, expertise, and contribution to the Company, and KRW 79 million, 1/12 of the total, was paid monthly.
		Bonus	300 Remuneration was paid within 0 - 200% of the base salary by comprehensively evaluating the quantitative indicators consisting of sales, operating income, pre-tax income, and net income, etc. and non-quantitative indicators consisting of leadership, expertise, and contribution to the Company. Quantitative indicators such as the sales of KRW 2.08 trillion and the operating income of KRW 555.1 billion (consolidated basis) for 2021 were taken into consideration, and considering the fact that he led the Company to achieve the targeted performance by consolidating the capabilities of executives and employees even while undergoing difficult internal and external circumstances such as COVID-19, and the fact that the copolyester business achieved the largest performance ever, KRW 300 million were calculated and paid as a bonus.
		Income from the exercise of stock option	-
		Other earned income	-
	Retirement income	-	
	Other income	-	

<Status of the individual remuneration for the top 5 individuals among those who were paid KRW 500 million or greater for remuneration>

1. Individual remuneration

(Unit: KRW one million)

Name	Position	Total amount of remuneration	Remuneration not included in the total amount of remuneration
Jeon Kwang-hyun	President	1,840	-
Kim Cheol	President	1,250	-
Kim Cheol-jin	Executive	1,459	-
Kim Hyun-suk	Executive	709	-
Hwang Chun-hyun	Executive	585	-

2. Criteria and method of calculation

(Unit: KRW one million)

Name	Type of remuneration		Total amount	Criteria and method of calculation
Jeon Kwang-hyun	Earned income	Salary	840	In accordance with the executives' treatment standards, the base salary was decided at KRW 900 million by comprehensively reflecting the duty (CEO), position (President), leadership, expertise, and contribution to the Company, and KRW 75 million, 1/12 of the total, was paid every month.
		Bonus	1,000	Remuneration was paid within 0 - 200% of the base salary by comprehensively evaluating the quantitative indicators consisting of sales, operating income, pre-tax income, and net income, etc. and non-quantitative indicators consisting of leadership, expertise, and contribution to the Company. Quantitative indicators including the sales of KRW 2.08 trillion and the operating profit of KRW 555.1 billion (consolidated basis) for 2021 were taken into consideration, and in relation to non-quantitative indicators, his contribution to growth such as the best-ever performance of the copolyester business, successful improvement of the business portfolio through the sale of composite materials and PPS businesses, successful promotion of IPO of SK Bioscience, reinforcement of new products, successful management improvement activities, and effective cost execution, was taken into consideration to calculate and pay KRW 1,000 million as a bonus.
		Income from the exercise of stock option	-	-
		Other earned income	-	-
	Retirement income	-	-	
	Other income	-	-	
Kim Cheol	Earned income	Salary	950	In accordance with the executives' treatment standards, the base salary was decided at KRW 950 million by comprehensively reflecting the duty (CEO), position (President), leadership, expertise, and contribution to the Company, and KRW 79 million, 1/12 of the total, was paid monthly.
		Bonus	300	Remuneration was paid within 0 - 200% of the base salary by comprehensively evaluating the quantitative indicators consisting of sales, operating income, pre-tax income, and net income, etc. and non-quantitative indicators consisting of leadership, expertise, and contribution to the Company. Quantitative indicators such as the sales of KRW 2.08 trillion and the operating income of KRW 555.1 billion (consolidated basis) for 2021 were taken into consideration, and considering the fact that he led the Company to achieve the targeted performance by consolidating the capabilities of executives and employees even while undergoing difficult internal and external circumstances such as COVID-19, and the fact that the copolyester business achieved the largest performance ever, KRW 300 million were calculated and paid as a bonus.

		Income from the exercise of stock option	-	-
		Other earned income	-	-
	Retirement income		-	-
	Other income		-	-
Kim Cheol-jin	Earned income	Salary	386	His duty, leadership, expertise, and contribution to the Company were comprehensively reflected in accordance with the executive treatment standards. From January 2022 to March 2022, the base salary was decided at KRW 220 million in consideration of his concurrent position with another company, KRW 18 million, 1/12 of the total, was paid monthly. From April 2022, the base salary was decided at a total of KRW 440 million in accordance with the termination of his concurrent position at another company, and KRW 36 million, 1/12 of the total, was paid monthly.
		Bonus	5	In special recognition of their achievements, such as strong sales of copolyester in the first half of the year and expansion of the Pharma business portfolio, a bonus of KRW 5 million was calculated and paid to employees.
		Income from the exercise of stock option	-	-
		Other earned income	3	Approximately KRW 3 million was paid as the remainder of the Benefit Points, which is part of executive welfare benefits.
	Retirement income		1,065	KRW 1,065 million was calculated and paid by multiplying the monthly salary of KRW 36 million at the time of retirement in accordance with the executive severance pay regulation by the 10-year service period and the average payment rate.
	Other income		-	-
Kim Hyun-suk	Earned income	Salary	450	In accordance with the executives' treatment standards, the base salary was decided at a total of KRW 450 million by comprehensively reflecting the duty, leadership, expertise, and contribution to the Company, and KRW 37 million, 1/12 of the total, was paid monthly.
		Bonus	255	Remuneration was paid within 0 - 200% of the base salary by comprehensively evaluating the quantitative indicators consisting of sales, operating income, pre-tax income, and net income, etc. and non-quantitative indicators consisting of leadership, expertise, and contribution to the Company. A bonus of KRW 250 million was calculated and paid in consideration of the fact that he contributed to the achievement of management goals through the expansion of copolyester and DMT/CHDM sales, etc. In addition, a bonus of KRW 5 million was calculated and paid to employees in special recognition of their achievements, such as strong sales of copolyester in the first half and expansion of the Pharma business portfolio.
		Income from the exercise of stock option	-	-
		Other earned income	-	-
	Retirement income		-	-
	Other income		4	Approximately KRW 5 million was paid as the remainder of the Benefit Points, which is part of executive welfare benefits.
Hwang Chun-hyun	Earned income	Salary	430	In accordance with the executives' treatment standards, the base salary was decided at a total of KRW 430 million by comprehensively reflecting the duty, leadership, expertise, and contribution to the Company, and KRW 35 million, 1/12 of the total, was paid monthly.
		Bonus	155	Remuneration was paid within 0 - 200% of the base salary by comprehensively evaluating the quantitative indicators consisting of sales, operating income, pre-tax income, and net income, etc. and non-quantitative indicators consisting of leadership, expertise, and contribution to the Company. A bonus of KRW 150 million was calculated and paid in consideration of his contributions to the creation of the SHE management culture and the establishment of the foundation for an integrated management system. In addition, a bonus of KRW 5 million was calculated and paid to employees in special recognition of their achievements, such as strong sales of copolyester in the first half and expansion of the Pharma business portfolio.
		Income from the exercise of stock option	-	-
		Other earned income	-	-
	Retirement income		-	-
	Other income		-	-

	Other income	-	-
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C. Status of the stock options granted and exercised, etc.

1) Stock options granted to directors and auditors

(Unit: KRW one thousand)

Classification	Number of persons to whom stock options were granted	Total fair value of stock options	Note
Registered director (excluding outside directors and members of the Audit Committee)	2	1,056,728	Based on the sum of grants in 2018 and 2019
Outside director (excluding members of the Audit Committee)	-	-	-
Member of the Audit Committee or auditor	-	-	-
Person who instructs another person to conduct business, etc.	2	475,721	Based on the sum of grants in 2018 and 2019
Total	4	1,532,449	-

2) Calculation method of fair value, etc.

The details of the stock options' fair value calculation as of the end of the current period are as follows.

(Reference date: 2022.12.31)

(Unit: stocks, KRW)

Date of grant	Number of stocks to be issued (Note 1)	Period of exercise (Note 2)	Exercise price (Note 1)	Fair value on the date of grant (Note 1)
2018.03.06	29,988	2020.03.07 - 2025.03.06	71,785	15,864
2018.03.26 (1st)	22,491	2021.03.27 - 2025.03.26	72,009	16,226
2018.03.26 (2nd)	44,984	2022.03.27 - 2025.03.26	77,724	13,717
2019.03.25 (1st)	22,491	2021.03.26 - 2026.03.25	47,749	9,184
2019.03.25 (2nd)	22,492	2022.03.26 - 2026.03.25	51,517	7,856

(Note 1) Following the capital increase without consideration during the previous period, the number of shares to be issued and the exercise price have been adjusted, and the fair value on the date of grant has been adjusted and entered.

(Note 2) As of December 31, 2022, the weighted average residual maturity of the unexercised stock options is 2.6 years.

The fair value of stock options was calculated in line with the binomial option pricing model, and the variables applied to the model are as follows.

(Unit: KRW)

Classification	Portion granted on 2018.3.6	Portion granted on 2018.3.26 (1st)	Portion granted on 2018.3.26 (2nd)	Portion granted on 2019.3.25 (1st)	Portion granted on 2019.3.25 (2nd)
Stock price on the date of grant (Note 1)	69,667	70,000	70,000	45,267	45,267
Exercise price (Note 1)	71,785	72,009	77,724	47,749	51,517

Expected volatility	15.07%	15.75%	15.75%	18.37%	18.37%
Risk-free interest rate	2.66%	2.57%	2.57%	1.92%	1.92%

(Note 1) Following the capital increase without consideration during the previous period, the exercise price has been adjusted, and the stock price on the date of grant has been adjusted and entered.

3) Status of the stock options granted and exercised

(Reference date: 2022.12.31)

(Unit: KRW, stocks)

Grantee	Relationship	Date of grant	Method of grant	Type of stock	Quantity initially granted	Quantity changed during the current period		Total quantity changed		Quantity unexercised at the end of period	Period of exercise	Exercise price	Whether it is mandatory holding	Mandatory holding period
						Exercised	Revoked	Exercised	Revoked					
Hwang Chun-hyun	Unregistered executive	2018.03.06	Decided by the board of directors among delivery of new shares, delivery of treasury stocks, and compensation of difference	Common stocks	14,994	-	-	-	-	14,994	2020.03.07 - 2025.03.06	71,785	X	-
Kim Hyun-suk	Unregistered executive	2018.03.06	Decided by the board of directors among delivery of new shares, delivery of treasury stocks, and compensation of difference	Common stocks	14,994	-	-	-	-	14,994	2020.03.07 - 2025.03.06	71,785	X	-
Kim Cheol	Registered executive	2018.03.26	Decided by the board of directors among delivery of new shares, delivery of treasury stocks, and compensation of difference	Common stocks	22,491	-	-	-	-	22,491	2020.03.27 - 2025.03.26	72,009	X	-
Kim Cheol	Registered executive	2018.03.26	Decided by the board of directors among delivery of new shares, delivery of treasury stocks, and compensation of difference	Common stocks	22,492	-	-	-	-	22,492	2021.03.27 - 2025.03.26	77,724	X	-
OOO (Note 1)	-	2018.03.26	Decided by the board of directors among delivery of new shares, delivery of treasury stocks, and compensation of difference	Common stocks	22,492	22,492	-	22,492	-	-	2021.03.27 - 2025.03.26	77,724	X	-
Jeon Kwang-hyun	Registered executive	2019.03.25	Decided by the board of directors among delivery of new shares, delivery of treasury stocks, and compensation of difference	Common stocks	22,491	-	-	-	-	22,491	2021.03.26 - 2026.03.25	47,749	X	-
Jeon Kwang-hyun	Registered executive	2019.03.25	Decided by the board of directors among delivery of new shares, delivery of treasury stocks, and compensation of difference	Common stocks	22,492	-	-	-	-	22,492	2022.03.26 - 2026.03.25	51,517	X	-

(Note 1) He/she is heir to the late Park Man-hoon to whom the stock options were initially granted.

※ The "Quantity initially granted" above reflects the increase following the capital increase without consideration executed on October 22, 2021.

※ Closing price as of the date of preparation of disclosure documents (March 17, 2023): KRW 74,000

IX. Matters Concerning Affiliates, Etc.

A. Name of the corporate group and the number of affiliates

– Status of the affiliates (summarized)

(Reference date: 2022.12.31)

(Unit: company)

Name of corporate group	Number of affiliates		
	Listed	Unlisted	Total
SK	21	749	770

※For the detailed status, refer to “Detailed Table-2. Status of Affiliates (Details).”

※Overseas affiliates are included, and they are classified as unlisted.

B. Name of the affiliated company

- Name of the affiliated company: SK Chemicals Co., Ltd. (corporate registration number: 131111-0501021)

C. A system diagram which allows for the identification of the status of control, subordination and investment among the affiliated companies

☞ Refer to “XII. Detailed Table - 2. Status of Affiliates (Details) - (Status of Investments between Affiliates).”

D. Where there is a body or an organization that adjusts the business or interests between affiliates, their status

– Not applicable

E. Where there is a company which directly or indirectly influences the management of the Company among the affiliates, the relevant company’s name and details

– Not applicable

F. Status of the concurrent positions held by the executives between the Company and the affiliates

Classification		Status of concurrent positions held			
Name	Position	Name of Company	Position	Time of appointment	Whether full-time or not
Jeon Kwang-hyun	CEO / President	SK Bioscience	Non-executive director	2022.03.24	Part-time
Ahn Jae-hyun	Non-executive director	SK Discovery	CEO	2022.03.29	Full-time
		SK Gas	Non-executive director	2022.03.24	Part-time
An Yang-ho	Outside director	Lutronic	Outside director	2021.03.31	Part-time
Jo Hong-hui	Outside director	Meritz Financial Group	Outside director	2022.03.24	Part-time

※ The date of appointment above is the latest date of appointment.

2. Status of Investments in Other Corporations

– Status of investments in other corporations (summarized)

(Reference date: 2022.12.31)

(Unit: KRW one million)

Investments	Number of companies invested in			Total amount of investment			
	Listed	Unlisted	Total	Book amount at beginning of period	Increase (decrease)		Book amount at end of period
					Acquired (disposed)	Gain and loss on valuation	
Purpose							

Management participation	1	14	15	382,486	19,404	-	401,890
General investment	-	-	-	-	-	-	-
Simple investment	-	7	7	34,581	2,398	148	37,128
Total	1	21	22	417,068	21,802	148	439,018

※For the detailed status, refer to “Detailed Table-3. Status of Investment in Other Corporations (Details).”

X. Details of Transactions with Major Shareholders, Etc.

A. Credit exposure for major shareholders, etc.

– Not applicable

B. Credit exposure for those other than major shareholders, etc.

The details of the payment guarantees provided for the related parties as of the end of the reporting period are as follows.

(Reference date: 2022.12.31)

(Unit: USD, RMB)

Name of related parties	Relationship of special interest	Creditor	Amount of debt guaranteed		Period of debt guarantee	Details of transaction (balance)		
	Classification		Currency	Amount		Beginning of period	Change	End of period
ST Green Energy Pte, Ltd	Subsidiary	HSBC	USD	5,000,000	2020.05.23 - 2021.05.2 2	5,000,000	-5,000,000	-
		DBS Co., Ltd.	USD	4,000,000	2021.03.18 - 2022.03.1 7	4,000,000	-4,000,000	-
		KEB Hana Bank	USD	7,200,000	2021.04.23 - 2022.04.2 2	7,200,000	-7,200,000	-
	Subtotal		USD	16,200,000	-	16,200,000	-16,200,000	-
SK Chemicals America	Subsidiary	Shinhan Bank Irvine branch	USD	3,000,000	2020.02.22 - 2021.02.2 2	3,000,000	-3,000,000	-
	Subtotal		USD	3,000,000	-	3,000,000	-3,000,000	-
SK Chemicals (Yantai) Co., LTD.	Subsidiary	KEB KEB Hana Bank (China)	RMB	96,000	2022.11.29 - 2025.11.2 8	-	96,000	96,000
	Subtotal		RMB	96,000	-	-	96,000	96,000

※ SK Multi-Utility, a subsidiary of the Company, has entered into a fund supplementation agreement under which the Company must pay the full amount of the shortfall in case of SK Multi Utility's lack of funds.

2. Transfer of Assets with Major Shareholders, Etc.

– Not applicable

3. Business Transactions with Major Shareholders

– Not applicable

4. Transactions with Stakeholders other than Major Shareholders

A. Details of key transactions with related parties

The details of major transactions conducted with related parties for the current period are as follows.

<Current period>

(Unit: KRW one thousand)

Classification	Name of related parties	Sales	Other income, asset sales, etc.	Purchase	Other expenses, capital expenditures, etc. (Note 2)
Controlling company	SK Discovery Co., Ltd.	63,636	217,167	-	2,243,746
Affiliates and joint ventures	Entis Co., Ltd.	1,379,230	1,648,924	2,901,813	454
	JSI Co., Ltd.	127,360	101,128	90,930	4,200
	HDC Polyall Co., Ltd.	11,158,311	480,942	-	378,650
	ST Green Energy (Note 1)	-	4,642	-	18,229,596
Others	SK Gas Co., Ltd.	327,323	-	10,203,085	2,905,308
	SK Plasma Co., Ltd.	2,073,259	1,920,096	(22,685)	29,974
	SK Advanced Co., Ltd.	5,104,953	260,742	12,416,767	53,872

Huvis Co., Ltd.	981,958	11,871	4,633,606	3,935
SK Ecoplant Co., Ltd.	-	-	-	221,356
SK Networks Co., Ltd.	14,285,425	-	11,997,810	6,460
SK NETWORKS HONGKONG	-	-	23,755,898	-
SKC Co., Ltd.	2,371,089	-	222,326	-
SK Energy Co., Ltd.	30,161,404	-	-	2,091,634
SK Geo Centric Co., Ltd.	-	-	20,673,932	-
SK Co., Ltd.	-	-	-	13,073,498
SK Hynix Co., Ltd.	63,356	-	-	-
Happy Narae Co., Ltd.	-	-	1,986,456	9,577,140
SK Ecoengineering Co., Ltd.	-	-	-	121,005,600
Others	565,734	2,014	1,504,796	12,315,524
Total	68,663,038	4,647,526	90,364,734	182,140,947

(Note 1) These are transactions prior to the disposal of ST Green Energy's shares.

(Note 2) The consolidated companies have acquired the tangible assets worth KRW 137,239,627,000 from SK Ecoengineering Co., Ltd. during the current period.

<Previous period>

(Unit: KRW one thousand)

Classification	Name of related parties	Sales (Note 1)	Other income, asset sales, etc. (Note 1)	Purchase (Note 1)	Other expenses, capital expenditures, etc. (Note 1)
Companies exercising a significant influence	SK Discovery Co., Ltd.	63,636	110,508	-	1,327,143
Affiliates and joint ventures	Entis Co., Ltd.	1,268,092	3,779,346	3,492,735	538
	JSI Co., Ltd.	64,060	109,716	93,510	-
	ST Green Energy	-	589,952	-	213,882,734
Others	SK Gas Co., Ltd.	541,806	-	6,211,366	4,199,736
	SK Plasma Co., Ltd.	1,720,195	1,236,564	353,017	13,512
	SK Advanced Co., Ltd.	3,903,094	1,129,639	7,279,652	274,293
	Huvis Co., Ltd.	12,481,991	135	22,414,559	17,450
	SK Ecoplant Co., Ltd. (Notes 2 and 3)	-	-	-	10,378,517
	SK Networks Co., Ltd.	8,666,193	-	11,310,417	437,929
	SK NETWORKS HONGKONG	-	-	24,191,033	-
	SKC Co., Ltd.	4,267,324	4,529	298,425	180,396
	SK Energy Co., Ltd.	14,661,175	-	265,271	1,386,994
	SK Geo Centric Co., Ltd. (Note 4)	-	-	38,278,079	-
	SK Co., Ltd.	-	-	-	7,468,194
	SK Hynix Co., Ltd.	1,279,091	-	-	-
	Happy Narae Co., Ltd.	-	-	2,575,144	11,117,424
Others	4,047,899	-	389,640	8,701,138	
Total		52,964,556	6,960,389	117,152,848	259,385,998

(Note 1) Included are the amounts of transactions with related parties substituted by the profit or loss from discontinued operations.

(Note 2) During the previous period, the company name was changed from SK E&C Co., Ltd. to SK Ecoplant Co., Ltd.

(Note 3) The consolidated companies have acquired the tangible assets of KRW 10,269,702,000 from SK Ecoplant Co., Ltd. during the previous period.

(Note 4) During the previous period, the company name was changed from SK Global Chemical Co., Ltd. to SK Geo Centric Co., Ltd.

B. Key receivables and liabilities concerning the related parties

The details of major receivables and liabilities concerning the related parties as of the end of the current period are as follows.

<End of the current period>

(Unit: KRW one thousand)

Classification of the relationship of special interest	Name of related parties	Receivables		Payables	
		Trade receivables	Other receivables	Trade payables	Other payables
Controlling company	SK Discovery Co., Ltd.	-	22,146	-	263,235
Affiliates and joint ventures	Entis Co., Ltd.	119,340	969,014	156,417	-
	JSI Co., Ltd. (Note 1)	-	3,400,000	-	-
	HDC Polyall Co., Ltd.	1,486,566	-	-	-
Others	SK Gas Co., Ltd.	32,263	765,252	1,163,251	4,675,533
	SK Plasma Co., Ltd.	156,169	116,611	-	4,766
	SK Advanced Co., Ltd.	308,691	-	1,382,240	2,962,283
	SK Ecoplant Co., Ltd.	-	164,426	-	-

	SK Networks Co., Ltd.	62,594	-	887,085	8,877
	SK NETWORKS HONGKONG	-	625,620	1,245,827	-
	SKC Co., Ltd.	260,392	-	-	-
	SK Energy Co., Ltd.	3,313,507	-	-	229,198
	SK Geo Centric Co., Ltd.	-	-	327,237	-
	SK Co., Ltd.	-	-	-	1,273,023
	Happy Narae Co., Ltd.	-	-	53,143	1,062,403
	Others	464,769	-	11,969	2,885,405
	Total	6,204,291	6,063,069	5,227,169	13,364,723

(Note 1) The consolidated companies have placed an allowance for bad debts for the loan to JSI Co., Ltd. worth KRW 3,400 million in full.

<End of the previous period>

(Unit: KRW one thousand)

Classification of the relationship of special interest	Name of related parties	Receivables		Payables	
		Trade receivables	Other receivables	Trade payables	Other payables
Companies exercising a significant influence	SK Discovery Co., Ltd.	35,000	10,130	-	296,082
Affiliates and joint ventures	Entis Co., Ltd.	148,675	508,511	240,062	-
	JSI Co., Ltd. (Note 1)	15,488	3,750,000	-	-
	HDC Polyall Co., Ltd.	-	1,161,028	-	-
	ST Green Energy	-	22,002	-	104,850,770
Others	SK Gas Co., Ltd.	25,488	480,972	880,110	2,632,712
	SK Plasma Co., Ltd.	87,777	5,476	-	-
	SK Advanced Co., Ltd.	499,893	324,728	639,037	3,076,508
	Huvis Co., Ltd.	-	-	3,423,392	-
	SK Ecoplant Co., Ltd. (Note 2)	-	164,426	-	65,994
	SK Networks Co., Ltd.	-	-	1,393,244	26,800
	SK NETWORKS HONGKONG	-	968,739	13,714,225	325,133
	SKC Co., Ltd.	357,808	-	15,802	-
	SK Energy Co., Ltd.	2,298,473	-	-	235,672
	SK Geo Centric Co., Ltd. (Note 3)	-	-	3,490,860	-
	SK Co., Ltd.	-	-	-	846,887
	SK Hynix Co., Ltd.	95,225	-	-	-
	Happy Narae Co., Ltd.	-	-	189,005	1,245,508
	Others	591,149	40,373	138,996	829,975
Total		4,154,976	7,436,385	24,124,733	114,432,041

(Note 1) The consolidated companies have placed an allowance for bad debts for the loan to JSI Co., Ltd. worth KRW 3,750 million in full.

(Note 2) During the previous period, the company name was changed from SK E&C Co., Ltd. to SK Ecoplant Co., Ltd.

(Note 3) During the previous period, the company name was changed from SK Global Chemical Co., Ltd. to SK Geo Centric Co., Ltd.

C. Key fund transactions with the related parties

The details of fund transactions with related parties during the current and previous period are as follows.

① Investments

<Previous period>

(Unit: KRW one thousand)

Classification	Name of related parties	Investments
Affiliates and joint ventures	HDC Polyall Co., Ltd.	7,699,750
	ST Green Energy	385,515

② Loan of funds

<Current period>

(Unit: KRW one thousand)

Classification	Target companies	Beginning of period	Recovered	End of period
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SK Chemicals Co., Ltd.	JSI Co., Ltd. (Note 1)	3,750,000	(350,000)	3,400,000
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(Note 1) The consolidated companies have placed an allowance for bad debts for the loan to JSI Co., Ltd. worth KRW 3,400 million in full.

<Previous period>

(Unit: KRW one thousand)

Classification	Target companies	Beginning of period	Recovered	End of period
SK Chemicals Co., Ltd.	JSI Co., Ltd. (Note 1)	4,050,000	(300,000)	3,750,000

(Note 1) The consolidated companies have placed an allowance for bad debts for the loan to JSI Co., Ltd. worth KRW 3,750 million in full.

XI. Other Matters Required for the Investor Protection

1. Progress of and Changes in the Disclosure Content

Date of declaration	Title	Details of declaration	Status of progress of the matters declared	Note
2021.09.13	Investment in new facilities, etc.	Multi-Utility business investment	- In progress 1) Investment of KRW 620 billion to promote the specialization of industrial electric power and steam supply business (investment period: June 2022 - 1st half of 2025) 2) The relevant investment will be carried out by 'SK Multi-Utility Co., Ltd.', which was divided and newly established on December 1, 2021.	- Schedule change due to delay in signing various contracts due to soaring costs - Change in the investment amount due to increase in fixed costs caused by raw material price hikes and inflation

2. Matters Concerning Contingent Liabilities, Etc.

A. Important litigations

[SK Chemicals]

(Reference date: 2022.12.31)

Classification	Date the suit was filed	Parties to the suit	Details of litigations	Litigation value (KRW 100 million)	Status of progress	Future schedule of suit and countermeasures
Indemnity claims (Seoul Central District Court Case 2014GAHAP588147)	2014.12.01	Plaintiff: Korea Environmental Industry and Technology Institute Defendant: SK Chemicals and 12 others	The government subsidized medical expenses for the victims of health damages caused by the humidifier disinfectants, and claims are made for compensation after receiving claims for damages from the victims.	22.4	1st trial in progress	2023.03.23 Pleading date
Indemnity claims (Seoul Central District Court Case 2016GAHAP574210)	2016.12.01	Plaintiff: National Health Insurance Service Defendant: SK Chemicals and 12 others	Claims made for the compensation for insurance benefits paid by the National Health Insurance Service for the victims of health damages caused by the humidifier disinfectants	69.0	1st trial in progress	2023.03.23 Pleading date
Claim for damages (Seoul Central District Court Case 2016GAHAP527467)	2016.05.16	Plaintiff: Kang Chan-ho and 299 others Defendant: SK Chemicals and 19 others	Claims for damages of the victims of health damages caused by the humidifier disinfectants	112.0	1st trial in progress	2023.03.23 Pleading date
Patent infringement related suit (Intellectual Property High Court 2021NA1787)	2016.03.02	Plaintiff: Novartis AG Defendant: SK Chemicals	The Plaintiff company filed a claim for the prohibition of patent infringements and the damages for the production and sale of dementia patches.	275.0	2nd trial in progress	Date estimated
Claim for damages (Seoul District Court Case 2019GAHAP522173)	2019.04.09	Plaintiff: Aekyung Industrial Co., Ltd. Defendant: SK Chemicals	Claim for damages for the damages caused by the humidifier disinfectants in connection with the product liability contract executed by and between the Company and Aekyung Industrial Co., Ltd.	7.1	1st trial in progress	Date estimated
Petition for cancellation of corrective order, etc. (Seoul High Court Case 2022NU39620)	2019.11.18	Plaintiff: SK Chemicals and 1 other person Defendant: Fair Trade Commission	Petitioned for the cancellation of the correction order, publication order, and penalty payment order (KRW 39 million) imposed by the Fair Trade Commission for the unfair labeling of humidifier disinfectant products	1.6	The 2nd trial in progress due to the remand after reversal of the 3rd trial	2023.03.16 Pleading date
Indemnity claims (Seoul Central District Court Case 2020GAHAP607964)	2020.12.23	Plaintiff: Korea Environmental Industry and Technology Institute Defendant: SK Chemicals and 12 others	The government subsidized medical expenses for the victims of health damages caused by the humidifier disinfectants, and claims are made for compensation after receiving claims for damages from the victims.	2.9	1st trial in progress	-
Petition for cancellation of corrective order, etc. (Seoul High Court Case 2022NU67069)	2022.11.15	Plaintiff: SK Chemicals and 1 other person Defendant: Fair Trade Commission	Petitioned for cancellation of the correction order, publication order, and fine payment order imposed by the Fair Trade Commission for Internet articles advertising humidifier disinfectant products	1.6	High Court in progress	-

※ The date of filing suit above is the date on which the suit was filed against the Company.

※ The litigation value above is the sum of the claims filed by the Plaintiff against the Co-Defendant as of the date of lawsuit, and the actual amount claimed by the Plaintiff varies from the amount which was claimed by the Plaintiff against the Company, and the litigation value may change during the course of the suit.

※ In connection with Seoul Central District Court Case 2014GAHAP588147 on the indemnity claim case and Seoul Central District Court Case 2016GAHAP574210 on the indemnity claim case, a part of the Company's land has been provisionally seized.

※ In addition to the litigation cases above, the Company is in the process of carrying out multiple lawsuits related to the patent invalidation and patent infringements in Korea and abroad with Novartis AG, and the outcomes of all litigation cases, including these, cannot be predicted as of the end of the current period.

※ All of the lawsuits above may have a financial impact on the Company depending on their results, and accordingly, the Company plans to minimize its losses by efficiently responding to the lawsuits.

※ The details above include the litigation cases of SK Chemicals before the split-off of the Company.

[SK Bioscience]

(Reference date: 2022.12.31)

Classification	Date the suit was filed	Parties to the suit	Details of litigations	Litigation value	Status of progress	Future schedule of suit and countermeasures
Prohibition of patent infringement related lawsuit (2020GAHAP591823)	2020.10.27	Plaintiff: Wyeth LLC, Pfizer Korea Defendant: SK Bioscience	Petitioned for the prohibition of patent infringements related to pneumococcal vaccines	KRW 300 million	1st trial in progress	2023. 04. 06. Pleading date scheduled to continue

※ Provisioning liabilities were not appropriated for the litigation cases above since the outcomes could not be predicted as of the date of preparation of the report.

※ All of the lawsuits above may have a financial impact on the Company depending on their results, and the Company plans to minimize its losses by efficiently responding to the lawsuits.

[SK Multi-Utility]

– Not applicable

B. Status of the notes and checks for pledge or security

– Not applicable

C. Status of debt guarantee

Refer to “III. Matters Concerning Finance - 3. Notes to the Consolidated Financial Statement - 18. Contingencies and Agreements” and “X. Details of Transactions with Major Shareholders, Etc. - 1. Credit Exposure for major shareholders, etc. - A. Credit exposure for those other than major shareholders, etc.”

D. Other contingent liabilities, etc.

1) Details of the agreement

[SK Chemicals] (Based on separate financial statements)

The details of the other agreements executed by the Company with financial institutions as of the date of preparation of disclosure documents are as follows.

Counterparty to the agreement	Details of the agreement
KEB Hana Bank, etc.	An agreement on a limit of KRW 343,200 million and another on the foreign currency borrowings of USD 23.0 million
	An agreement on the opening of a letter of credit of USD 109.0 million and EUR 46.8 million, etc.
	An agreement on the limit with the exemption of security deposit for derivatives of USD 225.5 million, KRW 15,000 million, etc.
Seoul Guarantee Insurance, etc.	A contractual performance payment guarantee with a limit of KRW 10,487 million, etc.

[SK Bioscience]

The details of the other agreements executed by SK Bioscience with financial institutions as of the date of preparation of disclosure documents are as follows

Financial institution	Classification	Amount of limit	Amount executed
KEB Hana Bank	Foreign currency payment guarantee - contractual performance	USD 30,000,000	USD 30,000,000
	Loans secured by accounts receivable	KRW 4,000 million	KRW 68 million
	Agreement on exemption of security deposit for derivatives	USD 73,000,000	USD 8,075,501
Shinhan Bank	Loans secured by accounts receivable	KRW 3,000 million	-
	General corporate loan for working capital	KRW 5,000 million	-
	Derivatives (revolving transaction)	USD 11,000,000	USD 7,239,725
Woori Bank	General corporate loan for working capital	KRW 5,000 million	-
Suhyup Bank	Derivatives (revolving transaction)	KRW 15,000 million	KRW 11,221 million

JP Morgan Chase Bank	Derivatives (revolving transaction)	USD 100,000,000	USD 50,013,760
Export-Import Bank	Export growth fund loan	KRW 10,000 million	-

[SK Multi-Utility]

The details of the other agreements executed by SK Multi-Utility with financial institutions as of the date of preparation of disclosure documents are as follows.

Financial institution	Classification	Amount of limit	Amount executed
Kookmin Bank	Short-term loan agreement	KRW 80,000 million	KRW 62,500 million
Korea Investment & Securities Co., Ltd.	Short-term loan agreement	KRW 40,000 million	KRW 31,300 million
Hyundai Marine & Fire Insurance Co., Ltd.	Short-term loan agreement	KRW 30,000 million	KRW 23,400 million

2) Status of the provision of security and others

[SK Bioscience]

The status of the provision of security by SK Bioscience as of the date of preparation of disclosure documents are as follows.

(Reference date: 2022.12.31)

(Unit: KRW one thousand)

Security right holder	Details	Amount
Time deposit	Provision of collateral for treasury share association loans	5,300,000

[SK Multi-Utility]

Details of major assets provided as security in relation to borrowings from financial institutions and contract execution as of the disclosure date are as follows.

Security right holder	Assets provided for collateral	Details	Amount
Kookmin Bank and 2 other financial institutions	Right to collateral security for deposits	Collateral for debt	KRW 150,000 million
	Right to collateral security for insurance		
	Proof of beneficiary right under the real estate security trust contract		

3) Status of future trade receivables' securitization

– Not applicable

3. Matters Related to Sanctions, Etc.

[SK Chemicals]

Date	Institution of sanction	Target of sanction	Details of punishment or measure taken	Amount of monetary sanction	Reason	Applicable laws and regulations	Status of performance	Countermeasure
2019.08.01	Nam-gu Office, Ulsan	SK Chemicals	Fines imposed	KRW 400,000	Failed to report on the changes made to the facilities subject to specific soil pollution management (follow-up measures were inadequate after the closure of hazardous material tanks)	Article 32 of the Soil Environment Conservation Act	Fines paid	Efforts made to prevent a recurrence
2021.03.08	Nambu Fire Station, Ulsan	SK Chemicals	Fines imposed	KRW 800,000	Failed to attach the dangerous goods transport container labels and failed to maintain the 2018 regular checklist	Article 5 Paragraph 3 Subparagraph 2 and Article 18 Paragraph 1 of the Act on the Safety Control of Hazardous Substances	Fines paid	Efforts made to prevent a recurrence

2021.11.19	Daejeon Food and Drug Administration	SK Chemicals	Suspension of advertising for the product (15 days)	-	Exaggerated advertising for Ginxine-F Tab.	Attached Table 7 related to Article 68 Paragraph 2 of the Pharmaceutical Affairs Act and Article 78 Paragraph 3 of the Regulations on Safety of Pharmaceuticals, etc. (Matters to be observed in case of advertising pharmaceuticals, etc. Subparagraph 2 Item D) Attached Table 8 related to Article 76 of the Pharmaceutical Affairs Act and Article 95 of the Regulations on Safety of Pharmaceuticals, etc. (Criteria for Administrative Disposition: I General Standards Subparagraph 12 Item E, II Individual Standards Subparagraph 43 Item F)	Compliance with business suspension period	Efforts made to prevent a recurrence
2022.08.11	Cheongju District Court	Employees of the Company	Penalty imposed	KRW 1 million	Failure to report construction changes when expanding cargo lifts	Article 111 Subparagraph 1 and Article 14 Paragraph 1 of the Building Act, Article 70 Paragraph 1 and Article 69 Paragraph 2 of the Criminal Act	Penalty paid	Efforts made to prevent a recurrence
2022.08.11	Cheongju District Court	SK Chemicals	Penalty imposed	KRW 2 million	Failure to report construction changes when expanding cargo lifts	Article 111 Subparagraph 1, Article 14 Paragraph 1, and Article 112 Paragraph 3 of the Building Act	Penalty paid	Efforts made to prevent a recurrence
2022.08.18	Geum River Basin Environmental Office	SK Chemicals Cheongju Plant	Fines imposed	KRW 1.44 million	Failure to complete safety education	Article 33 Paragraph 2 of the Chemical Substances Control Act	Fines paid	Efforts made to prevent a recurrence
2022.08.18	Geum River Basin Environmental Office	SK Chemicals Cheongju Plant	Improvement order	-	Violation of labeling standards (Insufficient labeling of hazardous chemical handling facilities in old indoor storage facilities)	Article 34-2 Paragraph 1 Subparagraph 5 of the Chemical Substances Control Act	Corrective action	Efforts made to prevent a recurrence
2022.08.18	Geum River Basin Environmental Office	SK Chemicals Cheongju Plant	Improvement order	-	Failure to conduct self-inspection and failure to keep records in the inspection ledger	Article 34-2 Paragraph 1 Subparagraph 6 of the Chemical Substances Control Act	Corrective action	Efforts made to prevent a recurrence
2022.08.18	Geum River Basin Environmental Office	SK Chemicals Cheongju Plant	Improvement order	-	Failure to obtain change permit (Using the indoor storage and room temperature storage without change permit)	Article 34-2 Paragraph 1 Subparagraph 8 of the Chemical Substances Control Act	Corrective action	Efforts made to prevent a recurrence
2022.10.27	Geum River Basin Environmental Office	SK Chemicals	Prohibition, public order, and imposition of fine	KRW 35 million	For advertising articles related to disinfectant products, the Fair Trade Commission prohibited and issued a public order, and imposed fines.	Article 34-2 Paragraph 1 Subparagraph 8 of the Chemical Substances Control Act	Corrective action	Efforts made to prevent a recurrence

[SK Bioscience]

– Not applicable

[SK Multi-Utility]

Date	Institution of sanction	Target of sanction	Details of punishment or measure taken	Amount of monetary sanctions	Reason	Status of performance	Applicable laws and regulations	Countermeasure
2022.12.20	Ulsan Branch, Busan Regional Employment and Labor Administration	SK Multi-Utility	Partial (all unloading and transporting work at the coal loading dock) order to stop work	-	Occurrence of a serious accident	After work suspension, work suspension was lifted as safety and health measures were completed.	Article 55 Paragraph 1 of the Occupational Safety and Health Act and Article 3 of the Enforcement Regulations of the Occupational Safety and Health Act	Efforts made to prevent a recurrence

4. Other Matters Such as Major Issues Which Arose After the Reference Date of Preparation

A. Major issues which arose after the reference date of preparation

[SK Chemicals]

(1) Issuance of bonds

The controlling company issued unsecured bonds with bearer interest on February 24, 2023, and the details are as follows.

(Unit: KRW one thousand)

Classification	Date of issuance	Date of maturity	Issuance interest rate (%)	Method of redemption	Total amount
The 13-1st public placement bonds	2023.2.24	2024.08.23	4.474%	Redemption at maturity	35,000,000
The 13-2nd public placement bonds	2023.2.24	2025.02.24	4.605%	Redemption at maturity	95,000,000
The 13-3rd public placement bonds	2023.2.24	2026.02.24	4.595%	Redemption at maturity	70,000,000

(2) Payment guarantee for subsidiaries

On February 28, 2023, the controlling company decided to provide payment guarantee to its subsidiary, SK Multi-Utility Co., Ltd. The creditor is SK Gas International, PTE. Ltd., and the subject of guarantee is the unpaid fuel cost and all related debts.

(3) Decision to establish subsidiaries and acquire tangible assets

The controlling company paid a capital of RMB 350 million to establish a 100% overseas subsidiary Shuye-SK Environmental Materials (Shantou) Co., Ltd. Shuye-SK Environmental Materials (Shantou) Co., Ltd. decided to acquire tangible assets of RMB 670 million from Shuye Environmental Technology Co., Ltd. for the purpose of securing r-BHET early, securing expansion opportunities in recycling-related businesses, building a business foundation in China as a strategic market, and securing operational capabilities.

[SK Bioscience]

On February 8, 2023, SK Bioscience's board of directors decided to invest in new facilities for the purpose of establishing the Songdo Global R&PD Center. The amount of this board resolution is KRW 283.8 billion, equivalent to 17.7% of the equity capital at the end of 2021.

[SK Multi-Utility]

– Not applicable

B. Post-merger information

1) New establishment the Company via split-off

Following the extraordinary meeting of shareholders held on October 27, 2017, the Company was split off on December 1, 2017, the date of split-off. The details related to the Company's split-off are as follows.

Classification	Name of Company	Business Division
Surviving company via split-off	SK Discovery Co., Ltd.	Subsidiaries' management and new business investments
Company established through a split-off	SK Chemicals Co., Ltd.	Green Chemicals business and the Life Science business

2) Merger with SK Petrochemical

In accordance with a resolution of the board of directors substituting for the extraordinary meeting of shareholders held on March 26, 2018, the Company merged with SK Petrochemical on May 1, 2018, date of merger. The purpose of this merger is to enhance such corporate values as business synergies and management efficiency via the internalization of petrochemical business value.

[Related disclosure: Report on major issues (merger)]	
1. Method of merger	SK Chemicals Co., Ltd. merged with SK Petrochemical Co., Ltd. – Surviving company: SK Chemicals Co., Ltd. – Extinct company: SK Petrochemical Co., Ltd.
- Form of merger	Small-scale merger
2. Purpose of merger	To enhance the corporate value via the internalization of petrochemical business value
3. Important impact and effect of the merger	1. Impact on the Company's business management As of the date of submission of this report, SK Chemicals Co., Ltd. owns 100% of interest in SK Petrochemical Co., Ltd. Upon the completion of the merger, SK Chemicals Co., Ltd. will remain as a surviving company, and SK Petrochemical Co., Ltd., the merged corporation,

		<p>will be dissolved after the merger. The merged corporation of SK Chemicals Co., Ltd. does not issue new shares in executing the merger, and there is no change in the largest shareholder of SK Chemicals Co., Ltd. after the merger's completion.</p> <p>2. Impact and effect on the Company's finance and operations</p> <p>The merger is expected to have a positive impact on the Company's finance and operations by enhancing business synergies and management efficiency.</p>			
4. Merger ratio		SK Chemicals Co., Ltd.: SK Petrochemical Co., Ltd. = 1.0000000: 0.0000000			
5. Calculation basis for merger ratio		<p>The merger corporation of SK Chemicals Co., Ltd. owns 100% of shares of the merged corporation of SK Petrochemical Co., Ltd., and at the time of the merger, the merger ratio is calculated as 1.0000000:0.0000000 since the merger corporation does not issue new shares for the shares of the merged corporation.</p>			
6. Matters concerning the external evaluation	Whether applicable for external evaluation	Not applicable			
	Basis and reasons	<p>The proviso of Article 176-5 Paragraph 7 Subparagraph 2 Item b of the Enforcement Decree of the Financial Investment Services and Capital Markets Act provides that, where a company which owns the total number of issued stocks of another company does not issue new shares while merging with another company, the evaluation of the adequacy of the merger price by an external evaluation institution is not required, and since this merger is applicable thereunder, an external evaluation institution's evaluation will not be required.</p>			
	Name of external evaluation institution	-			
	Period of external evaluation	-			
	Opinion of external evaluation	-			
7. Class and number of new shares to be distributed following merger (shares)		Common stock	-		
		Different classes of stocks	-		
8. Merger targeted company	Name of Company		SK Petrochemical Co., Ltd.		
	Main Business		Basic chemical manufacturing business in the petrochemical industry		
	Relationship with the Company		Affiliated company		
	Financial details for the latest business year (KRW)	Total assets	63,603,812,554	Capital	60,000,000,000
		Total liabilities	21,333,503,640	Sales amount	106,425,708,136
		Total equity	42,270,308,914	Net income	9,255,412,235
Whether external audit is conducted		Name of institution	Ernst & Young Han Young	Auditor's opinion	Unqualified opinion
9. Newly established company via merger	Name of Company		-		
	Financial details upon establishment (KRW)	Total assets	-	Total liabilities	-
		Total equity	-	Capital	-
	New business division's sales		-		
		As of the present			

	for the latest business year (KRW)		
	Main Business	-	
	Whether re-listing has been petitioned for	Not applicable	
10. Schedule of merger	Date of merger contract	2018.02.13	
	Reference date of shareholders' confirmation	2018.02.27	
	Period of the closure of register of shareholders	From	2018.02.28
		To	2018.03.02
	Period for the receipt of notice of objection to merger	From	2018.02.27
		To	2018.03.13
	Scheduled date of shareholders' meeting	-	
	Period of the exercise of the appraisal right	From	-
		To	-
	Period for submission of old share certificates	From	-
		To	-
	Expected period of trading suspension	From	-
		To	-
	Filing period for statement of objections by creditors	From	2018.03.26
		To	2018.04.26
	Record date of merger	2018.05.01	
	Date of general meeting for closing report	-	
Scheduled date of merger registration	2018.05.02		
Scheduled delivery date of new share certificates	-		
Scheduled listing date of new shares	-		
11. Whether it is a back-door listing		Not applicable	
12. Whether requirements for back-door listing for another corporation are satisfied		Not applicable	
13. Matters concerning the appraisal right	Conditions for the exercise	The shareholders of SK Chemicals Co., Ltd. will not be granted the right to purchase shares as the merger is conducted in accordance with the small-scale merger procedures under the Commercial Act (applicable provisions: Article 527-3 Paragraph 5 of the Commercial Act)	
	Scheduled purchase price	-	
	Proceedings, method, period, and location	-	
	Payment scheduled date and method	-	
	Details related to the restrictions on the appraisal right	-	
Effects on contract		-	
14. Date of board resolution (decision date)		2018.02.12	
- Whether outside directors attended	Attended (people)	3	
	Absent (people)	0	
- Whether auditors attended (members of the Audit Committee who are not outside directors)		-	
15. Whether contracts such as put option are executed		No	
- Details of agreements		-	
16. Whether subject to filing of securities registration statement		No	
- Reasons for exemption from filing securities registration statement, if exempted		Since this merger proceeded as a capital increase without consideration and with the issuance of new shares, there is no recruitment or sales of securities requiring the submission of a securities registration statement during the process of this merger.	

17. Other matters to consider for investment judgments

- (1) Since this merger is a small-scale merger as per Article 527-3 of the Commercial Act, the appraisal right is not acknowledged, and the approval of the merger is substituted by an approval of the board of directors.
- (2) This merger is carried out as a small-scale merger. However, if, in accordance with Article 527-3 Paragraph 4 of the Commercial Act, a shareholder who owns 20% or more of the total issued shares of the surviving company gives written notice of its intent to oppose the merger within 2 weeks following the date of announcement of the merger, this merger cannot proceed as a small-scale merger.

- (3) The financial details of the merger targeted company for the latest business year are based on the financial statements as of the end of 2016.
- (4) The general meeting of closing report of the merger schedule above will be substituted by the announcement procedure according to a resolution of the board of directors pursuant to the provisions of Article 526-3 of the Commercial Act.
- (5) Key merger schedules

Classification	Date	Note
Date of board resolution on the merger	2018.02.12	-
Submission of the report on major issues	2018.02.12	-
Announcement of the designation of the date of shareholders' confirmation and the closing of the list of shareholders	2018.02.12	-
Date of merger contract	2018.02.13	-
Reference date of shareholders' confirmation	2018.02.27	-
Announcement of small-scale merger	2018.02.27	-
Period of the closure of register of shareholders	2018.02.28 - 2018.03.02	-
Period for the receipt of notification of the intent to oppose the merger	2018.02.27 - 2018.03.13	-
Date of board resolution on the merger	2018.03.26	Substituted by the general meeting of shareholders
Announcement of the creditors' submission of objection	2018.03.26	-
Period for filing statement of objections by creditors	2018.03.26 - 2018.04.26	-
Record date of merger	2018.05.01	-
General meeting of closing report for the merger	2018.05.02	Reported to the board
Announcement of closing report for the merger	2018.05.02	-
Merger registration (scheduled)	2018.05.02	-

- (6) The merger schedule above is estimated as of the time of disclosure, and is subject to change via consultations and the approval process with related organizations, etc.

[Related disclosure: Report on the closing of merger, etc. (merger), May 2, 2018]

I. Schedule

Classification		SK Chemicals Co., Ltd. (surviving company)	SK Petrochemical Co., Ltd. (extinct company)
Date of board resolution on the merger		2018.02.12	2018.02.12
Announcement of the reference date of shareholders' confirmation and the closure of the list of shareholders		2018.02.12	-
Date of merger contract		2018.02.13	2018.02.13
Reference date of shareholders' confirmation		2018.02.27	-
Date of announcement of small-scale merger (simple merger)		2018.02.27	-
Period of the closure of register of shareholders	From	2018.02.28	-
	To	2018.03.02	-
Period of the receipt of notice of the intent to oppose the merger	From	2018.02.27	-
	To	2018.03.13	-
Board approval substituting for the general meeting of shareholders for the merger approval		2018.03.26	2018.03.26
Date of announcement for the creditors' submission of objection		2018.03.26	2018.03.26
Period for filing statement of objections by creditors	From	2018.03.26	2018.03.26
	To	2018.04.26	2018.04.26
Record date of merger		2018.05.01	2018.05.01
Date of board resolution substituting for the general meeting of shareholders of closing report for the merger		2018.05.02	-
Date of announcement of the closing report for the merger		2018.05.02	-
Scheduled date of the merger registration (dissolution registration)		2018.05.02	2018.05.02

Note 1) For SK Chemicals Co., Ltd., the surviving company, the appraisal right is not acknowledged since the merger is a small-scale merger pursuant to the provisions of Article 527-3 of the Commercial Act, and thus, the requirement of approval of the merger via the general meeting of shareholders is substituted by a board resolution.

Note 2) The requirement of a closing report for the merger via the general meeting of shareholders is substituted by an announcement via a resolution of the board of directors.

Note 3) The scheduled date of merger registration (dissolution registration) above may be changed in consultation with the related organizations, etc.

II. Changes in the equity interest such as the largest shareholder

SK Chemicals Co., Ltd. owns 100% of the shares of SK Petrochemical Co., Ltd., and these companies of the merger decided to merge per a merger ratio of 1.0000000:0.0000000 via capital increase without consideration, and thus, due to the merger, there are no new shares issued by SK Chemicals Co., Ltd., nor are there any changes in the equity interest of the largest shareholder, etc.

III. Exercise of the appraisal right

In the case of SK Chemicals Co., Ltd., the surviving company, since it is a small-scale merger pursuant to the provisions of Article 527-3 of the Commercial Act, the appraisal right is not granted.

Since the extinct company of SK Petrochemical Co., Ltd., is also a 100% subsidiary of SK Chemicals Co., Ltd., there is no appraisal right.

IV. Matters concerning the creditor protection

The surviving company of SK Chemicals Co., Ltd. and the extinct company of SK Petrochemical Co., Ltd. each announced and issued a notice of the creditors' submission of objection on March 26, 2018, and no creditor submitted an objection by the deadline for such submission, which was April 26, 2018. Furthermore, no decision has been made to repay the debt or provide substantial security in this case.

V. Status of related lawsuits

No lawsuit was filed that will have any effect on the validity of this merger.

VI. Matters concerning the allocation of new shares, etc.

Since this merger is one executed without new shares issued for the 100% subsidiary (at the merger ratio of 1.0000000:0.0000000), no new shares are issued, and there is no separate money delivered due to amalgamation following the merger.

VII. Summary of the financial information before and after the [merger, etc.]

(Unit: KRW one million)

Classification	Before the merger		After the merger
	SK Chemicals Co., Ltd.	SK Petrochemical Co., Ltd.	SK Chemicals Co., Ltd.
Current assets	539,577	72,907	595,378
Non-current assets	1,120,578	11,846	1,099,991
Total assets	1,660,155	84,753	1,695,369
Current liabilities	582,069	22,603	587,867
Non-current liabilities	358,151	325	358,476
Total liabilities	940,220	22,928	946,343
Capital	65,193	60,000	65,193
Capital surplus	657,862	9,424	686,953
Retained earnings (losses)	(3,120)	(7,599)	(3,120)

Total equity	719,935	61,825	749,026
Total liabilities and shareholders' equity	1,660,155	84,753	1,695,369

Note 1) The statement of financial position above is based on the separate statements of financial position as of December 31, 2017 of SK Chemicals Co., Ltd. and SK Petrochemical Co., Ltd., which may vary from the statement of financial position to be prepared based on the actual date of the merger (May 1, 2018).

Note 2) The statement of financial position of SK Chemicals Co., Ltd. after the merger above has not been audited by an external auditor.

3) Establishment of SK Bioscience via split-off

At the board of directors meeting held on May 2, 2018, a decision was reached to split off the Vax. business division as of July 1, 2018, the date of split-off, and the split-off was completed on this date of split-off. The purpose of this split-off is to enhance the management efficiency and professionalism and lay the foundation for a responsible management system by further specializing the expertise of the VAX business division and performing mobility enhanced management activities consistent with such purpose. Furthermore, by reinvesting the profits generated from the VAX business in the relevant business, it was sought to enhance the focus and competitiveness of the business, and lay the foundation for growth thereby, and also to maximize the shareholder value through profit generation over the long term. This split-off was carried out such that, as provided under Articles 530-2 through 530-12 of the Commercial Act, the business division subject to split-off was split off to establish a new company, and it was carried out in the manner of a simple split-off by which 100% of the issued shares of the company newly established via split-off are allocated while the company split off survives. The general meeting of split-off report has been substituted by a resolution and announcement of the board of directors.

[Related disclosure: Report on the major issues (decision of the Company's split-off), May 02, 2018]

1. Method of split-off

(1) As provided under Articles 530-2 through 530-12 of the Commercial Act, a business division subject to split-off is split off to establish the split-off company, and 100% of the shares issued by the split-off company are allocated while the split-off company survives, and the company is split through a simple split-off, and the company that is split after split-off (hereinafter, "the company surviving through a split-off") remains as a listed company on the stock market, and the company established through a split-off becomes an unlisted company.

(2) The date of split-off is July 1, 2018 (00:00) (planned). However, this date for the split-off may be changed by a resolution of the board of directors of the company to be split off.

(3) In accordance with the provisions of Article 530-3 Paragraphs 1 and 2 of the Commercial Act, split-off is made by a special resolution of the general meeting of shareholders. In accordance with the provisions of Article 530-9 Paragraph 1 of the Commercial Act, the company surviving through a split-off and the newly established company shall be jointly responsible for repayment of all debts (including liabilities; hereinafter the same shall apply in this paragraph).

(4) Given the fact that the company surviving through a split-off and the company established through split-off bear joint liabilities for the debts of the company to be divided in accordance with Paragraph 3 of this Article, and

when the surviving company repays the debts succeeded to by the company established through split-off according to the plan for split-off or jointly indemnifies through other contributions from the company surviving through split-off, the company surviving split-off may exercise the right to indemnity against the company established through split-off, and when the company established through split-off repays the debts attributed to the company surviving through split-off according to the plan for split-off, or when the company established through split-off is jointly exempted from other contributions by the company established through split-off, the company established through split-off may exercise the right to indemnity against the company surviving through split-off.

(5) The assets to be transferred due to the split-off shall be governed by the provisions of 'B. Assets of the company to be divided and their value to be transferred to the company established through split-off' of '4. Details of split-off,' and even in compliance with these provisions, if it is not clear whether the assets are subject to split-off, a decision shall be made according to the provisions of Paragraphs 6 through 10 of this Article.

(6) Unless otherwise specified in the split-off plan, all active/passive properties of the company to be divided, other rights/duties including rights/duties under the public law, and the factual relationships with the asset value (including licenses and authorizations, labor relations, contractual relations, lawsuits and intellectual property rights, etc.) shall belong to the newly established company through split-off if they relate to a business division subject to split-off, and to the company surviving through a split-off if they relate to a business division other than the business division subject to split-off.

(7) In connection with the business of the company split off, if due to any acts or facts before the date of split-off, the debts arising/confirmed after the date of split-off or those which did arise yet were not reflected in the provisions of 'B. Assets of the company to be divided and their value to be transferred to the company established through split-off' of '4. Details of split-off' entered in the split-off plan due to certain circumstances such failure to recognize them (including contingent debts under the public and private law and any and all other liabilities), and if the act or fact causatively relates to the business division subject to split-off, in the case of business divisions other than the business division subject to split-off in the newly established company, the division shall each belong to the company surviving through a split-off. However, if it is difficult to confirm whether the act or fact causatively relates to the business division subject to split-off, the division shall belong to the newly established company and the surviving company, respectively, at the ratio of the net asset value to be divided by the split-off.

(8) In connection with the business of the company split off, if due to any acts or facts before the date of split-off, debts that arose or were confirmed after the date of split-off were not reflected in the provisions of 'B. Assets of the company to be divided and their value to be transferred to the company established through split-off' of '4. Details of split-off' entered in the split-off plan due to certain circumstances such as failure to recognize them (including contingent debts under the public and private law and any and all other liabilities),

	<p>and if the act or fact causatively relates to the business division subject to spin off, in the case of business divisions other than the business division subject to split-off in the newly established company, the division shall each belong to the company surviving through a spin-off, and the reversion of such shall be handled as in the previous paragraph.</p> <p>(9) The assets, liabilities, and equity which will be reverted to the company surviving split-off and the company established through split-off, in principle, the assets, liabilities, etc. which belong to or are directly or indirectly related to the divisions subject to split-off, shall be allocated to the newly established company through split-off, while the assets liabilities, equity, etc., which do not belong to the divisions subject to split-off shall be distributed to the surviving company through the split-off, and the assets, liabilities, and equity of the newly established company shall be determined by comprehensively considering the operational and investment plans of the company to be established after the split-off, as well as the requirements of relevant laws and regulations.</p> <p>(10) Lawsuits against the company to be split off before the date of split-off as a party shall belong to the newly established company for split-off, but if they relate to a division other than the business division subject to split-off, they shall belong to the company surviving through a split-off.</p>
2. Purpose of split-off	<p>(1) By separating and managing the split-off target business as an independent corporation, we seek to specialize the split-off target's expertise and perform mobile management activities suitable for the specificity, thereby enhancing management efficiency and professionalism, and laying the foundation for a responsible management system.</p> <p>(2) By reinvesting the revenues generated by the division to be split into the relevant business, we seek to enhance the focus and competitiveness of the business and lay the foundation for growth through this split-off, thereby maximizing the shareholder value through the profit generation over the long term.</p>
3. Material impact and effect of the split-off	<p>The split-off in this case is carried out in a simple split-off method as provided under Articles 530-2 to 530-12 of the Commercial Act. Accordingly, there is no change in the number of shares owned by the largest shareholder of the company to be split off before and after the split-off in this case.</p> <p>Furthermore, since the split-off is carried out through a simple/physical split-off method, the split-off itself has no effect on the consolidated financial statements.</p>
4. Split-off ratio	<p>The split-off ratio is not calculated as it is a simple/physical split-off method in which the company to be split off is allocated 100% of the shares issued by the new company to be split off.</p>
5. Details of the business and assets to be transferred via split-off	<p>(1) The company to be split off by the split-off in this case shall have all active and passive assets and other rights and obligations belonging to the division subject to split-off as provided in the split-off plan, as well as the factual relationship of asset value (including all licenses and authorizations, labor relations, contractual relations, and litigation, etc.) (hereinafter, "assets subject to transfer") transferred to the newly established company through split-off.</p>

(2) The assets subject to transfer shall be governed by what is entered in [Attachment 1] Split-Off Statement of Financial Position and [Attachment 2] List of Assets Subject to Succession prepared as of December 31, 2017, and in the event of an increase or decrease in the assets subject to transfer due to reasons such as an increase or decrease in assets (including passive assets such as active assets and commercial debts) occurring due to the business or financial activities of the division to be split off before the date of split-off, or an asset that is missing or incorrectly listed in the list of assets to be succeeded is discovered, such change shall be added or subtracted from the split-off statement of financial position and the list of assets subject to succession.

(3) The final value for each specific item of the assets subject to transfer shall be the book amount as of December 31, 2017, which will be confirmed as of the date of split-off after undergoing a review by a CPA.

(4) Among the rights or obligations belonging to the assets subject to transfer, those that are prohibited by law or nature from being transferred by split-off shall be deemed to remain with the surviving company, and if it is necessary to transfer them to the company established through a split-off, they shall be handled in accordance with the agreement between the surviving company surviving through a split-off and the company established through a split-off. The same shall be applied where transfer due to split-off cannot be obtained because the necessary approval/licensing/permissions/receipt of reports from government agencies, etc., have not been obtained.

(5) All industrial property rights such as patents, utility models, designs, trademarks, and designs (including the rights and obligations for the patents, trademarks and designs) owned by the company split off, domestically and abroad, before the date of split-off are subject to [Attachment 2] List of Assets Subject to Succession, and if any industrial property right is found that is omitted or incorrectly listed in the list, it belongs to the newly established company for split-off if it relates to the business division subject to split-off, and to the company to be split off if it is related to a division other than the division subject to split-off.

(6) Among the real estate owned by the company to be split off before the split-off (including the rights such as surface rights, easements, jeonse rights, lease rights, and mortgage set in the real estates; the same shall apply hereinafter in this subparagraph), the real estate belonging to the company newly established through split-off shall be entered in [Attachment 2] List of Assets Subject to Succession, and the lawsuits belonging to the newly established company through split-off among those involving the company to be divided before the split-off as a party shall be entered in [Attachment 3] List of Lawsuits Subject to Succession, and if any real estate or lawsuit is found to be missing or incorrectly entered in any of the lists above, it shall belong to the newly established company after split-off if it relates to the division subject to split-off, and to the surviving company if it is related to a division other than the division subject to split-off.

6. Surviving company after split-off	Name of Company	SK Chemicals Co., Ltd.			
	Financial details after split-off (KRW)	Total assets	1,476,855,155,197	Total liabilities	756,919,869,039
		Total equity	719,935,286,	Capital	65,192,610,

			158		000
		2017.12.31	As of the present		
	Surviving business division's sales for the latest business year (KRW)	76,988,642,069			
	Main Business	Manufacture and sales of synthetic resins and related products, etc.			
	Whether maintained as listed after split-off	Yes			
7. Company established via split-off	Name of Company	SK Bioscience Co., Ltd. ("tentative")			
	Financial details upon establishment (KRW)	Total assets	368,449,681,147	Total liabilities	183,299,872,041
		Total equity	185,149,809,106	Capital	10,000,000,000
		2017.12.31	As of the present		
	New business division's sales for the latest business year (KRW)	4,702,109,909			
	Main Business	Research, development, manufacturing, processing, commercialization, distribution, import and export and sales of vaccines and pharmaceuticals, etc.			
Whether re-listing has been petitioned for	No				
8. Matters concerning capital reduction	Capital reduction ratio (%)	-			
	Period for submission of old share certificates	From	-		
		To	-		
	Scheduled period of trading suspension	From	-		
		To	-		
	New share allocation requirements	-			
	Whether proportional to the number of shares of shareholders and reason	-			
	Record date for new share allotment	-			
	Scheduled delivery date of new share certificates	-			
Scheduled listing date of new shares	-				
9. Scheduled date of shareholders' meeting	2018.06.15				
10. Period for filing statement of objections by creditors	From	-			
	To	-			
11. Date of split-off	2018.07.01				
12. Scheduled date of split-off registration	2018.07.02				
13. Date of board resolution (decision date)	2018.05.02				
- Whether outside directors attended	Attended (people)	3			
	Absent (people)	0			
- Attendance of auditors (members of Audit Committee who are not outside directors)	-				
14. Whether contracts such as put option are executed	No				
- Details of agreements	-				
15. Whether subject to filing of securities registration statement	No				
- Reasons for exemption from filing securities registration statement, if exempted	Physical split-off				

※ As of December 1, 2017, the date of split-off, the Company is a new corporation established by the split-off of the Green Chemicals and Life Science business divisions of SK Discovery (formerly SK Chemicals), and the 'Sales of the latest year for the surviving company through a split-off and the company established through a split-off' are the figures corresponding to '1 month' of December 2017.

※ For reference, the annual sales for 2017, which were prepared before the split-off, are KRW 1,070,565 million for the surviving company after a split-off and KRW 120,864 million for the company established through a split-off.

16. Other matters to be factored into investment decisions

A. Revision and change of the split-off plan

Given the business situation, financial status, business plan, and circumstances of the company to be split off, the process of consultation with related organizations or related laws and significant external influences, split-off plan may be partially modified or changed by the board of directors or the chief executive officer before the general meeting of shareholders for the approval of the split-off plan, and it may also be changed during the approval process of the general meeting of shareholders. If the split-off plan is approved by the extraordinary meeting of shareholders for approval of the split-off plan scheduled to be held on June 15, 2018, then from the date of the general meeting of shareholders until the day before the date of registration of split-off, and without any additional approval from the general meeting of shareholders,

(i) if the revision or change is reasonably necessary, there will be no disadvantage to the shareholders of the surviving company or the newly established company due to the revision or change, and (ii) the split-off plan can be revised or changed by a resolution of the board of directors of the company to be split off within the scope that does not impair its homogeneity, and such revision and change will enter into force when it is announced or disclosed in accordance with the relevant laws and regulations.

- ① Trade names of the surviving company through a split-off and the company established through a split-off
- ② Split-off schedule
- ③ Financial structure before and after the split-off
- ④ Assets to be transferred due to split-off and their value (assets to be transferred to the newly established company through a split-off and their value)
- ⑤ Total number of stocks issued by the company established through a split-off at the time of split-off
- ⑥ Matters concerning directors and members of the Audit Committee of the company established through a split-off
- ⑦ Articles of incorporation of the surviving company through a split-off and the company established through a split-off
- ⑧ The amount of reduced capital and reserves of the company to be split off

B. Matters requiring takeover and handover between companies

The matters required for the takeover and handover between the company to be split off and the company established through a split-off in relation to the implementation of the split-off plan (including the documents and data, etc. of the target business division and various data and facts) are subject to a separate agreement by and between the company to be split off and the company established through a split-off.

C. Succession of employment contract relationship and retirement benefits

The company established through a split-off succeeds to the employment of all employees and related legal relations (including retirement benefits and loans, etc.) of those working in the business division subject to split off from the company to be split off as of the date of split-off (at 00:00 on July 1, 2018).

D. Creditor protection procedures

Since the Surviving Company and the Newly Incorporated Company bear joint liability for the debts of the Split-off Company before the split-off, they do not undergo creditor protection procedures.

【Attachment 1】 Split-off statement of financial position (as of December 31, 2017)

(Unit: KRW one million)

Classification	Before split-off	After split-off	
		Company to be split-off	Company established through a split-off
Assets			
I . Current assets	539,577	377,949	161,628
Cash and cash equivalents	109,874	6,151	103,723

Short-term investment assets	298	298	-
Trade and other receivables	211,933	174,676	37,257
Inventories	212,444	192,601	19,843
Other current assets	5,028	4,223	805
II . Non-current assets	1,120,578	1,098,907	206,821
Investment assets	256,195	441,259	86
Tangible assets	800,669	625,939	174,730
Intangible assets	46,915	15,262	31,653
Other non-current assets	4,406	4,172	234
Deferred income tax assets	12,393	12,275	118
Total assets	1,660,155	1,476,856	368,449
Liabilities			
I . Current liabilities	582,069	531,487	50,582
Trade and other payables	218,367	195,389	22,978
Short-term borrowings	103,985	103,985	-
Current portion of bonds payable	220,846	220,846	-
Current portion of long-term liabilities	21,988	1,829	20,159
Current portion of derivatives	1,907	1,907	-
Other current liabilities	14,901	7,531	7,370
Current portion of provisioning liabilities	75	-	75
II . Non-current liabilities	358,151	225,434	132,717
Debenture	254,346	149,626	104,720
Non-current portion of long-term liabilities	83,816	60,450	23,366
Defined benefit liabilities	10,267	8,562	1,705
Provisioning liabilities	3,610	684	2,926
Other non-current liabilities	6,112	6,112	-
Total liabilities	940,220	756,921	183,299
Equity			
I . Capital	65,193	65,193	10,000
II . Capital surplus	657,863	657,863	175,150
III . Other capital items	-	-	-
IV . Accumulated other comprehensive income	-	-	-
V . Retained earnings	(3,121)	(3,121)	-
Total equity	719,935	719,935	185,150
Total liabilities and stockholders' equity	1,660,155	1,476,856	368,449

【Attachment 2】 List of Assets Subject to Succession (as of December 31, 2017)

(Unit: KRW one million)

Classification	Details	Amount
Assets		
I . Current assets		161,628
Cash and cash equivalents	Vaccine business division related deposits, etc.	103,723
Trade and other receivables	Vaccine business division related receivables, accounts receivable, etc.	37,257

Inventories	Vaccine business division related inventories	19,843
Other current assets	Vaccine business division related prepayments and prepaid expenses	805
II . Non-current assets		206,821
Investment assets	Vaccine business division related other investment assets (Eco Hub artworks)	86
Tangible assets	Vaccine business division related tangible assets	174,730
Intangible assets	Vaccine business division related intangible assets	31,653
Other non-current assets	Vaccine business division related other non-current assets (deposits for corporate housing, etc.)	234
Deferred income tax assets	Vaccine business division related deferred income tax assets	118
Total assets		368,449
Liabilities		
I . Current liabilities		50,582
Trade and other payables	Vaccine business division related trade payables, accounts payable and accrued expenses	22,978
Current portion of long-term liabilities	Vaccine business division related current portion of long-term borrowings and financial lease liabilities	20,159
Other current liabilities	Vaccine business division related unearned revenue, deposits, and security deposits, etc.	7,370
Other current portion of provisioning liabilities	Vaccine business division related current portion of returned goods provisioning liabilities	75
II . Non-current liabilities		132,717
Debenture	Vaccine business division related bonds	104,720
Non-current portion of long-term liabilities	Vaccine business division related long-term borrowings and financial lease liabilities	23,366
Defined benefit liabilities	Vaccine business division related defined benefit liabilities	1,705
Provisioning liabilities	Vaccine business division related returned goods provisioning liabilities	2,926
Total liabilities		183,299

Note 1) The assets and liabilities subject to succession are the data based on a separate statement of financial position as of December 31, 2017, and based on which, the price to be reverted to the newly established company after split-off is calculated, and this value may change on the date of split-off.

[Related disclosure: Report on the closing of merger, etc. (split-off), July 2, 2018]

I. Schedule

Classification		Date
Date of board resolution		May 2, 2018
Date of preparation of split-off plan		May 2, 2018
Date of submission of the report on major issues		May 2, 2018
Record date for confirmation of shareholders		May 17, 2018
Period of the closure of register of shareholders	From	May 18, 2018
	To	May 22, 2018
Date of shareholders' meeting for approval of split-off plan		June 15, 2018
Date of split-off		July 1, 2018
General meeting of split-off report and the date of general meeting of incorporation		July 2, 2018
Date of split-off registration		July 2, 2018

(Note) Among the details above, the general meeting of split-off report was substituted by a board resolution and announcement.

II. Changes in the equity interest such as the largest shareholder
- Not applicable as it is a simple/physical split-off.

III. Exercise of the appraisal right

- Not applicable as it is a simple/physical split-off.

IV. Matters concerning the creditor protection

- In accordance with the provisions of Article 530-9 Paragraph 1 of the Commercial Act, SK Chemicals Co., Ltd. (hereinafter. "the company to be split off") and SK Bioscience Co., Ltd. (hereinafter. "the company established through a

V. Status of related lawsuits

- As of the date of submission of this report, no lawsuit has been filed in connection with this split-off, which may affect the

VI. Matters concerning the allocation of new shares, etc.

- This split-off is a simple/physical split-off, and 100% of the total number of stocks issued by the company established through a split-off are allocated for the company to be split off.

VII. Summary of the financial

(Unit: KRW)

Classification	Before split-off	After split-off	
		Company to be split-off	Company established through a split-off
I. Total assets	1,660,155,027,238	1,476,855,155,197	368,449,681,147
1. Current assets	539,576,646,702	377,948,919,132	161,627,727,570
2. Non-current assets	1,120,578,380,536	1,098,906,236,065	206,821,953,577
II. Total liabilities	940,219,741,080	756,919,869,039	183,299,872,041
1. Current liabilities	582,069,035,762	531,486,139,186	50,582,896,576
2. Non-current liabilities	358,150,705,318	225,433,729,853	132,716,975,465
III. Total equity	719,935,286,158	719,935,286,158	185,149,809,106
1. Capital	65,192,610,000	65,192,610,000	10,000,000,000
2. Capital surplus	657,862,525,577	657,862,525,577	175,149,809,106
3. Retained earnings	(3,119,849,419)	(3,119,849,419)	-

※ The summary of financial statements above was prepared as of December 31, 2017, and there may be differences from the split-off financial statements to be prepared as of the actual date of split-off.

4) Merger with Initz

To enhance the corporate value via the efficient operation of the PPS business, the board of directors reached a solution to merge Initz, a 10% subsidiary, on September 3, 2019, and the merger was completed on December 1, 2019.

Accordingly, a report on major issues and a report on the completion of merger, etc. were submitted as follows.

[Related disclosure: Report on major issues (merger decision of the Company), September 03, 2019]

1. Method of merger	SK Chemicals Co., Ltd. merged with Initz Co., Ltd. - Surviving company: SK Chemicals Co., Ltd. - Extinct company: Initz Co., Ltd.
- Form of merger	Small-scale merger
2. Purpose of merger	Enhance the corporate value through rapid decision-making, financial stability, and operational efficiency improvement for the PPS business operation
3. Important impact and effect of the merger	(1) Impact and effect on the Company's management

		<ul style="list-style-type: none"> - Upon the completion of this merger, SK Chemicals Co., Ltd. will remain as the surviving company, and the merged corporation Initz Co., Ltd., will be dissolved after the merger. - There has been no change in the largest shareholder of the surviving company following this merger, and no substantial change in the management rights has occurred. - The merger corporation SK Chemicals Co., Ltd. does not issue new shares in executing this merger. <p>(2) Impact and effect on the Company's finance</p> <ul style="list-style-type: none"> - It is expected that the merger will help reduce the overall cost and improve the financial structure of the merger company by eliminating the duplication of management and unnecessary expenses that occurred as each was operated as separate corporations and focusing the capabilities through efficient resource allocation. - The surviving company succeeds all assets, liabilities, rights, and obligations of the extinct company on the date of merger. <p>(3) Impact and effect on the Company's business</p> <ul style="list-style-type: none"> - It is expected that the operating corporations that were separated between the corporations will be united to increase the corporate value by maximizing cost reduction and synergies, and the merger between the two companies is expected to ultimately enhance the shareholder value and have a positive impact on the Company's finance and operations.
4. Merger ratio		SK Chemicals Co., Ltd.: Initz Co., Ltd. = 1.0000000: 0.0000000
5. Calculation basis for merger ratio		The merger corporation of SK Chemicals Co., Ltd. owns 100% of the shares of the merged corporation of Initz Co., Ltd., and at the time of a merger, the merger ratio was calculated at 1.0000000:0.0000000 since the merger corporation does not issue new shares for the shares of the merged corporation.
6. Matters concerning the external evaluation	Whether applicable for external evaluation	Not applicable
	Basis and reasons	The proviso of Article 176-5 Paragraph 7 Subparagraph 2 Item b of the Enforcement Decree of the Financial Investment Services and Capital Markets Act provides that, where a company which owns the total number of issued stocks of another company does not issue new shares while merging with another company, the evaluation of the adequacy of the merger price by an external evaluation institution is not required, and since this merger is applicable thereunder, an external evaluation institution's evaluation will not be required.
	Name of external evaluation institution	-
	Period of external evaluation	-
	Opinion of external evaluation	-
7. Class and number of new shares to be distributed following merger (shares)	Common stocks	-

		Different classes of stocks		-	
8. Merger targeted company	Name of Company		Initz Co., Ltd.		
	Main Business		Manufacture of synthetic resins and other plastic materials		
	Relationship with the Company		Subsidiaries		
	Financial details for the latest business year (KRW)	Total assets	279,342,513,970	Capital	7,006,166,500
		Total liabilities	187,618,315,805	Sales amount	18,605,083,850
		Total equity	91,724,198,165	Net income	-64,412,184,021
Whether external audit is conducted		Name of institution	Nexia Samduk	Auditor's opinion Unqualified opinion	
9. Newly established company via merger	Name of Company		-		
	Financial details upon establishment (KRW)	Total assets	-	Total liabilities	-
		Total equity	-	Capital	-
	New business division's sales for the latest business year (KRW)		-		
	Main Business		-		
	Whether re-listing has been petitioned for		Not applicable		
10. Schedule of merger	Date of merger contract		2019.09.04		
	Reference date of shareholders' confirmation		2019.09.18		
	Period of the closure of register of shareholders	From	2019.09.19		
		To	2019.09.25		
	Period for the receipt of notice of objection to merger	From	2019.09.18		
		To	2019.10.02		
	Scheduled date of shareholders' meeting		-		
	Period of the exercise of the appraisal right	From	-		
		To	-		
	Period for submission of old share certificates	From	-		
		To	-		
	Scheduled period for trading suspension	From	-		
		To	-		
	Period of submission for the creditors' objection	From	2019.10.24		
		To	2019.11.24		
	Record date of merger		2019.12.01		
Date of general meeting for closing report		2019.12.02			
Scheduled date of merger registration		2019.12.02			
Scheduled delivery date of new share certificates		-			
Scheduled listing date of new shares		-			
11. Whether it is a back-door listing		Not applicable			
12. Whether requirements for back-door listing for another corporation are satisfied		Not applicable			
13. Matters concerning the appraisal right	Conditions for the exercise		As it is carried out in line with the small-scale merger procedures under the Commercial Act, the appraisal right is not granted for the shareholders of SK Chemicals Co., Ltd. (applicable provisions: Article 527-3 Paragraph 5 of the Commercial Act)		
	Scheduled purchase price		-		

	Proceedings, method, period, and location	-
	Payment scheduled date and method	-
	Details related to the restrictions on the appraisal right	-
	Effects on contract	-
14. Date of board resolution (decision date)		2019.09.03
- Whether outside directors attended	Attended (people)	3
	Absent (people)	0
- Whether auditors attended (members of the Audit Committee who are not outside directors)		-
15. Whether contracts such as put option are executed		No
- Details of agreements		-
16. Whether subject to filing of securities registration statement		No
- Reasons for exemption from filing securities registration statement, if exempted		Since this merger proceeds as a capital increase without consideration with no new shares issued for the merger, there is no recruitment or sales of the securities which require the submission of a securities declaration in the process of this merger.

17. Other matters to consider for investment judgments

- (1) Since this merger is a small-scale merger as per Article 527-3 of the Commercial Act, the appraisal right is not acknowledged, and the approval of the merger is substituted by an approval of the board of directors.
- (2) This merger is carried out as a small-scale merger. However, if, in accordance with Article 527-3 Paragraph 4 of the Commercial Act, a shareholder who owns 20% or more of the total issued shares of the surviving company gives written notice of its intent to oppose the merger within 2 weeks following the date of announcement of the merger, this merger cannot proceed as a small-scale merger.
- (3) The financial details of the merger targeted company for the latest business year are based on the financial statements as of the end of 2018.
- (4) The general meeting of closing report of the merger schedule above will be substituted by the announcement procedure according to a resolution of the board of directors pursuant to the provisions of Article 526-3 of the Commercial Act.

(5) Key merger schedules

Classification	Date	Note
Date of board resolution on the merger	2019.09.03	-
Submission of the report on major issues	2019.09.03	-
Announcement of the designation of the date of shareholders' confirmation and the closing of the list of shareholders	2019.09.03	-
Date of merger contract	2019.09.04	-
Reference date of shareholders' confirmation	2019.09.18	-
Announcement of small-scale merger	2019.09.18	-
Period of the closure of register of shareholders	2019.09.19 - 2019.09.25	-
Period for the receipt of notification of the intent to oppose the merger	2019.09.18 - 2019.10.02	-
Date of board resolution on the merger	2019.10.23	Substituted by the general meeting of shareholders
Announcement of the creditors' submission of objection	2019.10.24	-
Period for filing the statement of objections by creditors	2019.10.24 - 2019.11.24	-
Record date of merger	2019.12.01	-
General meeting of closing report for the merger	2019.12.02	Reported to the board
Announcement of closing report for the merger	2019.12.02	-
Merger registration (scheduled)	2019.12.02	-

- (6) The merger schedule above is estimated as of the time of disclosure, and is subject to change via consultations and the approval process with related organizations, etc.

※ Related disclosure

- Not applicable

【Details of important matters related to the merger】

1. Overview of the merger

1) Basic matters concerning the merger

(1) Counterparty to the merger

Surviving company after the merger (merger company)	Trade name	SK Chemicals Co., Ltd.
	Location	310 Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do
	CEO	Kim Cheol, Jeon Kwang-hyun
	Corporate classification	Stock-listed Corporation
Extinct company after the merger (merged company)	Trade name	Initz Co., Ltd.
	Location	616-119 Cheoyong-ro , Hwangseong-dong, Nam-gu, Ulsan
	CEO	Kim Hyo-gyeong
	Corporate classification	Corporations whose share certificates are not listed

(2) Background of the merger

Based on this merger, the Company seeks to achieve efficient organizational operations via sharing the human and material resources among existing businesses as well as management efficiency via the reduction of management costs.

(3) Whether applicable as a back door listing

- Not applicable.

(4) Important impact and effect on the Company's management, finances, and sales

SK Chemicals Co., Ltd. owns 100% of the issued shares of Initz Co., Ltd., and since the merger will proceed without a capital increase with no new shares issued for the merger, and while this merger will not have a significant impact on the management, finance, and sales of SK Chemicals, the surviving company, it is expected that the management efficiency will be increased through the merger of the wholly owned subsidiary.

(5) Plans for the Company's future restructuring

- There are no final decisions made concerning the Company's restructuring plan, such as other mergers after this merger.

2) Merger ratio and its calculation basis

(1) Calculation of merger ratio

SK Chemicals Co., Ltd. holds 100% stake in Initz Co., Ltd., and since it will proceed without a capital increase with no new shares issued, the merger ratio was calculated at 1.0000000:0.0000000.

(2) Whether applicable for external evaluation

The proviso of Article 176-5 Paragraph 7 Subparagraph 2 Item b of the Enforcement Decree of the Financial Investment Services and Capital Markets Act provides that, where a company which owns the total number of issued stocks of another company does not issue new shares while merging with another company, the evaluation of the adequacy of the merger price by an external evaluation institution is not required, and since this merger is applicable thereunder, an external evaluation institution's evaluation was not made.

3) Investment risk factors related to the merger, etc.

(1) Risk factors which make the merger difficult

- Terms and conditions for the contractual termination as per the merger contract

Article 1 (Change or Cancellation of Contract)

(1) This contract may be changed or canceled by agreement between A and B in the event of any of the following reasons.

1. Where the matters related to the terms of this contract between the date of signing of this contract and the date of merger are in violation of related laws and regulations and accounting standards
2. Where a significant change results in the assets or management status of A or B due to natural disasters, transfer of all or an important part of the business division, or other reasons between the date of signing this contract and the date of merger
3. Where A or B violates important matters of this contract

4. Where the number of stocks of shareholders who notify in writing of their intention to object to the merger within 2 weeks from the date of announcement of the merger pursuant to Article 527-3 Paragraph 4 of the Commercial Act is 20% or more of the total number of stocks issued by A

5. Where it is necessary to change or cancel this contract

(2) A and B may execute a separate contract for the matters which require additional agreement for the purposes of the merger, and the separate contract is considered a part of this contract.

(2) Risk factors concerning the authorization/permission or approval under relevant laws and regulations related to the merger

- As the merger is a small-scale merger, in accordance with Article 527-3 Paragraph 4 of the Commercial Act, if a shareholder who owns stocks equivalent to 20% or more of the total issued stocks of the surviving company notifies the Company in writing of its intention to object to the merger within 2 weeks from the date of the announcement of the small-scale merger, the small-scale merger cannot be carried out. In such event, the merger may proceed through a general meeting of shareholders or it may be canceled without proceeding with the small-scale merger. In the case of a merger through a general meeting of shareholders, it may be possible to grant the appraisal right, and we will re-disclose such cases as they occur.
- In accordance with Article 12 of the Monopoly Regulation and Fair Trade Act and Article 18 of the Enforcement Decree of the same Act, the Company has the obligation to report the business combination to the Fair Trade Commission, and the merger schedule may be delayed or changed depending on the review results.

(3) Matters concerning the possibility of promoting the listing or delisting of new share such as a merger

- This is not applicable as this is a merger carried out without a capital increase with no new shares issued. As this merger is not applicable as a back door listing, there is no possibility of delisting due to this merger.

(4) Whether it is applicable as a back door listing, and whether the requirements provided under the securities market related listing regulations have been met

- Not applicable.

(5) Risk factors to consider when investing in relevant securities in case of a merger

- This merger is a small-scale merger with Initz Co., Ltd., a major subsidiary in which SK Chemicals holds a 100% stake, and the impact on the consolidated financial statements before and after the merger is the same, and thus the risk factors to be considered when investing in securities is limited.
- This merger is a small-scale merger with Initz Co., Ltd., a subsidiary of SK Chemicals Co., Ltd., in which 100% of the stake is held by SK Chemicals Co., Ltd., and there are no securities subject to recruitment or sales in connection with this merger.

(6) Matters concerning the execution of an option contract related to the merger

- Not applicable.

4) Matters concerning the appraisal right

- Since the merger proceeds according to the small-scale merger method pursuant to Article 527-3 of the Commercial Act, the appraisal right is not granted to the shareholders of SK Chemicals Co., Ltd., the surviving company. Furthermore, the extinct company of Initz Co., Ltd. does not grant the appraisal right with the consent of SK Chemicals Co., Ltd., the sole shareholder.

5) Interests between the Company and the relevant companies, etc.

(1) Relationship between the Company and relevant companies, etc.

① Where there is a relationship with an affiliate or a subsidiary

The surviving company SK Chemicals Co., Ltd. and the extinct company Initz Co., Ltd. are the affiliates of the "SK" corporate group as provided under the Monopoly Regulation and Fair Trade Act, and Initz Co., Ltd. is a wholly owned subsidiary of SK Chemicals Co., Ltd.

② Where mutually concurrent positions are held by and between the executives

Name	SK Chemicals	Initz
Kim Hyo-gyeong	Head of EP Business Division	CEO

③ Where the major shareholder of the company of a party is a related party of the company of the other party

SK Chemicals Co., Ltd. and Initz Co., Ltd. are the affiliates associated with the "SK" corporate group as provided under the Monopoly Regulation and Fair Trade Act, and any and all major shareholders and related parties of SK Chemicals Co., Ltd. are the related parties of Initz Co., Ltd.

Furthermore, since Initz Co., Ltd. is a wholly owned subsidiary of SK Chemicals Co., Ltd., and thus the major shareholders and related parties of SK Chemicals Co., Ltd. are the related parties of Initz Co., Ltd.

④ Other matters mutually related such as whether there is a competitive or complementary relationship in terms of business

- Not applicable.

(2) Details of the transactions by and between the Company and relevant companies

① Investments

Name of Company	Account title	Number of shares (stocks)		Equity interest	Acquisition price (KRW one million)	
		Common stocks	Preferred stocks		Common stocks	Preferred stocks
Initz Co., Ltd.	Subsidiary	11,337,300	3,179,200	100%	75,235	116,281

- SK Chemicals Co., Ltd. owns 100% of the shares of Initz Co., Ltd.

- The number of shares and the acquisition price are as of June 30, 2019.

② Debt guarantee

- Not applicable

③ Provision of security (collateral)

- Not applicable

④ Purchase and sales transactions

(Unit: KRW one thousand)

Companies of sales	Companies of purchase	2018	2017	2016	Target of transaction
SK Chemicals	Initz	6,087,576	508,751	-	Power and steam, etc.

- SK Chemicals is a new corporation which was established on December 1, 2017 after a split-off with SK Discovery and has prepared transactions in or since December 2017.

⑤ Receivables, payables, and accounts payable and accounts receivable in terms of business

(Unit: KRW one thousand)

Classification	Companies of receivables	Companies of payables	2018	2017	2016
Receivables and payables in terms of business	SK Chemicals	Initz	336,729	1,504,449	-
Accounts payable and accounts receivable	SK Chemicals	Initz	1,137	524,546	-
	Initz	SK Chemicals	-	18,767	-

(3) Transactions with the largest shareholder of the Company

- Not applicable

6) Form of merger, etc.

- This merger takes on the form of the surviving company of SK Chemicals Co., Ltd. merging with the extinct company of Initz Co., Ltd., and thus there is no new corporation due to the merger.

- This merger is a small-scale merger executed without a capital increase with no new shares issued in accordance with Article 527-3 of the Commercial Act, and thus the merger approval is substituted by the board approval.

- The surviving company of SK Chemicals Co., Ltd. is a corporation which is listed on the securities market as of the date of submission of the disclosure, and there are no related changes after the merger.

- As this merger is a small-scale merger, in accordance with Article 527-3 Paragraph 4 of the Commercial Act, if a shareholder who owns stocks equivalent to 20% or more of the total issued stocks of the surviving company notifies the Company in writing of its intention to object to the merger within 2 weeks from the date of the announcement of the small-scale merger, the small-scale merger cannot be carried out.

7) Progress and schedule of the merger

Classification	SK Chemicals Co., Ltd.	Initz Co., Ltd.
Date of board resolution on the merger	2019.09.03	2019.09.03

Reference date of shareholders' confirmation	2019.09.18	-
Period of the closure of register of shareholders	2019.09.19 - 2019.09.25	-
Period for the receipt of notification of the intent to oppose the merger	2019.09.18 - 2019.10.02	-
Date of board resolution on the merger	2019.10.23	2019.10.23
Period for filing statement of objections by creditors	2019.10.24 - 2019.11.24	2019.10.24 - 2019.11.24
Period of submission for the old share certificates	-	2019.10.24 - 2019.11.24
Record date of merger	2019.12.01	2019.12.01
General meeting of closing report for the merger	2019.12.02	2019.12.02
Merger registration (scheduled)	2019.12.02	2019.12.02

- As for the main schedule of this merger, refer to the main text of the announcement in the above, and the detailed schedule is subject to change.

8) Whether a securities declaration report has been submitted

Whether subject to filing of securities registration statement	Not applicable
Reasons for exemption from filing securities registration statement, if exempted	Merger without a capital increase

9) Requirements for the execution of merger, etc.

- This merger is a small-scale merger, and in accordance with Article 527-3 Paragraph 4 of the Commercial Act, if a shareholder who owns stocks equivalent to 20% or more of the total issued stocks of the surviving company notifies the Company in writing of its intention to object to the merger within 2 weeks from the date of the announcement of the small-scale merger, the small-scale merger cannot be carried out.

- In accordance with Article 12 of the Monopoly Regulation and Fair Trade Act and Article 18 of the Enforcement Decree of the same Act, the Company has the obligation to report the business combination to the Fair Trade Commission, and the merger schedule may be delayed or changed depending on the review results.

2. Matters concerning the counterparty to the merger

1) Overview of the Company

Name of Company	Initz Co., Ltd.
Name in English	Initz Co., Ltd.
Date of establishment	2013.08.28
Details of main business	Manufacture of synthetic resins and other plastic materials
Number of executives and employees	66
Status of major shareholders	SK Chemicals (100% of stake owned)

※The number of executives and employees above is as of September 2019.

2) Matters concerning finance

① Financial information for the last 3 years

- Statement of Financial Position

(Unit: KRW)

Account	End of 2018	End of 2017	End of 2016
Assets			
I. Current assets	50,007,751,460	43,565,793,241	29,163,580,144
Cash and cash equivalents	4,435,382,476	1,698,801,471	1,438,548,665
Trade receivables	2,788,880,772	1,421,584,131	-
Other short-term receivables	39,290,739	112,398,908	144,196,300
Inventories	41,542,380,686	39,178,926,336	25,784,519,288
Current income tax assets	7,179,330	18,863,140	2,608,710
Other current assets	1,194,637,457	1,135,219,255	1,793,707,181
II. Non-current assets	229,334,762,510	268,876,091,845	271,804,373,019
Long-term financial assets	2,000,000	2,000,000	2,500,000
Tangible assets	229,332,551,899	248,472,146,127	264,457,032,383
Intangible assets	210,611	4,435,508	8,660,404
Deferred income tax assets	-	20,397,510,210	7,336,180,232

Total assets	279,342,513,970	312,441,885,086	300,967,953,163
Liabilities			
I. Current liabilities	98,945,358,289	59,597,751,105	80,051,206,503
Trade payables	331,574,361	2,890,206,572	2,708,693,400
Other short-term payables	4,176,805,235	8,155,493,925	4,756,337,669
Short-term borrowings	26,000,000,000	21,000,000,000	15,000,000,000
Short-term financial liabilities	68,400,000,000	27,506,859,148	57,500,000,000
Other current liabilities	36,978,693	45,191,460	86,175,434
II. Non-current liabilities	88,672,957,516	147,456,766,485	124,734,635,549
Long-term borrowings	85,066,000,000	145,000,000,000	122,500,000,000
Retirement benefit liabilities	3,606,957,516	2,456,766,485	2,234,635,549
Total liabilities	187,618,315,805	207,054,517,590	204,785,842,052
Equity			
I. Capital	7,006,166,500	6,502,000,000	5,668,650,000
II. Capital surplus	213,069,256,218	162,316,182,664	113,152,966,744
III. Retained earnings	-128,351,224,553	-63,430,815,168	-22,639,505,633
Total shareholders' equity	91,724,198,165	105,387,367,496	96,182,111,111
Total liabilities and shareholders' equity	279,342,513,970	312,441,885,086	300,967,953,163

- Comprehensive Income Statement

(Unit: KRW)

Account	End of 2018	End of 2017	End of 2016
I. Sales amount	18,605,083,850	6,688,243,042	-
II. Cost of sales	46,968,216,099	38,065,724,641	-
III. Gross profit	-28,363,132,249	-31,377,481,599	-
Bad debt expenses	1,430,000	-	-
Selling and administrative expenses	8,881,286,789	15,197,523,150	6,844,366,460
IV. Operating profit (loss)	-37,245,849,038	-46,575,004,749	-6,844,366,460
Other income	170,270,729	74,618,413	262,881
Other expenses	300,226,428	243,391,164	101,085,675
Other bad debt expenses	2,145,000	-	-
Financial income	131,281,370	455,087,098	283,125,637
Financial cost	6,605,748,799	7,900,076,996	297,930,650
V. Net income (loss) before income tax expenses	-43,852,417,166	-54,188,767,398	-6,959,994,267
VI. Income tax expense (income)	20,559,766,855	-13,142,672,926	-1,730,152,676
VII. Net income (loss)	-64,412,184,021	-41,046,094,472	-5,229,841,591
VIII. Other comprehensive income	-508,225,364	254,784,937	336,125,161
Remeasurement factors of defined benefit plan	-508,225,364	254,784,937	336,125,161
IX. Total comprehensive income (loss)	-64,920,409,385	-40,791,309,535	-4,893,716,430
X. Earnings per share			
Earnings (loss) per common stock	-4,709	-3,505	-479
Earnings (loss) per preferred share	-4,709	-3,505	-

② Audit status and opinions of the last 3 business years

Business Year	Auditor	Auditor's opinion	Special remarks on the audit report
2018	Nexia Samduk	Unqualified opinion	No special remark
2017	Nexia Samduk	Unqualified opinion	No special remark
2016	Nexia Samduk	Unqualified opinion	No special remark

3) Matters related to the Company's organizations such as the board of directors

As of the date of report submission, the board of directors of Initz Co., Ltd. consists of a total of 3 directors (2 inside directors and 1 other non-executive director) and 1 auditor. The committees within the board of directors are not applicable.

4) Matters concerning shareholders

SK Chemicals Co., Ltd. owns a 100% interest in Initz Co., Ltd. as of the date of report submission.

5) Matters concerning executives and employees, etc.

As of September 2019, Initz Co., Ltd. has 66 executives and employees including 2 inside directors.

6) Matters Concerning Affiliates, Etc.

As of the date of report preparation, the affiliates of Initz Co., Ltd. are the same as those of SK Chemicals Co., Ltd. For more details, please refer to the business report of SK Chemicals Co., Ltd.

7) Other matters required for investor protection

- Not applicable.

[Related disclosure: Report on the closing of merger, etc. (merger), December 2, 2019

I . Schedule

Classification		SK Chemicals Co., Ltd. (surviving company)	Initz Co., Ltd. (extinct company)
Date of board resolution on the merger		2019.09.03	2019.09.03
Announcement of the designation of the date of shareholders' confirmation and the closing of the list of shareholders		2019.09.03	-
Date of merger contract		2019.09.04	2019.09.04
Reference date of shareholders' confirmation		2019.09.18	-
Announcement of small-scale merger		2019.09.18	-
Period of the closure of register of shareholders	From	2019.09.19	-
	To	2019.09.25	-
Period for the receipt of notice of the intention to object to the merger	From	2019.09.18	-
	To	2019.10.02	-
Board approval substituting for the general meeting of shareholders for the merger approval		2019.10.23	2019.10.23
Announcement of the creditors' submission of objection		2019.10.24	2019.10.24
Period for filing statement of objections by creditors	From	2019.10.24	2019.10.24
	To	2019.11.24	2019.11.24
Submission of old share certificates	From	-	2019.10.24
	To	-	2019.11.24
Record date of merger		2019.12.01	2019.12.01
General meeting of closing report for the merger		2019.12.02	-
Announcement of closing report for the merger		2019.12.02	-
Merger registration (scheduled)		2019.12.02	2019.12.02

Note 1) For SK Chemicals Co., Ltd., the surviving company, the appraisal right is not acknowledged since the merger is a small-scale merger pursuant to the provisions of Article 527-3 of the Commercial Act, and thus, the requirement of approval of the merger via the general meeting of shareholders is substituted by a board resolution.

Note 2) The requirement of a closing report for the merger via the general meeting of shareholders is substituted by an announcement via a resolution of the board of directors.

Note 3) The scheduled date of merger registration (dissolution registration) above may be changed in consultation with the related organizations, etc.

II . Changes in the equity interest such as the largest shareholder

SK Chemicals Co., Ltd. owns 100% of shares of SK Petrochemical Co., Ltd., and these companies of the merger decided to merge per the merger ratio of 1.0000000:0.0000000 via capital increase without consideration, and thus, due to the merger, there are no new shares issued by SK Chemicals Co., Ltd., nor are there any changes in the equity interest of the largest shareholder, etc.

III. Exercise of the appraisal right

Since SK Chemicals Co., Ltd., the surviving company, is a small-scale merger pursuant to the provisions of Article 527-3 of the Commercial Act, the appraisal right is not granted.

Since Initz Co., Ltd., the extinct company, is also a 100% subsidiary of SK Chemicals Co., Ltd., there is no appraisal right.

IV. Matters concerning the creditor protection

The surviving company SK Chemicals Co., Ltd. and the extinct company Initz Co., Ltd. each announced and issued a notice of the creditors' submission of objection on October 24, 2019, and no creditor submitted an objection until the deadline for the relevant submission, November 24, 2019. Furthermore, no decision has been made to repay the debt or provide substantial security in this case.

V. Status of related lawsuits

No lawsuit was filed that will have any effect on the validity of this merger.

VI. Matters concerning the allocation of new shares, etc.

Since this merger is executed without new shares issued for the 100% subsidiary (at the merger ratio of 1.0000000:0.0000000), no new shares will be issued, and there will be no separate money delivered due to amalgamation following the merger.

VII. Summary of the financial information before and after the [merger, etc.]

(Unit: KRW one million)

Classification	Before the merger		After the merger
	Chemicals	Initz	SK Chemicals Co., Ltd.
Current assets	459,459	54,754	514,213
Non-current assets	1,275,273	211,480	1,292,827
Total assets	1,734,732	266,233	1,807,040
Current liabilities	512,931	167,598	680,528
Non-current liabilities	418,431	17,918	436,348
Total liabilities	931,361	185,515	1,116,877
Capital	66,000	7,258	66,000
Capital surplus	301,233	238,447	188,025
Capital adjustment	(1,155)	-	(1,155)
Retained earnings	437,292	(164,987)	437,292
Total equity	803,370	80,718	690,163
Total liabilities and shareholders' equity	1,734,732	266,233	1,807,040

Note 1) The statement of financial position above is based on the separate statements of financial position as of September 30, 2019 of SK Chemicals Co., Ltd. and Initz Co., Ltd., which may vary from the statement of financial position to be prepared based on the actual date of the merger (December 1, 2019).

Note 2) The statement of financial position of SK Chemicals Co., Ltd. after the merger above has not been audited by an external auditor.

5) Decision on the transfer of bio-energy business

On February 5, 2020, the Company decided to transfer the bio-energy business to "Han & Co No. 16 Co., Ltd." via a resolution of the board of directors, and the business transfer was completed on May 29, 2020. Accordingly, we have submitted a report on major issues, a report on the completion of the merger, etc. as follows.

[Related disclosure: [Corrected] Report on major issues (decision on the transfer of business), 2020.07.14]				
1. Business transferred		Bio-energy business		
2. Key details of the business transferred		The bio-energy business is one which procures, manufactures, produces, distributes, purchases, and sells bio-diesel/bio heavy oil and its raw materials based on bio raw materials, and conducts research/development of bio-diesel/bio heavy oil/bio marine oil/bio jet fuel.		
3. Transfer price (KRW)		385,193,238,137		
- Financial details (KRW)		Business division to be transferred (A)	Entirety of the Company (B)	Weight (%) (A/B)
	Amount of assets	148,648,667,135	1,950,805,010,838	7.62
	Sales amount	276,993,917,479	1,367,719,213,257	20.25
4. Purpose of transfer		Enhance management efficiency, focus on the eco-friendly materials business, and secure investment resources for future growth engines		
5. Impact of transfer		Based on this transfer of business, the Company seeks to enhance the value of its existing business and secure investment resources for new businesses, including M&As.		
6. Scheduled transfer date	Contract execution date	2020.02.05		
	Base date of transfer	2020.05.29		
7. Counterparty to the transaction	Company name (name)	SK Eco Prime Co., Ltd.		
	Capital stock (KRW)	7,750,500,000		
	Main Business	Bio-energy business		
	Location of head office (address)	Building No. 46, 718, Cheoyong-ro, Nam-gu, Ulsan, (Hwangseong-dong)		
	Relationship with the Company	-		
8. Payment of transfer price		<p>(1) Form of payment The Company received KRW 382.5 billion in cash from the transferee under the contract.</p> <p>(2) Period of payment The entire transfer proceeds are paid to the Company on the date of closing of the transaction, and the amount adjusted according to the business transfer contract after the closing of the transaction is settled within 15 business days from the date on which the closing statement of financial position is finalized.</p> <p>(3) Adjustment of the transfer price After this transaction is closed, the transferor and transferee will mutually settle the amount of adjustment</p>		

		<p>by adding up the adjustment amount according to the adjustment related to the net assets of the transfer business and the appraisal right, and the adjustment of the price under the service contract. Accordingly, the transferee agreed to pay an additional KRW 2,693,238,137 to the transferor on July 13, 2020.</p> <p>(4) The expected schedule and transfer price in the above may change in the future.</p>
9. Matters concerning the external evaluation	Whether applicable for external evaluation	Yes
	Basis and reasons	Evaluation of adequacy in accordance with Article 165-4 Paragraph 1 Subparagraph 2 and Paragraph 2 of the Financial Investment Services and Capital Markets Act, and Article 176-6 Paragraph 3 of the Enforcement Decree of the same Act
	Name of external evaluation institution	Samil PwC
	Period of external evaluation	2020.01.03 - 2020.02.04
	Opinion of external evaluation	Unqualified opinion
10. Whether a special resolution at shareholders' meeting is required		Yes
- Scheduled date of shareholders' meeting		2020.03.17
- Matters concerning the appraisal right	Conditions for the exercise	<p>In accordance with Article 374-2 of the Commercial Act and Article 165-5 of the Financial Investment Services and Capital Markets Act, the shareholders registered in the Company's list of shareholders as of the final date of the finalization of the list of shareholders may, provided they have notified the Company in writing of their intention to object to the relevant resolution by the date before the date of resolution of the general meeting of shareholders, claim to purchase in writing the class and number of the shares within 20 days from the relevant date of resolution to the Company concerning the shares they own (shares which have been proven to have been acquired prior to the announcement of the resolution of the board of directors, and those which have been proven to correspond to any of the execution of the sales contract for the shares, termination of the loan contracts, and any of the legal acts concerning the acquisition of the relevant shares), and may also claim to purchase a portion of the shares owned.</p> <p>However, appraisal right is granted only for the shareholders who have continuously owned the shares from the reference date of confirmation of the list of shareholders until the date of exercise of the appraisal right, while for the shares reacquired after sale within the same period, the right to purchase shares will be lost, and once the relevant right is exercised, it cannot be revoked.</p> <p>Furthermore, if any shareholder who has previously given written notice of his or her objection to the resolution of the board of directors of the business transfer approves of the business transfer at the general shareholders' meeting, he or she cannot exercise the appraisal right.</p> <p>As the company of transferring business, the Company is a listed corporation on the securities market, and thus it must purchase the relevant shares within 1 month from the end of the period of claim for share purchase regarding the claim.</p>
	Scheduled purchase price	63,068

	<p>Proceedings, method, period, and location</p>	<p>(1) Method of expressing the intention to object In accordance with Article 374-2 of the Commercial Act and Article 165-5 of the Financial Investment Services and Capital Markets Act, a shareholder registered in the Company's list of shareholders as of the final date of the list of shareholders (however, this is limited to those who continue to hold shares until the date of notice) and seeking to exercise the appraisal right must notify the Company of the intention to oppose the resolution of the board of directors on the business transfer in writing before the general shareholders' meeting. However, if a beneficial shareholder has consigned his or her share certificates to a securities company (a financial investment business operator), he or she must notify the securities company by 3 business days before the date of the general meeting of shareholders, and the securities company must gather the expressed intention of opposition of the beneficial shareholder and so notify the Korea Securities Depository, the depository institution, by 2 business days before the date of the general shareholders' meeting. The Korea Securities Depository must notify the Company of the intention to oppose on behalf of the beneficial shareholders before the date of the general meeting of shareholders.</p> <p>(2) Method of claim to purchase In accordance with Article 374-2 of the Commercial Act and Article 165-5 of the Financial Investment Services and Capital Markets Act, if a shareholder who opposes a resolution of the board of directors on the business transfer gives a written notice to the company of his or her intention to oppose the resolution prior to the general meeting of shareholders, he or she can claim to purchase some or all of the shares he or she owns (limited to the shares continuously held from the date on which the list of shareholders is finalized until the date of exercise of the appraisal right) by giving the Company a written statement of the types and the number of the shares within 20 days of the date of the resolution of the general meeting. However, beneficial shareholders who have consigned their share certificates to a securities company (financial investment business operator) may claim purchase of the shares they own to the Company by completing the application for the exercise of the appraisal right regarding the number of shares consigned to and held by the relevant securities company and submitting it to the relevant securities company by 2 business days before the end of the period for the claim of share purchase, and Korea Securities Depository, the depository institution, will apply it on their behalf accordingly.</p> <p>(3) Period of exercise ① Receipt of the expression of the intention to oppose the business transfer: March 2, 2020 - March 16, 2020 ② Period of the exercise of the appraisal right: March 17, 2020 - April 6, 2020</p> <p>(4) Place of receipt ① Registered shareholder: IR Office, SK Chemicals (ECO Lab), 310, Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do (02-2008-2726) ② Beneficial shareholder who has consigned securities to the securities company: the relevant securities company</p>
	<p>Payment scheduled date,</p>	<p>(1) Period of the scheduled payment of share purchase price</p>

	payment method	The payment will be made within 1 month from the end of the period of claim for share purchase. (2) Method of payment for the share purchase price ① Registered shareholder: Transfer to the shareholder's reported account ② Beneficial shareholder: Transfer to the relevant securities company's own account
	Details related to the restrictions on the appraisal right	In accordance with the provisions of Article 374-2 of the Commercial Act, a shareholder who opposes a resolution of the board of directors on the business transfer can claim to the relevant corporation to purchase the shares he or she owns in writing with specifics on the type and number of the shares within 20 days from the date of the resolution of the general meeting of shareholders if he or she gives notice the Company of the intention to oppose the board resolution before the general meeting of shareholders. However, shares subject to the appraisal right are limited to the shares held continuously from the date on which the list of shareholders is finalized until the date of exercise of the appraisal right.
	Effect on the contract	This contract may be canceled if the amount of the appraisal right exercised by the Company's shareholders in opposition to this business transfer exceeds KRW 70 billion. However, this contract will not be canceled if the transferee agrees to take over from the transferor all of the shares for which the appraisal right is exercised in excess of KRW 70 billion.
11. Date of board resolution (decision date)		2020.02.05
- Whether outside directors attended	Attended (people)	3
	Absent (people)	-
- Whether auditors attended (members of the Audit Committee who are not outside directors)		-
12. Whether reporting to Fair Trade Commission is required		Not applicable
13. Whether contracts such as put option are executed		No
- Details of agreements		Not applicable

14. Other matters to be factored into investment decisions

(1) Transfer price

① The value of the business subject to transfer, assessed by Samil Accounting Corporation, an external evaluation institution, using the discounted cash flow method, was calculated at a minimum of KRW 331,059 million and a maximum of KRW 437,332 million, and no grounds were discovered to determine that KRW 382,500 million, the actual transfer price of the Company, was inappropriate from the perspective of materiality.

② Prerequisites: For the transferee, approval of the Fair Trade Commission is required for this transaction since the transferee is subject to the business combination report. For the Company, it is a prerequisite to secure an approval via a special resolution of the general meeting of shareholders in relation to this transaction.

(2) Financial details

① Among the financial details of the transfer price of Paragraph 3 in the above, the asset amount of the business division subject to transfer (A) is as of September 30, 2019, and the sales amount is based on the separate financial statements for the period running from January 1, 2018 to December 31, 2018, and the asset amount of the Company in its entirety (B) is as of December 31, 2018, and the sales amount is based on the consolidated financial statements for the period from January 1, 2018 to December 31, 2018.

(3) Schedule

① The date of execution of the contract of Paragraph 6 above is the same as the date of resolution of the board of directors.

② The reference date of transfer of Paragraph 6 above is the scheduled date of transaction closing as of the time of disclosure, and the actual date of transaction closing is the 15th business day after the prerequisites are satisfied or the date agreed upon by both companies, and is subject to change according to related laws and regulations, consultations and approvals with related institutions.

(4) Expected share purchase price following the exercise of the appraisal right

① Price offered by the Company for consultation

- The purchase price of shares claimed pursuant to Article 374-2 of the Commercial Act and Article 165-5 of the Financial Investment Services and Capital Markets Act is, pursuant to the provisions of Article 176-7 Paragraph 3 of the Enforcement Decree of the Financial Investment Services and Capital Markets Act, the weighted arithmetic average price with the final market price as the weighted value, which is the price calculated by taking the arithmetic average again for the periods of the past 2 months from the date before the date of resolution of the board of directors related to the business transfer (in the event of an adjustment of the reference trading price due to ex-dividend or ex-rights during the same period, and if the period from the date of ex-dividend or ex-right to the date before the resolution of the board of directors is 7 days or longer), 1 month (in the case of an adjustment of the reference trading price due to ex-dividend or ex-rights during the same period, and if the period from the date of ex-dividend or ex-right to the date before the resolution of the board of directors is 7 days or longer), and 1 week.
- The scheduled share purchase price of Paragraph 10 above is based on the common stocks.

1) Common stocks

(Unit: KRW, stocks)

Date	Closing price	Trading volume	Closing price x Trading volume
2020-02-04	59,800	173,956	10,402,568,800
2020-02-03	58,000	201,037	11,660,146,000
2020-01-31	57,900	211,945	12,271,615,500
2020-01-30	60,600	220,656	13,371,753,600
2020-01-29	62,700	178,531	11,193,893,700
2020-01-28	64,100	209,174	13,408,053,400
2020-01-23	66,200	136,342	9,025,840,400
2020-01-22	66,300	116,713	7,738,071,900
2020-01-21	66,200	204,569	13,542,467,800
2020-01-20	67,500	306,994	20,722,095,000
2020-01-17	66,200	120,827	7,998,747,400
2020-01-16	66,100	111,298	7,356,797,800
2020-01-15	66,200	123,516	8,176,759,200
2020-01-14	67,000	203,912	13,662,104,000
2020-01-13	66,500	364,387	24,231,735,500
2020-01-10	69,000	1,292,254	89,165,526,000
2020-01-09	65,100	191,189	12,446,403,900
2020-01-08	63,100	312,351	19,709,348,100
2020-01-07	65,800	209,726	13,799,970,800
2020-01-06	66,400	261,860	17,387,504,000
2020-01-03	67,000	213,770	14,322,590,000
2020-01-02	66,700	450,033	30,017,201,100
2019-12-30	64,000	186,188	11,916,032,000
2019-12-27	63,000	164,722	10,377,486,000
2019-12-26	62,200	162,680	10,118,696,000
2019-12-24	63,100	343,835	21,695,988,500
2019-12-23	61,100	224,835	13,737,418,500

2019-12-20	60,500	134,781	8,154,250,500
2019-12-19	60,600	135,278	8,197,846,800
2019-12-18	60,500	135,718	8,210,939,000
2019-12-17	60,900	222,787	13,567,728,300
2019-12-16	62,000	165,194	10,242,028,000
2019-12-13	62,300	251,002	15,637,424,600
2019-12-12	62,200	467,190	29,059,218,000
2019-12-11	61,600	245,179	15,103,026,400
2019-12-10	61,400	426,739	26,201,774,600
2019-12-09	61,200	463,148	28,344,657,600
2019-12-06	62,700	318,627	19,977,912,900
2019-12-05	62,500	599,335	37,458,437,500
① A 2-month weighted arithmetic mean closing price			64,002
② A 1-month weighted arithmetic mean closing price			65,474
③ A 1-week weighted arithmetic mean share price			59,729
Arithmetic mean = (①+②+③)/3			63,068

2) Preferred stocks

(Unit: KRW, stocks)

Date	Closing price	Trading volume	Closing price x Trading volume
2020-02-04	27,800	114,609	3,186,130,200
2020-02-03	26,550	31,995	849,467,250
2020-01-31	26,200	33,666	882,049,200
2020-01-30	27,200	32,952	896,294,400
2020-01-29	28,250	26,641	752,608,250
2020-01-28	28,350	60,402	1,712,396,700
2020-01-23	29,500	94,340	2,783,030,000
2020-01-22	29,500	29,316	864,822,000
2020-01-21	29,550	57,162	1,689,137,100
2020-01-20	30,450	92,368	2,812,605,600
2020-01-17	30,150	41,821	1,260,903,150
2020-01-16	30,700	55,817	1,713,581,900
2020-01-15	30,650	126,370	3,873,240,500
2020-01-14	31,200	146,303	4,564,653,600
2020-01-13	31,400	395,787	12,427,711,800
2020-01-10	35,200	2,036,103	71,670,825,600
2020-01-09	28,000	46,202	1,293,656,000
2020-01-08	27,200	103,109	2,804,564,800
2020-01-07	29,350	81,793	2,400,624,550
2020-01-06	29,850	141,548	4,225,207,800
2020-01-03	30,300	137,130	4,155,039,000
2020-01-02	31,000	425,014	13,175,434,000
2019-12-30	28,800	29,191	840,700,800

2019-12-27	28,650	46,820	1,341,393,000
2019-12-26	28,550	46,764	1,335,112,200
2019-12-24	28,900	126,158	3,645,966,200
2019-12-23	28,200	80,655	2,274,471,000
2019-12-20	28,000	56,819	1,590,932,000
2019-12-19	28,650	55,107	1,578,815,550
2019-12-18	28,900	70,090	2,025,601,000
2019-12-17	29,200	85,888	2,507,929,600
2019-12-16	29,950	120,789	3,617,630,550
2019-12-13	30,400	130,165	3,957,016,000
2019-12-12	30,100	580,463	17,471,936,300
2019-12-11	28,900	265,597	7,675,753,300
2019-12-10	28,750	695,696	20,001,260,000
2019-12-09	27,800	151,961	4,224,515,800
2019-12-06	29,800	168,655	5,025,919,000
2019-12-05	31,000	383,292	11,882,052,000
① A 2-month weighted arithmetic mean closing price			31,196
② A 1-month weighted arithmetic mean closing price			32,724
③ A 1-week weighted arithmetic mean share price			27,377
Arithmetic mean = (①+②+③)/3			30,432

② Method of handling if an agreement cannot be reached

Where there is no agreement reached pursuant to the provisions of Article 165-5 of the Financial Investment Services and Capital Markets Act, the purchase price shall be based on the transaction price of the relevant shares traded in the securities market prior to the date of resolution of the board of directors, which shall be the amount calculated in line with the method stipulated in Article 176-7 of the Enforcement Decree of the same Act, and if the shareholder who claimed for the purchase opposes the purchase price, he or she may appeal to the court to determine the purchase price.

③ Be advised that the share purchase price and matters concerning the exercise of the appraisal right may be changed during the consultation with shareholders if and as needed.

(4) Other important matters

- The details and schedule above are subject to change depending on the progress achieved such as consultation and approval with related institutions.
- In accordance with Article 14 Paragraph 3 of this business transfer contract, Han & Co No.16 Co., Ltd. has transferred its status as a party to the contract and all of its rights and obligations thereunder as of February 19, 2020, to K-Green System Co., Ltd., a 100% subsidiary of the company. K-Green System Co., Ltd. changed its trade name to K Eco Energy Co., Ltd. on March 17, 2020, and thereafter changed its trade name to SK Eco Prime on April 27, 2020. The corporation before and after the change of trade name is the same corporation.
- The details of "7. Counterparty to the transaction" were prepared as of the date of registration of June 5, 2020.

※ Relevant disclosure: Report on the closing of merger, etc. dated 2020.05.29 (business transfer)

[Related disclosure: Report on the closing of merger, etc. (business transfer), 2020.05.29]

I . Schedule

This report concerns the matters regarding the report on major issues dated February 5, 2020 [Decision on business transfer (corrected on February 25, 2020)]. For further details, refer to the disclosure made on the relevant date.

Procedure	Schedule
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Board resolution and the execution of business transfer contract	February 5, 2020
Record date for confirmation of shareholders	February 20, 2020
Commencement of the closing of the list of shareholders	February 21, 2020
Completion of the closing of the list of shareholders	February 28, 2020
Notice of convocation of the general meeting of shareholders	February 28, 2020
Commencement of the receipt of the expression of intention to oppose the business transfer	March 2, 2020
Completion of the receipt of the expression of intention to oppose the business transfer	March 16, 2020
Extraordinary meeting of shareholders	March 17, 2020
Commencement of the appraisal right	March 17, 2020
Completion of the appraisal right	April 6, 2020
Date of transaction closing	May 29, 2020

※ This business transfer was executed by and between SK Chemicals (transferee) and Han & Co No. 16 Co., Ltd. (transferee) on February 5, 2020, and the transferee transferred its status as a party under the contract and all of its rights and obligations thereunder to K-Green System Co., Ltd., a 100% subsidiary of the company, on February 19, 2020. K-Green System Co., Ltd. changed its trade name to K Eco Energy Co., Ltd. on March 17, 2020, and thereafter changed its trade name to SK Eco Prime on April 27, 2020. The corporation before and after the change of trade name is the same corporation.

II. Changes in the equity interest such as the largest shareholder

- Not applicable

III. Exercise of the appraisal right

1. Share purchase price and the price determination method

1) Price offered by the Company for consultation

- KRW 63,068 per common stock

- KRW 30,432 per preferred stock

2) Method of calculation

- The purchase price of shares claimed pursuant to Article 374-2 of the Commercial Act and Article 165-5 of the Financial Investment Services and Capital Markets Act is, pursuant to the provisions of Article 176-7 Paragraph 3 of the Enforcement Decree of the Financial Investment Services and Capital Markets Act, the weighted arithmetic average price with the final market price as the weighted value, which is the price calculated by taking the arithmetic average again for the periods of the past 2 months from the date before the date of resolution of the board of directors related to the business transfer (in the event of an adjustment of the reference trading price due to ex-dividend or ex-rights during the same period, and if the period from the date of ex-dividend or ex-right to the date before the resolution of the board of directors is 7 days or longer), 1 month (in the event of an adjustment of the reference trading price due to ex-dividend or ex-rights during the same period, and if the period from the date of ex-dividend or ex-right to the date before the resolution of the board of directors is 7 days or longer), and 1 week.

(1) Common stocks

(Unit: KRW, stocks)

Date	Closing price	Trading volume	Closing price x Trading volume
2020-02-04	59,800	173,956	10,402,568,800
2020-02-03	58,000	201,037	11,660,146,000
2020-01-31	57,900	211,945	12,271,615,500
2020-01-30	60,600	220,656	13,371,753,600
2020-01-29	62,700	178,531	11,193,893,700
2020-01-28	64,100	209,174	13,408,053,400

2020-01-23	66,200	136,342	9,025,840,400
2020-01-22	66,300	116,713	7,738,071,900
2020-01-21	66,200	204,569	13,542,467,800
2020-01-20	67,500	306,994	20,722,095,000
2020-01-17	66,200	120,827	7,998,747,400
2020-01-16	66,100	111,298	7,356,797,800
2020-01-15	66,200	123,516	8,176,759,200
2020-01-14	67,000	203,912	13,662,104,000
2020-01-13	66,500	364,387	24,231,735,500
2020-01-10	69,000	1,292,254	89,165,526,000
2020-01-09	65,100	191,189	12,446,403,900
2020-01-08	63,100	312,351	19,709,348,100
2020-01-07	65,800	209,726	13,799,970,800
2020-01-06	66,400	261,860	17,387,504,000
2020-01-03	67,000	213,770	14,322,590,000
2020-01-02	66,700	450,033	30,017,201,100
2019-12-30	64,000	186,188	11,916,032,000
2019-12-27	63,000	164,722	10,377,486,000
2019-12-26	62,200	162,680	10,118,696,000
2019-12-24	63,100	343,835	21,695,988,500
2019-12-23	61,100	224,835	13,737,418,500
2019-12-20	60,500	134,781	8,154,250,500
2019-12-19	60,600	135,278	8,197,846,800
2019-12-18	60,500	135,718	8,210,939,000
2019-12-17	60,900	222,787	13,567,728,300
2019-12-16	62,000	165,194	10,242,028,000
2019-12-13	62,300	251,002	15,637,424,600
2019-12-12	62,200	467,190	29,059,218,000
2019-12-11	61,600	245,179	15,103,026,400
2019-12-10	61,400	426,739	26,201,774,600
2019-12-09	61,200	463,148	28,344,657,600
2019-12-06	62,700	318,627	19,977,912,900
2019-12-05	62,500	599,335	37,458,437,500
① A 2-month weighted arithmetic mean closing price			64,002
② A 1-month weighted arithmetic mean closing price			65,474
③ A 1-week weighted arithmetic mean share price			59,729
Arithmetic mean = (①+②+③)/3			63,068

(2) Preferred stocks

(Unit: KRW, stocks)

Date	Closing price	Trading volume	Closing price x Trading volume
2020-02-04	27,800	114,609	3,186,130,200
2020-02-03	26,550	31,995	849,467,250

2020-01-31	26,200	33,666	882,049,200
2020-01-30	27,200	32,952	896,294,400
2020-01-29	28,250	26,641	752,608,250
2020-01-28	28,350	60,402	1,712,396,700
2020-01-23	29,500	94,340	2,783,030,000
2020-01-22	29,500	29,316	864,822,000
2020-01-21	29,550	57,162	1,689,137,100
2020-01-20	30,450	92,368	2,812,605,600
2020-01-17	30,150	41,821	1,260,903,150
2020-01-16	30,700	55,817	1,713,581,900
2020-01-15	30,650	126,370	3,873,240,500
2020-01-14	31,200	146,303	4,564,653,600
2020-01-13	31,400	395,787	12,427,711,800
2020-01-10	35,200	2,036,103	71,670,825,600
2020-01-09	28,000	46,202	1,293,656,000
2020-01-08	27,200	103,109	2,804,564,800
2020-01-07	29,350	81,793	2,400,624,550
2020-01-06	29,850	141,548	4,225,207,800
2020-01-03	30,300	137,130	4,155,039,000
2020-01-02	31,000	425,014	13,175,434,000
2019-12-30	28,800	29,191	840,700,800
2019-12-27	28,650	46,820	1,341,393,000
2019-12-26	28,550	46,764	1,335,112,200
2019-12-24	28,900	126,158	3,645,966,200
2019-12-23	28,200	80,655	2,274,471,000
2019-12-20	28,000	56,819	1,590,932,000
2019-12-19	28,650	55,107	1,578,815,550
2019-12-18	28,900	70,090	2,025,601,000
2019-12-17	29,200	85,888	2,507,929,600
2019-12-16	29,950	120,789	3,617,630,550
2019-12-13	30,400	130,165	3,957,016,000
2019-12-12	30,100	580,463	17,471,936,300
2019-12-11	28,900	265,597	7,675,753,300
2019-12-10	28,750	695,696	20,001,260,000
2019-12-09	27,800	151,961	4,224,515,800
2019-12-06	29,800	168,655	5,025,919,000
2019-12-05	31,000	383,292	11,882,052,000
① A 2-month weighted arithmetic mean closing price			31,196
② A 1-month weighted arithmetic mean closing price			32,724
③ A 1-week weighted arithmetic mean share price			27,377
Arithmetic mean = (①+②+③)/3			30,432

2. Details of claim

1) Details of the claim to purchase

The results of the exercise of the appraisal right by the shareholders who oppose this business transfer are as follows.

- Total number of shares claimed for purchase: 144,715 shares
- Total payment for the share purchase: KRW 4,434,905,808
- Details

Classification	Common stocks	Preferred stocks
Quantity of shares claimed for purchase (shares)	948	143,767
Share purchase price (KRW)	63,068	30,432
Payment of share purchase (KRW)	59,788,464	4,375,117,344

2) Others

- The number of shares for which the appraisal right above was exercised is equivalent to 1.10% of the Company's total issued shares, and by type, is equivalent to 0.01% of common stocks and 9.86% of preferred shares.
- There are no shares for which price adjustment was applied for in the above case.

3. Date of purchase and the source of required funds

1) Date of purchase: May 4, 2020

2) Source of required funds: Self-owned funds

4. Handling policy for the purchased shares

In accordance with Article 165-5 of the Financial Investment Services and Capital Markets Act and Article 176-7 of the Enforcement Decree of the same Act, the relevant shares will be disposed of within 5 years from the date of purchase.

IV. Matters concerning the creditor protection

- Not applicable

V. Status of related lawsuits

- As of the reference date of the business transfer, there are no lawsuits in progress which may affect the effectiveness of the business transfer.

VI. Matters concerning the allocation of new shares, etc.

- There are no new shares to be issued and no subsidies to be made by the Company as a

result of this transfer. VII. Summary of the financial information before and after the [merger, etc.]

(Unit: KRW one million)

Item	Before transfer		After transfer	Increase (decrease)
	SK Chemicals	Bio-energy business division subject to transfer		
Assets				
Current assets	812,803	129,111	1,066,192	253,389
Non-current assets	1,273,673	66,787	1,206,886	-66,787
Total assets	2,086,476	195,898	2,273,078	186,602
Liabilities				
Current liabilities	700,095	97,963	602,132	-97,963
Non-current liabilities	659,951	36,686	623,265	-36,686

Total liabilities	1,360,046	134,649	1,225,397	-134,649
Equity				
Shares owned by the controlling company	723,343		1,044,594	321,251
Capital	66,000		66,000	
Capital surplus	264,315		264,315	
Retained earnings	404,839		726,090	321,251
Other capital items	-11,811		-11,811	
Non-controlling interest	3,086		3,086	
Total equity	726,429		1,047,680	321,251
Total liabilities and stockholders' equity	2,086,475	134,649	2,273,077	186,602

※ The summary financial information above is the amount shown in our consolidated quarterly report as of March 31, 2020. It does not include the purchase of treasury stocks following the exercise of appraisal rights after the transfer of this business.

※ The summary financial information above may differ from the statement of financial position prepared as of the actual business transfer date.

※ The proceeds from the sale of the bioenergy business division are reflected in current assets and retained earnings, respectively.

6) Split-off of the utility supply business division

Based on the resolution of the board of directors on September 13, 2021, the Company decided to split off the utility supply business division as of February 1, 2021, the date of split-off, and the split-off was completed as of this date.

[Related disclosure: Report on major issues (Decision of split-off), 2021.09.13 (Corrected: 2021.12.01)]

1. Method of split-off	<p>(1) The split-off shall be carried out such that, as provided under Articles 530-2 through 530-12 of the Commercial Act, the business division subject to split-off shall be split off to establish a new company via split-off, and it was carried out in the manner of split-off by which 100% of the issued shares of the newly established company shall be allocated while the split-off company survives. After the split-off, the company to be split off shall remain as a listed corporation, and the newly established company shall be an unlisted corporation.</p> <ul style="list-style-type: none"> - Company to be split off: SK Chemicals Co., Ltd. - Business divisions of the Company to be split off: All business divisions except for those subject to split-off - Company newly established: SK Multi-Utility Co., Ltd. - Newly established company's business division: Utility supply business division such as electricity and steam <p>(2) The date of split-off shall be December 1, 2021 (00:00). However, the date of split-off may be changed by a resolution of the board of directors of the company to be split off.</p> <p>(3) The company to be split off in accordance with the provisions of Article 530-3 Paragraphs 1 and 2 of the Commercial Act, and newly established in accordance with Article 530-9 Paragraph 2 of the same Act shall, unless otherwise specified in the split-off plan, bear only the debts transferred to the newly established company due to the split-off (including liabilities; hereinafter the same shall apply in the split-off plan) from among the debts of the company to be split off, and among the debts of the company to be split off, the debts which are not transferred to the newly established company shall not have any joint liabilities for repayment. The company to be split off shall not be liable to jointly repay the debts transferred to the new company, and shall only be liable for repaying the debts that are not transferred to the new company. In connection with this, the company to be split off shall proceed with creditor protection procedures in accordance with the provisions of Articles 530-9 and 527-5 of the Commercial Act.</p>
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	<p>(4) Unless otherwise specified in the split-off plan, any and all active and passive assets belonging to the company to be split off, other rights and duties including the rights and duties under the public law, and the factual relationships with asset value (including licenses and authorizations, labor relations, contract relations, litigations, etc.) shall in principle be reverted the newly established company if they relate to the business division subject to split-off, and if they relate to divisions other than those subject to split-off, shall be reverted to the company to be split off, respectively. However, among the rights and obligations belonging to the business division subject to split-off, those whose transfer is prohibited by law or by their nature due to the split-off shall be deemed to remain with the company to be split off, and if a transfer to the newly established company is necessary, it shall be handled through consultations between the company to be split off and the new company. The same shall apply where (i) approval/authorization/acceptance of reports from government agencies, etc. is required before the transfer due to split-off yet it is not possible to receive such, or (ii) where the contract to which the company to be split off is a party related to both the business subject to split-off and the other business divisions, and where it is impossible to separate the portion related to the business division subject to split-off from the portion related to the other business divisions of the contract.</p> <p>(5) Unless otherwise agreed upon between the company to be split off and the newly established company, if due to any act or fact prior to the date of split-off in relation to the business of the company to be split off, debts arising or confirmed after the date of split-off or debts incurred or confirmed before the date of split-off due to circumstances such as a lack of recognition are not reflected in the split-off plan (including contingent debts under the public and private laws and any and all other debts), they shall be reverted to the newly established company if the act or fact imputable to such is related to the business division subject to split-off, and shall be reverted to the company to be split off if such is related to any division other than the business division subject to split-off. If it is difficult to determine to which business division such debt is related to, it shall belong to the new company and the company to be split off, each respectively, at the ratio of the net asset value to be divided by the division, but the company to be split off and the newly established company may make different agreements regarding its handling.</p> <p>(6) If the newly established company is exempted from liabilities as the company to be split off repays the debts that the newly established company succeeded to, or due to the investment of the company to be split off, the company to be split off may exercise the right to indemnify the newly established company. The same shall apply where the newly established company repays the debts reverted to the company to be divided, or the company to be divided is exempted by the investment of the newly established company.</p> <p>(7) Unless otherwise agreed upon between the company to be divided and the newly established company, bonds or other rights acquired after the date of split-off due to any act or fact prior to the date of split-off in relation to the business of the company to be divided, or other rights acquired before the date of split-off due to bonds and other rights (including contingent liabilities and any other claims under the public and private law) which are not reflected in the split-off plan due to any circumstances such as a lack of recognition shall be handled in the same manner as provided in Paragraph 5.</p> <p>(8) The method of determining the assets, liabilities and equity of a newly established company shall, in principle, allocate assets and liabilities belonging to or directly or indirectly related to the business division subject to split-off to the newly established company, and the decision shall be made by considering the operations and investment plan of the new company in the future and the requirements of the related laws and regulations.</p>
2. Purpose of split-off	(1) Enhance business expertise, strengthen management efficiency, and actively respond to the rapidly growing global market based on the split-off of the utility supply business division including electricity and steam (hereinafter "business division subject to split-off") among the businesses operated by the company to be divided.

	<p>(2) Establish a governance system which enables the prompt and professional decision-making practices in line with the business characteristics of each business division to ensure that we can promptly respond to market environment and institutional changes, strengthen competitiveness, and concentrate corporate capabilities across specialized business areas, thereby pursuing the distribution of management risks.</p> <p>(3) Facilitate restructuring and intensive investment in core businesses and realize business advancement through the specialization of each business division.</p> <p>(4) Ultimately, enhance the corporate value and shareholder value via the changes of the governance structure described in the above.</p>
<p>3. Material impact and effect of the split-off</p>	<p>The split-off in this case is carried out through a simple/physical split-off method as provided under Articles 530-2 through 530-12 of the Commercial Act. Accordingly, there is no change made in the shares owned by the largest shareholder of the company to be divided before and after the split-off in this matter and the ratio of equity interest. Furthermore, since the split-off in this case proceeds in the manner of a simple/physical split-off, the split-off itself has no effect on the consolidated financial statements.</p>
<p>4. Split-off ratio</p>	<p>The split-off ratio is not calculated since the company to be split off is being split off through a simple/physical split-off method by which 100% of the issued shares of the new company are allocated.</p>
<p>5. Details of the business and assets to be transferred via split-off</p>	<p>(1) The company to be divided shall have any and all active and passive assets belonging to the newly established company as provided under the split-off plan, and other rights and obligations including the rights and obligations under the public law, as well as the factual relationships of asset value (including licenses and authorizations, labor relations, contractual relations, litigations, etc.) transferred to the newly established company.</p> <p>(2) The list and value of the assets to be transferred due to the split-off shall be in accordance with the statement of financial position as of June 30, 2021 and the list of assets as provided in [Attachment 1] Split-Off Statement of Financial Position and [Attachment 2] List of Assets Subject to Succession, and (i) by the date of split-off, if there is any change in the assets or liabilities of the division to be split off due to the business or financial activities of the division to be split off, or if the value of the liabilities changes, the increase or decrease shall be reflected in the separate statement of financial position and the list of assets subject to succession, and (ii) as for the cash and cash equivalents to be transferred on the date of split-off, after the split-off in this case, if the amount must be increased or decreased, provided that the amount of such increase or decrease by the decision of the chief executive officer of the company split off does not exceed KRW [3,000,000,000] in consideration of the demand for the funds required for the business of the newly established company after the split-off, the amount may be increased or decreased.</p> <p>(3) Where necessary, the final value of the assets subject to transfer pursuant to the preceding paragraph may be finalized after being evaluated by a publicly trusted appraisal firm or reviewed by a certified public accountant.</p> <p>(4) Among the rights or obligations belonging to the business division subject to split-off, those whose transfer is prohibited by law or by their nature due to split-off shall be deemed to remain with the company to be split off, and if transfer to a new company is necessary, it shall be handled according to the agreement between the company to be split off and the newly established company. The same shall apply where (i) approval/authorization/acceptance of reports from government agencies, etc. is required prior to split-off, but it is not possible to receive such, or where</p>

		<p>(ii) it is impossible to split off the portion related to the business division subject to split-off from the portion related to the other business division of the contract even while the contract to which the company to be divided is related to both the business division subject to split off and the other business divisions.</p> <p>(5) The rights to collateral such as mortgages placed to secure movable property, real estate, and contractual relationships arising from the business division subject to split-off and the rights and obligations resulting from the division before the date of split-off, as well as the rights related to the guarantee of the bond and contractual relationships arising from the transaction and the guarantee-related contractual relationships shall belong to the newly established company, and yet shall be in accordance with the split-off plan.</p> <p>(6) Of the lawsuits filed against the company to be divided before the date of split-off, any matters related to the business division subject to split-off shall be succeeded by the newly established company.</p> <p>(7) Upon the establishment of the new company, the company to be split off shall provide any cooperation required including the execution of a related contract to ensure that the newly established company can conduct business in the manner it conducts business for the business division subject to split-off before the split-off.</p>			
6. Surviving company after split-off	Name of Company		SK Chemicals Co., Ltd.		
	Financial details after split-off (KRW)	Total assets	2,034,064,466,737	Total liabilities	800,048,065,082
		Total equity	1,234,016,401,655	Capital	66,050,330,000
		June 30, 2021		As of the present	
	Surviving business division's sales for the latest business year (KRW)		883,823,850,615		
	Main Business		Manufacturing, processing, sale, import and export of synthetic resins and related products, etc.		
	Whether maintained as listed after split-off		Yes		
7. Company established after split-off	Name of Company		SK Multi-Utility Co., Ltd.		
	Financial details upon establishment (KRW)	Total assets	171,457,003,471	Total liabilities	14,254,006,139
		Total equity	157,202,997,332	Capital	5,000,000,000
		June 30, 2021		As of the present	
	New business division's sales for the latest business year (KRW)		37,309,763,841		
	Main Business		Production, transportation, distribution of collective energy and related businesses, etc.		
Whether re-listing has been petitioned for		No			
8. Matters concerning capital reduction	Capital reduction ratio (%)		-		
	Period for submission of old share certificates	From	-		
		To	-		
	Scheduled period of trading suspension	From	-		
		To	-		
	New share allocation requirements		-		
	- Whether proportional to the number of shares of shareholders and reason		-		
	Record date for new share allotment		-		

	Scheduled delivery date of new share certificates	-
	Scheduled listing date of new shares	-
9. Scheduled date of shareholders' meeting		October 25, 2021
10. Period for filing statement of objections by creditors	From	October 26, 2021
	To	November 26, 2021
11. Date of split-off		December 1, 2021
12. Scheduled date of split-off registration		December 2, 2021
13. Date of board resolution (decision date)		September 13, 2021
- Whether outside directors attended	Attended (people)	4
	Absent (people)	0
- Whether auditors attended (members of the Audit Committee who are not outside directors)		-
14. Whether contracts such as put option are executed		No
- Details of agreements		-
15. Whether subject to filing of securities registration statement		No
- Reasons for exemption from filing securities registration statement, if exempted		Simple/physical split-off

16. Other matters to consider for investment judgments

(1) Revision and change of the split-off plan

The split-off plan may be changed in the process of consultations with related institutions or in the process of securing approval under related laws and regulations and the general shareholders' meeting.

Furthermore, if the split-off plan is approved by the general meeting of shareholders, the list below may be changed without any additional approval from the general meeting of shareholders by the date before the date of split-off registration, (i) where the relevant revision or change is reasonably necessary, and the revision or change does not cause any disadvantage to the shareholders of the company to be divided or the newly established company, and (ii) where it is a revision or change within the scope that does not impair its homogeneity by a resolution of the board of directors of the company to be divided or the authority of the chief executive officer, and such revision or change shall enter into force and become effective when such is announced or disclosed in accordance with the relevant laws and regulations.

- ① Trade names of the company to be divided and the newly established company
- ② Split-off schedule
- ③ Assets to be transferred due to split-off and their value
- ④ Financial structure before and after split-off
- ⑤ Total number of shares issued by the newly established company at the time of split-off
- ⑥ Matters concerning directors and auditors of the newly established company
- ⑦ Articles of incorporation of the newly established company and the company to be split off
- ⑧ Among the real estate to be transferred, specify after the subdivision procedure is confirmed

(2) Shareholders' appraisal right: Not applicable since it is a simple split-off.

(3) Matters requiring takeover and handover between companies

The matters required for the takeover and handover between the company to be split off and the company established through a split-off in relation to the implementation of the split-off plan (including the documents, data, etc. of the target business division and various data and facts) are subject to a separate agreement by and between the company to be split off and the company established through a split-off.

(4) Employee succession and retirement benefits, etc.

The newly established company shall succeed to the employees and related legal relationships (their retirement benefits, etc.) serving for the business subject to split-off as of December 1, 2021 (the date of split-off). However, for any employee who refuses succession or an employee who is also related to another business division other than the business division subject to split off, the newly established company may not succeed to such employee after carrying out consultations with the company to be split off, and any other matters related to employee succession shall be handled via consultations by and between the company to be split off and the newly established company.

(5) Transfer of personal information

As of the date of split-off, any and all personal information related to the business division subject to split-off shall be transferred to the newly established company under the personal information related laws and regulations, including the Personal Information Protection Act, and the company to be divided shall undergo the procedures required within the deadline provided in the related laws and regulations such as the notice on the transfer of personal information following split-off.

[Attachment 1] Split-off statement of financial position (as of June 30, 2021)

(Unit: KRW)

Account	Before split-off	After split-off	
		Surviving company	Newly established company
Assets			
I . Current assets	884,067,488,269	823,600,613,420	60,466,874,849
Cash and cash equivalents	107,130,229,692	50,130,229,692	57,000,000,000
Short-term financial assets	285,214,195,564	285,214,195,564	-
Trade and other receivables	276,420,174,225	273,775,383,730	2,644,790,495
Inventories	164,679,060,308	163,989,441,063	689,619,245
Other current assets	50,623,828,480	50,491,363,371	132,465,109
II . Non-current assets	1,164,250,984,607	1,210,463,853,317	110,990,128,622
Investment assets	254,428,702,112	411,631,699,444	-
Tangible assets	883,040,848,759	772,050,720,137	110,990,128,622
Intangible assets	26,237,735,574	26,237,735,574	-
Other non-current assets	543,698,162	543,698,162	-
Deferred income tax assets	-	-	-
Total assets	2,048,318,472,876	2,034,064,466,737	171,457,003,471
Liabilities			
I . Current liabilities	486,500,821,990	477,344,725,145	9,156,096,845
Trade and other payables	253,848,484,235	245,506,262,891	8,342,221,344
Short-term borrowings	2,941,037,206	2,941,037,206	-
Current portion of long-term liabilities	79,915,462,256	79,915,462,256	-
Current portion of lease liabilities	1,534,978,312	721,102,811	813,875,501
Current income tax liabilities	122,899,311,880	122,899,311,880	-
Current portion of contract liabilities	10,658,040,120	10,658,040,120	-
Other current liabilities	14,703,507,981	14,703,507,981	-
II . Non-current liabilities	327,801,249,231	322,703,339,937	5,097,909,294
Debenture	310,301,251,026	310,301,251,026	-
Lease liabilities	5,691,357,505	593,448,211	5,097,909,294
Defined benefit liabilities	4,516,752,428	4,516,752,428	-
Deferred income tax liabilities	5,546,152,272	5,546,152,272	-
Other non-current liabilities	1,745,736,000	1,745,736,000	-
Total liabilities	814,302,071,221	800,048,065,082	14,254,006,139
Equity			
I . Capital	66,050,330,000	66,050,330,000	5,000,000,000
II . Capital surplus	189,208,756,911	189,208,756,911	152,202,997,332
III . Other capital items	(9,207,095,874)	(9,207,095,874)	-
IV . Accumulated other comprehensive income	-	-	-
V . Retained earnings	987,964,410,618	987,964,410,618	-
Total equity	1,234,016,401,655	1,234,016,401,655	157,202,997,332
Total liabilities and stockholders' equity	2,048,318,472,876	2,034,064,466,737	171,457,003,471

Note 1) The statement of financial position above is prepared based on the book amount on the Company's statement of financial position as of June 30, 2021, and may differ from the split-off statement of financial position to be prepared on the actual date of split-off.

Name of account	Details	Amount
Assets		
I . Current assets		60,466,874,849
Cash and cash equivalents	Business division subject to split-off's cash	57,000,000,000
Trade and other receivables	Business division subject to split-off's trade receivables and accounts receivable, etc.	2,644,790,495
Inventories	Business division subject to split-off's inventories	689,619,245
Other current assets	Business division subject to split-off's prepaid expenses	132,465,109
II . Non-current assets		110,990,128,622
Tangible assets	Business division subject to split-off's tangible assets	110,990,128,622
Total assets		171,457,003,471
Liabilities		
I . Current liabilities		9,156,096,845
Trade and other payables	Business division subject to split-off's trade payables, accounts payable, and accrued expenses	8,342,221,344
Current portion of long-term liabilities	Business division subject to split-off's financial lease liabilities	813,875,501
II . Non-current liabilities		5,097,909,294
Non-current portion of long-term liabilities	Business division subject to split-off's financial lease liabilities	5,097,909,294
Total liabilities		14,254,006,139

Note 1) The list of assets and liabilities subject to succession above is prepared based on the book amount on the statement of financial position of the company to be divided as of June 30, 2021, and on the actual date of split-off, they may differ from the amounts of assets and liabilities which will be succeeded by the newly established company.

※ Related disclosure

- Not applicable.

[Related disclosure: Report on the closing of merger, etc. (split-off), 2021.12.02]

I . Schedule

Classification	Date
Date of board resolution	September 13, 2021
Date of shareholders' confirmation for the general meeting of shareholders for split-off	September 28, 2021
Date of shareholders' meeting for approval of split-off plan	October 25, 2021
Date of split-off	December 1, 2021
Date of general meeting for reporting split-off or the date of general meeting for incorporation (Note 1)	December 1, 2021
Date of split-off registration	December 2, 2021

(Note 1) Among the details above, the general meeting of shareholders for reporting split-off was substituted by an announcement of the resolution of the board of directors.

II . Changes in the equity interest such as the largest shareholder

It is not applicable since this is a case of a simple split-off under Articles 530-2 through 530-12 of the Commercial Act.

III. Exercise of the appraisal right

It is not applicable since this is a case of a simple/physical split-off under Articles 530-2 through 530-12 of the Commercial Act.

IV. Matters concerning the creditor protection

On October 26, 2021, the Company posted the "Advisory on the Creditors' Statement of Objection" on the Company's website (<http://www.skchemicals.com>) and advised each creditor accordingly. The Company set the period for the creditors' submission of objection from October 26, 2021 to November 26, 2021, and there was no objection from the creditors during this period.

V. Status of related lawsuits

As of the date of submission of this report, no lawsuit has been filed in connection with this split-off, which may affect the effectiveness of the split-off.

VI. Matters concerning the allocation of new shares, etc.

This split-off is a simple/physical split-off, and 100% of the total number of stocks issued by the company established through the division are allocated for the company to be split off.

VII. Summary of the financial information before and after the [merger, etc.]

(Unit: KRW)

Account	Before split-off	After split-off	
		Surviving company	Newly established company
Assets			
I . Current assets	884,067,488,269	823,600,613,420	60,466,874,849
Cash and cash equivalents	107,130,229,692	50,130,229,692	57,000,000,000
Short-term financial assets	285,214,195,564	285,214,195,564	-
Trade and other receivables	276,420,174,225	273,775,383,730	2,644,790,495
Inventories	164,679,060,308	163,989,441,063	689,619,245
Other current assets	50,623,828,480	50,491,363,371	132,465,109
II . Non-current assets	1,164,250,984,607	1,210,463,853,317	110,990,128,622
Investment assets	254,428,702,112	411,631,699,444	-
Tangible assets	883,040,848,759	772,050,720,137	110,990,128,622
Intangible assets	26,237,735,574	26,237,735,574	-
Other non-current assets	543,698,162	543,698,162	-
Deferred income tax assets	-	-	-
Total assets	2,048,318,472,876	2,034,064,466,737	171,457,003,471
Liabilities			
I . Current liabilities	486,500,821,990	477,344,725,145	9,156,096,845
Trade and other payables	253,848,484,235	245,506,262,891	8,342,221,344

Short-term borrowings	2,941,037,206	2,941,037,206	-
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Current portion of lease liabilities	1,534,978,312	721,102,811	813,875,501
Current income tax liabilities	122,899,311,880	122,899,311,880	-
Current portion of contract liabilities	10,658,040,120	10,658,040,120	-
Other current liabilities	14,703,507,981	14,703,507,981	-
II . Non-current liabilities	327,801,249,231	322,703,339,937	5,097,909,294
Debenture	310,301,251,026	310,301,251,026	-
Lease liabilities	5,691,357,505	593,448,211	5,097,909,294
Defined benefit liabilities	4,516,752,428	4,516,752,428	-
Deferred income tax liabilities	5,546,152,272	5,546,152,272	-
Other non-current liabilities	1,745,736,000	1,745,736,000	-
Total liabilities	814,302,071,221	800,048,065,082	14,254,006,139
Equity			
I . Capital	66,050,330,000	66,050,330,000	5,000,000,000
II . Capital surplus	189,208,756,911	189,208,756,911	152,202,997,332
III . Other capital items	(9,207,095,874)	(9,207,095,874)	-
IV . Other accumulated comprehensive income	-	-	-
V . Retained earnings	987,964,410,618	987,964,410,618	-
Total equity	1,234,016,401,655	1,234,016,401,655	157,202,997,332
Total liabilities and stockholders' equity	2,048,318,472,876	2,034,064,466,737	171,457,003,471

※ The statement of financial position above is prepared based on the book amount on the Company's statement of financial position as of June 30, 2021, and may differ from the split-off statement of financial position to be prepared on the actual date of split-off.

C. Green management

Before the split-off, SK Chemicals was designated as a management company pursuant to Article 42 Paragraph 6 of the Framework Act on Low Carbon, Green Growth, and was designated as the business entity eligible for allocation of the emission permit pursuant to Article 8 of the Act on the Allocation and Trading of Greenhouse-Gas Emission Permits from 2015 onwards. The Company reports the matters on the greenhouse gas emissions and energy consumption that have been verified by the third party to the external verification agency in accordance with Article 24 of the same Act and the government's instruction. The Company's greenhouse gas emissions and energy consumption for the past 3 years are as follows.

(2022)

[SK Chemicals]

Name of workplace	Annual greenhouse gas emissions (tCO ₂ e)			Annual energy consumption (TJ)			
	Direct emissions (Scope1)	Indirect emissions (Scope2)	Total emissions	Fuel consumption	Electricity consumption	Steam consumption	Total consumption

SK Petrochemical	24,573	62,651	87,224	441	239	873	1,553
Ulsan	34,376	112,014	146,390	1,170	991	1,101	3,262
Cheongju	1,729	5,859	7,588	34	122	0	156
Eco Lab 1	352	3,895	4,247	6	78	23	107
LS regional office	0	25	25	0	0	0	0
Dongtan Forming Processing Lab	0	219	219	0	5	0	5
Total	61,030	184,663	245,693	1,651	1,435	1,997	5,083

※ Initz (currently HDC Polyall) was separated from SK Chemicals on December 31, 2021, and according to the specification, it was separated from SK Chemicals organizational boundaries after the emission amount was confirmed in 2021.

[SK Multi-Utility]

Name of workplace	Annual greenhouse gas emissions (tCO ₂ e)			Annual energy consumption (TJ)			
	Direct emissions (Scope1)	Indirect emissions (Scope2)	Total emissions	Fuel consumption	Electricity consumption	Steam consumption	Total emissions
Ulsan	327,703	30,354	358,057	3,589	634	47	4,270

※ This is an internal calculation for estimating the emissions after the split-off.

(2021)

[SK Chemicals]

Name of workplace	Annual greenhouse gas emissions (tCO ₂ e)			Annual energy consumption (TJ)			
	Direct emissions (Scope1)	Indirect emissions (Scope2)	Total emissions	Fuel consumption	Electricity consumption	Steam consumption	Total emissions
SK Petrochemical	26,554	76,216	102,770	468	360	916	1,744
Ulsan	33,778	114,401	148,179	1,151	938	1,079	3,168
Cheongju	1,648	5,251	6,899	32	110	0	142
Eco Lab 1	440	4,386	4,826	8	76	21	105
LS regional office	0	38	38	0	1	0	1
Initz	10,866	22,347	33,213	203	165	224	592
Dongtan Forming Processing Lab	0	239	239	0	5	0	5
Total	73,286	222,878	296,164	1,862	1,655	2,240	5,757

※ Initz (currently HDC Polyall) was separated from SK Chemicals on December 31, 2021, and according to the specification, it was separated from SK Chemicals organizational boundaries after the emission amount was confirmed in 2021.

[SK Multi-Utility]

Name of workplace	Annual greenhouse gas emissions (tCO ₂ e)			Annual energy consumption (TJ)			
	Direct emissions (Scope1)	Indirect emissions (Scope2)	Total emissions	Fuel consumption	Electricity consumption	Steam consumption	Total emissions
Ulsan	327,703	30,354	358,057	3,589	634	47	4,270

※ This is an internal calculation for estimating the emissions after the split-off.

(2020)

Name of workplace	Annual greenhouse gas emissions (tCO ₂ e)	Annual energy consumption (TJ)
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	Direct emissions (Scope1)	Indirect emissions (Scope2)	Total emissions	Fuel consumption	Electricity consumption	Steam consumption	Total emissions
SK Petrochemical	25,633	25,720	51,353	411	529	-	940
Ulsan	370,194	56,390	426,584	4,828	1,161	76	6,065
Cheongju	1,611	5,154	6,765	31	106	-	137
Eco Lab 1	473	4,375	4,848	9	75	20	104
LS regional office	-	37	37	-	-	-	-
Initz	3,695	4,152	7,847	69	85	-	154
Dongtan Forming Processing Lab	-	250	250	-	5	-	5
Total	401,606	96,078	497,684	5,348	1,961	96	7,405

D. Status of lock-up

- Not applicable

XII. Detailed Tables

1. Status of Consolidated Subsidiaries (Details)

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(Unit: KRW one million)

Trade name	Date of incorporation	Address	Main Business	Total assets at the end of the latest business year	Grounds for controlling relationship	Whether a major subsidiary
SK Bioscience Co., Ltd.	2018.07.01	310 Pangyo-ro (Sampyeong-dong), Bundang-gu, Seongnam-si, Gyeonggi-do	Pharmaceutical manufacturing	2,141,931	Equity interest 68%	O
SK Multi-Utility Co., Ltd. (Note 1)	2021.12.01	718 Cheoyong-ro, Nam-gu, Ulsan (Hwangseong-dong)	Manufacturing	301,529	Equity interest 100%	O
SK bioscience USA, Inc. (Note 2)	2022.12.19	3 Park Plaza Suite 430, Irvine CA 92614	Biotechnology development	6,292	Equity interest 100%	X
SK Chemicals GmbH	2008.06.20	TOPAS 2. MERGENTHALERALLEE 79 ~ 81, 65760 ESCHBORN, GERMANY	Wholesale	60,036	Equity interest 100%	X
SK Chemicals America	2002.07.19	3 Park Plaza Suite 430, Irvine CA 92614	Wholesale	69,065	Equity interest 100%	X
SK Chemicals (Suzhou) Co., Ltd. (Note 3)	2006.11.16	#188, Jiangxingdonglu, Wujiang Economic Development Zone,	Resin manufacturing	26,773	Equity interest 100%	X
SK Environmental Materials (Yantai) Co., Ltd.	2020.06.15	C-35, Chemical Industry Park, Economic and Technological Development Zone, Yantai City, Shandong Province	Resin manufacturing	48,881	Equity interest 100%	X
SK Chemicals Daejung Co., Ltd. (Note 4)	2020.04.01	310 Pangyo-ro (Sampyeong-dong), Bundang-gu, Seongnam-si, Gyeonggi-do	Organic solvent manufacturing	18,307	Equity interest 50%	X
SK Chemicals (Shanghai) Co., Ltd.	2018.11.02	Shanghai Mart 2407-2408, Yanan West Rd. 2299, Shanghai, China	Management consulting	1,203	Equity interest 100%	X
SK Chemicals Malaysia	2020.08.25	C23A, TTDI PLAZA, JALAN WAN KADIR 3 TAMAN TUN DR ISMAIL 60000 KUALA LUMPUR W.P. KUALA LUMPUR MALAYSIA	Management consulting	493	Equity interest 100%	X

(Note 1) During the previous period, it was incorporated as a subsidiary after being split off from the controlling company.

(Note 2) During the current period, it was newly invested by SK Bioscience Co., Ltd. and was incorporated as a subsidiary.

(Note 3) During the previous period, we have executed a stock purchase and sales agreement to sell 100% of the shares of SK Chemicals (Suzhou) Co., Ltd. to Sumong Foods Co., Ltd. The closing date for the transaction will be in 2023.

(Note 4) During the previous period, the controlling company sold 50% of the shares of its subsidiary of SK Chemicals Daejung Co., Ltd. to Daejung Chemicals & Metals Co., Ltd. The controlling company is judged to have control over SK Chemicals Daejung Co., Ltd. based on the fact that the chief executive officer of the controlling company serves as the chief executive officer even after the equity interest was sold, and the chief executive officer has the decision-making authority given a deadlock situation.

※ The "Total assets at the end of latest business year" above was prepared as of the end of 2022, and is based on the financial statements adjusted for consistency with the accounting policies of consolidated subsidiaries to those of the controlling company.

※ The ratio of interest owned of the "Grounds for the controlling relationship" above was prepared based on the effective equity interest ratio of the controlling company.

※ The criterion for determining whether a subsidiary is a major subsidiary is that the total assets of the subsidiary at the end of the latest business year are 10% or more of the controlling company's total assets or KRW 75 billion or more.

2. Status of Affiliates (Detailed)

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(Reference date: 2022.12.31)

(Unit: company)

Whether listed	Number of companies	Name of company	Corporate registration number
Listed	21	SKC Co., Ltd.	130111-0001585
		SK Gas Co., Ltd.	110111-0413247
		SK Networks Co., Ltd.	130111-0005199
		SK Discovery Co., Ltd.	130111-0005727
		SK D&D Co., Ltd.	110111-3001685
		SK Rent a Car Co., Ltd.	110111-0577233
		SK Bioscience Co., Ltd.	131111-0523736
		SK Biopharmaceuticals Co., Ltd.	110111-4570720
		SK Square Co., Ltd.	110111-8077821

		SK IE Technology Co., Ltd.	110111-7064217
		SK Consigned Management Real Estate Investment Company Co., Ltd.	110111-7815446
		SK Innovation Co., Ltd.	110111-3710385
		SK Co., Ltd.	110111-0769583
		SK Chemicals Co., Ltd.	131111-0501021
		SK Telecom Co., Ltd.	110111-0371346
		SK Hynix Co., Ltd.	134411-0001387
		Samkang M&T Co., Ltd.	191311-0003485
		Incross Co., Ltd.	110111-3734955
		Nano & Tech Co., Ltd.	110111-0550502
		Dreamus Company	110111-1637383
		SM Core Co., Ltd.	110111-0128680
Unlisted	749	Logi Soft Co., Ltd.	110114-0244050
		11st Co., Ltd.	110111-6861490
		F&U Credit Information Co., Ltd.	135311-0003300
		SK E&S Co., Ltd.	110111-1632979
		SKC FT Holdings Co., Ltd.	211211-0025048
		SKC Solmix Co., Ltd.	134711-0014631
		SKC Hi-Tech & Marketing Co., Ltd.	161511-0225312
		SK Networks Service Co., Ltd.	135811-0141788
		SK Nexilis Co., Ltd.	110111-6480232
		SK Resonac Co., Ltd. (formerly SK Showa Denko Co., Ltd.)	175611-0018553
		SK Rent a Car Service Co., Ltd.	160111-0306525
		SK REITs Management Co., Ltd.	110111-7832127
		SK Magic Service Co., Ltd.	134811-0039752
		SK Magic Co., Ltd.	110111-5125962
		SK Materials Group 14 Co., Ltd.	171411-0032197
		SK Materials Renew Tech Co., Ltd.	110111-2559792
		SK Materials Air Plus Co., Ltd.	230111-0134111
		SK Materials JNC Co., Ltd.	134811-0595837
		SK Materials Performance Co., Ltd.	164711-0095338
		SK Multi-Utility Co., Ltd.	230111-0363760
		SK Mobile Energy Co., Ltd.	161511-0076070
		SK Bio Tech Co., Ltd.	160111-0395453
		SK Broadband Co., Ltd.	110111-1466659
		SK Shieldus Co., Ltd.	110111-2007858
		SK Store Co., Ltd.	110111-6585884
		SK Specialty Co., Ltd. (formerly SK Materials Co., Ltd.)	175611-0025475
		SK Siltron CSS Korea	110111-8298922
		SK Siltron Co., Ltd.	175311-0001348
		SK Advanced Co., Ltd.	230111-0227982
		SK Earthon Co., Ltd.	110111-8042361
SK Energy Co., Ltd.	110111-4505967		
SK Ecoengineering Co., Ltd.	110111-8061337		

	SK Ecoplant Co., Ltd.	110111-0038805
	SK Enmove Co., Ltd. (formerly SK Lubricants Co., Ltd.)	110111-4191815
	SK M&Service Co., Ltd.	110111-1873432
	SK O&S Co., Ltd.	110111-4370708
	SK On Co., Ltd.	110111-8042379
	SK Incheon Petrochemical Co., Ltd.	120111-0666464
	SK Forest Co., Ltd.	134811-0174045
	SK Geo Centric Co., Ltd.	110111-4505975
	SK Communications Co., Ltd.	110111-1322885
	SK Chemicals Daejung Co., Ltd.	131111-0587675
	SK Telesys Co., Ltd.	110111-1405897
	SK Telecom CST1 Co., Ltd.	110111-7170189
	SK Telink Co., Ltd.	110111-1533599
	SK Trading International Co., Ltd.	110111-5171064
	SK Trichem Co., Ltd.	164711-0060753
	SK TBM Geostone Co., Ltd.	154311-0056421
	SK Plasma Co., Ltd.	131111-0401875
	SK Planet Co., Ltd.	110111-4699794
	SK Plug Hyverse Co., Ltd. (formerly Halo Hydrogen Co., Ltd.)	110111-8171657
	SK PIC Global Co., Ltd.	230111-0324803
	SK PU Core Co., Ltd. (formerly Mitsui Chemicals & SKC Polyurethanes Inc.)	230111-0233880
	SK Pinx Co., Ltd.	224111-0003760
	SK Hynix System IC Co., Ltd.	150111-0235586
	SK Hystec Co., Ltd.	134411-0037746
	SK Hyeng Co., Ltd.	134411-0017540
	Gangdong Green Complex Co., Ltd.	171211-0127207
	Kangwon City Gas Co., Ltd.	140111-0002010
	Gyeonggi Environmental Energy Co., Ltd.	134211-0058473
	Gyeongbuk Environmental Energy Co., Ltd.	176011-0055291
	Gyeongsan Clear Water Co., Ltd.	120111-0701848
	Gyeongin Environmental Energy Co., Ltd.	134811-0279340
	Goseong Holdings LLC.	110114-0207743
	Gokseong Environment Co., Ltd.	200111-0187330
	Good Service Co., Ltd.	110111-4199877
	Green Soonchang Co., Ltd.	160111-0134942
	Green Hwasoon Co., Ltd.	160111-0199459
	Narae Energy Service Co., Ltd.	110111-4926006
	Nae Truck Co., Ltd.	110111-3222570
	Dalseong Clear Water Co., Ltd.	160111-0317770
	Dangjin Eco Power Co., Ltd.	165011-0069097
	Dangjin Happiness Solar Co., Ltd.	110111-8022925
	Daewon Green Energy Co., Ltd.	161511-0134795
	Daewon Hi-tech Co., Ltd.	161511-0197397
	Urban Environment Co., Ltd.	115311-0009435

	Southeast Coast Offshore Wind Power Co., Ltd.	110111-8180335
	D&D Investment Co., Ltd.	110111-6618263
	D&D Property Solutions Co., Ltd. (formerly D&D Living Solution Co., Ltd.)	110111-8150924
	Lotte SK Eneroot Co., Ltd.	110111-8436374
	Mind Knock Co., Ltd.	110111-6638873
	Media S Co., Ltd.	110111-7739191
	Mintit Co., Ltd.	124411-0057457
	Boryeong LNG Terminal Co., Ltd.	164511-0021527
	Lake Busa Happy Nanum Solar Co., Ltd.	200111-0654256
	Busan Jeongkwan Energy Co., Ltd.	180111-0484898
	Samkang S&C Co., Ltd.	191211-0000681
	Saehan Environment Co., Ltd.	161511-0073563
	Seonam Environmental Energy Co., Ltd.	184611-0017968
	Service Ace Co., Ltd.	110111-4368688
	Service Top Co., Ltd.	160111-0281090
	Seoul Air Bus Co., Ltd.	110111-5304756
	Seongju Tech Co., Ltd.	284411-0087386
	Studio Wavve Co., Ltd.	110111-7891785
	Ariul Happy Solar Co., Ltd.	110111-7725041
	ID Quantique Co., Ltd.	131114-0009566
	IGE Co., Ltd.	120111-1134494
	STAC Co., Ltd.	230111-0379436
	AP Development Co., Ltd.	201111-0068498
	Ecovance Co., Ltd.	135811-0433028
	FSKLNS Co., Ltd.	131111-0462520
	Entis Co., Ltd.	130111-0021658
	Yeoju Energy Service Co., Ltd.	110111-6897817
	Yeongnam Energy Service Co., Ltd.	175311-0001570
	Ulsan GPS Co., Ltd.	165011-0035072
	Ulsan Aromatics Co., Ltd.	110111-4499954
	One Store Co., Ltd.	131111-0439131
	U-Base Manufacturing Asia Co., Ltd.	230111-0168673
	Ubins Co., Ltd.	135111-0077367
	Infra Communications Co., Ltd.	110111-6478873
	Jeonnam 2 Offshore Wind Power Co., Ltd.	110111-7985661
	Jeonnam 3 Offshore Wind Power Co., Ltd.	110111-7985934
	Jeonnam City Gas Co., Ltd.	201311-0000503
	Jeonnam Offshore Wind Power Co., Ltd.	110111-7400817
	Jeonbuk Energy Service Co., Ltd.	214911-0004699
	Jeju United FC Co., Ltd.	224111-0015012
	DDIOS108 Consigned Management Real Estate Investment Company Co., Ltd.	110111-8092150
	DDIYS832 Consigned Management Real Estate Investment Company Co., Ltd.	110111-7280425
	Green Environment Technology Co., Ltd.	115211-0030408
	Korea Oil Pipeline Corporation	110111-0671522

	The Biz Co., Ltd.	110111-4070358
	DDS Co., Ltd.	170111-0422999
	DY Indus Co., Ltd.	134811-0695851
	DY Polymer Co., Ltd.	175011-0027316
	Lock Media Co., Ltd.	110111-2741216
	Busan City Gas Co., Ltd.	180111-0039495
	Sapeon Korea Co., Ltd.	131111-0657618
	Samwon ENT Co., Ltd.	170111-0804791
	Solution Co., Ltd.	135711-0157117
	Studio Dolphin Co., Ltd.	110111-7604170
	Shinan Jeungdo Solar Co., Ltd.	201111-0052938
	Solis Co., Ltd.	205711-0024452
	ANTS Co., Ltd.	110111-3066861
	All New One Co., Ltd.	230111-0364213
	YS Tech Co., Ltd.	170111-0397522
	YLP Co., Ltd.	110111-5969229
	Ulsan Eneroot 1 Co., Ltd.	230111-0381514
	Ulsan Eneroot 2 Co., Ltd.	230111-0381522
	Wonpol Co., Ltd.	165011-0032888
	E-Medione Co., Ltd.	200111-0254767
	E-Medione Logis Co., Ltd.	121111-0414789
	JSI Co., Ltd.	124611-0261880
	JA Green Co., Ltd.	154311-0024486
	Chaeum F&B Co., Ltd.	180111-1287720
	Caps Tech Co., Ltd.	110111-3141663
	Key Foundry Co., Ltd.	150111-0285375
	Korea Marketplace Systems Co., Ltd.	110111-2493601
	Hweechan Co., Ltd.	110111-1225831
	G-Energy Co., Ltd.	110111-7788750
	Chungcheong Energy Service Co., Ltd.	150111-0006200
	Chungcheong Environmental Energy Co., Ltd.	165011-0013078
	Katini Co., Ltd.	110111-7983392
	Cowon Energy Service Co., Ltd.	110111-0235617
	Content Wave Corp.	110111-4869173
	Clean Energy Consigned Management Real Estate Investment Company Co., Ltd.	110111-7815602
	Total Value No. 1 Consigned Management Real Estate Investment Company Co.,Ltd.	110111-8384672
	Tmap Mobility Co., Ltd.	110111-7733812
	Paju Energy Service Co., Ltd.	110111-4629501
	Parking Cloud Co., Ltd.	110111-4221258
	PSN Marketing Co., Ltd.	110111-4072338
	Korea Nexlen LLC.	230114-0003328
	Haesola Energy Co., Ltd.	201111-0050106
	Haetssal Solar Power Co., Ltd.	161411-0049376
	Happy Narae Co., Ltd.	110111-2016940

	Happy Donghaeng Co., Ltd.	175611-0021671
	Happy Didim Co., Ltd.	110111-6984325
	Happy-More Inc.	150111-0226204
	Happy Moum Co., Ltd.	230111-0318187
	Happy Miteum Co., Ltd.	110111-8079215
	Happy Chaewoom Co., Ltd.	176011-0130902
	Happy Kiwoom Co., Ltd.	110111-6984672
	Happy Hanwool Co., Ltd.	110111-7197167
	Honam Environmental Energy Co., Ltd.	160111-0523369
	Home & Service Co., Ltd.	110111-6420460
	Environmental Facility Management Co., Ltd.	134111-0486452
	ESSENCORE Limited	-
	Essencore Microelectronics (ShenZhen) Limited	-
	S&G Technology	-
	ShangHai YunFeng Encar Used Car Sales Service Ltd.	-
	SK S.E. Asia Pte. Ltd.	-
	SK C&C Beijing Co., Ltd.	-
	SK C&C Chengdu Co., Ltd.	-
	SK C&C India Pvt., Ltd.	-
	SK C&C USA, INC.	-
	Abrasax Investment Inc.	-
	AMPAC Fine Chemicals Texas, LLC	-
	AMPAC Fine Chemicals Virginia, LLC	-
	AMPAC Fine Chemicals, LLC	-
	Fine Chemicals Holdings Corp.	-
	SK Biotek Ireland Limited	-
	SK Biotek USA, Inc.	-
	SK Pharmteco Inc.	-
	Crest Acquisition LLC	-
	YPOSKESI, SAS	-
	Dogus SK Finansal ve Ticari Yatirim ve Danismanlik A.S.	-
	EM Holdings (Cayman) L.P.	-
	EM Holdings (US) LLC	-
	Gemini Partners Pte. Ltd.	-
	Hermed Alpha Industrial Co., Ltd.	-
	Hermed Capital	-
	Hermed Capital Health Care (RMB) GP Limited	-
	Hermed Capital Health Care Fund L.P.	-
	Hermed Capital Health Care GP Ltd	-
	Hermed Equity Investment Management (Shanghai) Co., Ltd.	-
	Hermeda Industrial Co. Ltd	-
	Prostar APEIF GP Ltd.	-
	Prostar APEIF Management Ltd.	-
	Prostar Asia Pacific Energy Infrastructure SK Fund L.P.	-

	Prostar Capital (Asia-Pacific) Ltd.	-
	Prostar Capital Ltd.	-
	Prostar Capital Management Ltd.	-
	Shanghai Hermed Equity Investment Fund Enterprise	-
	Solaris GEIF Investment	-
	Solaris Partners Pte. Ltd.	-
	SK Investment Management Co., Limited.	-
	SK Semiconductor Investments Co., Ltd	-
	SL (Beijing) Consulting and Management Co., Ltd	-
	SL Capital Management (Hong Kong) Ltd	-
	SL Capital Management Limited	-
	SL Capital Partners Limited	-
	SLSF I GP Limited	-
	Wuxi Junhai Xinxin Investment Consulting Ltd	-
	Wuxi United Chips Investment Management Limited	-
	Beijing Junhai Tengxin Consulting and Management Co.,Ltd	-
	SK SOUTH EAST ASIA INVESTMENT PTE., LTD.	-
	SK INVESTMENT VINA I Pte., Ltd.	-
	SK INVESTMENT VINA II Pte., Ltd.	-
	SK INVESTMENT VINA III Pte., Ltd.	-
	Imexpharm Corporation	-
	SK INVESTMENT VINA IV Pte., Ltd.	-
	MSN INVESTMENT Pte. Ltd.	-
	SK MALAYSIA INVESTMENT I PTE. LTD.	-
	VIETNAM DIGITALIZATION FUND	-
	Lotus Fund, L.P.	-
	SK INVESTMENT VINA V PTE. LTD.	-
	SK INVESTMENT VINA VI PTE. LTD.	-
	Cong Thang Alpha Joint Stock Company	-
	EASTERN VISION INVESTMENT JOINT STOCK COMPANY	-
	Truong Luu Chi Invest Joint Stock Company	-
	An Nam Phu Investment Joint Stock Company	-
	Zion Son Kim Joint Stock Company	-
	SUNRISE KIM INVESTMENT JOINT STOCK COMPANY	-
	Lihn Nam Ventures Joint Stock Company	-
	Lien Khuong International Joint Stock Company	-
	Dong Kinh Capital Joint Stock Company	-
	Lac Son Investment Joint Stock Company	-
	KBA Investment Joint Stock Company	-
	SPX GI Holdings Pte. Ltd.	-
	SPX GI Management Company Pte. Ltd.	-
	SK GI Management	-
	SOCAR MOBILITY MALAYSIA SDN. BHD.	-
	PT Future Mobility Solutions	-

	Future Mobility Solutions SDN. BHD.	-
	EINSTEIN CAYMAN LIMITED	-
	ZETA CAYMAN LIMITED	-
	Golden Pearl EV Solutions Limited	-
	Shanghai SKY Real Estate Development Co.,Ltd.	-
	SK Auto Service Hong Kong Ltd.	-
	SK China Company, Ltd.	-
	SK China Investment Management Company Limited	-
	SK China Real Estate Co., Limited	-
	SK China(Beijing) Co.,Ltd.	-
	SK Financial Leasing Co, Ltd.	-
	SK Industrial Development China Co., Ltd.	-
	SK International Agro-Products Logistics Development Co., Ltd.	-
	SK International Agro-Sideline Products Park Co.,Ltd.	-
	SK Property Investment Management Company Limited	-
	SKY Investment Co., Ltd	-
	SKY Property Mgmt. Ltd.	-
	Skyline Auto Financial Leasing Co, Ltd.	-
	Beijing LIZHIWEIXIN Technology Company Limited	-
	SKY (ZHUHAI HENGQIN) TECHNOLOGY CO., LTD	-
	SK Networks (Liaoning) Logistics Co., Ltd	-
	Hudson Energy NY II, LLC	-
	Hudson Energy NY III, LLC	-
	Hudson Energy NY, LLC	-
	Plutus Capital NY, Inc.	-
	GROVE ENERGY CAPITAL LLC	-
	Grove Energy Capital II, LLC	-
	Grove Energy Capital III, LLC	-
	Atlas NY, LLC	-
	Wonderland NY, LLC	-
	Digital Center Capital Inc.	-
	Martis Capital, LLC	-
	I CUBE CAPITAL INC	-
	Tellus Investment Partners, Inc. (formerly I CUBE CAPITAL II, INC)	-
	TERRA INVESTMENT PARTNERS II LLC	-
	Terra Investment Partners LLC	-
	Primero Protein LLC	-
	SK Mobility Investments Company Limited	-
	I Cube Capital Hong Kong 1. LP	-
	Castanea Bioscience Inc.	-
	AUXO CAPITAL INC.	-
	AUXO CAPITAL MANAGERS LLC	-
	SK GLOBAL DEVELOPMENT ADVISORS LLC	-
	TELLUS (HONG KONG) INVESTMENT CO.,LIMITED	-

	Saturn Agriculture Investment Co., Limited	-
	Leiya Dahe (Tianjin) Equity Investment Limited Partnership	-
	Tillandsia, Inc.	-
	SK JNC Japan Co., Ltd	-
	SK Materials Group14 (Shanghai) Co., Ltd.	-
	NanoEntek America Inc.	-
	NanoEntek Bio-Technology (Beijing) Ltd	-
	Dongguan Iriver Electronics Co., Ltd.	-
	Iriver China Co., Ltd.	-
	Iriver Enterprise Ltd.	-
	LIFE DESIGN COMPANY INC.	-
	SK E&S Hong Kong Co., Ltd.	-
	SMC US, INC	-
	SMCORE INDIA PRIVATE LIMITED	-
	MCNS Polyurethanes Europe Sp. zo.o	-
	MCNS Polyurethanes India Pvt. Ltd.	-
	MCNS Polyurethanes Mexico, S. de R.L. de C.V	-
	MCNS Polyurethanes RUS LLC.	-
	MCNS Polyurethanes USA Inc.	-
	MINTIT VINA	-
	SK Gas International Pte. Ltd.	-
	SK Gas Petrochemical Pte. Ltd.	-
	SK Gas Trading LLC	-
	SK Gas USA Inc.	-
	Hico Capital (formerly TenX Capital)	-
	Networks Tejarat Pars	-
	P.T. SK Networks Indonesia	-
	POSK(Pinghu) Steel Processing Center Co.,Ltd.	-
	Shenyang SK Bus Terminal Co.,Ltd.	-
	SK BRASIL LTDA	-
	SK Networks (Xiamen) Steel Processing Center	-
	SK NETWORKS AMERICA, Inc.	-
	SK Networks Deutschland GmbH	-
	SK Networks HongKong Ltd.	-
	SK Networks Japan Co., Ltd.	-
	SK Networks Resources Australia (Wyong) Pty Ltd.	-
	SK Networks Resources Pty Ltd.	-
	SK Networks Trading Malaysia Sdn Bhd	-
	SK Networks(Dandong) Energy Co.,Ltd.	-
	SK Networks(Shanghai) Co.,Ltd.	-
	SKN (China) Holdings Co.,Ltd.	-
	Springvale SK Kores Pty Ltd.	-
	Nexilis Management Malaysia SDN. BHD	-
	SK Nexilis Malaysia SDN. BHD	-

	SK Nexilis Poland sp. z o.o	-
	NEXILIS MANAGEMENT EUROPE B.V.	-
	Iberian Lube Base Oils Company, S.A.	-
	PT. Patra SK	-
	SK Energy Lubricants (Tianjin) Co., Ltd.	-
	SK Enmove India Pvt. Ltd (formerly SK Lubricants & Oils India Pvt. Ltd.)	-
	SK Lubricants Americas, Inc.	-
	SK Lubricants Europe B.V.	-
	SK Lubricants Japan Co., Ltd.	-
	SK Lubricants Rus Limited Liability Company	-
	SK Magic Retails Malaysia Sdn. Bhd	-
	SK MAGIC VIETNAM CO.,LTD	-
	SK specialty Japan Co., Ltd.	-
	SK specialty (Jiangsu) Co., Ltd.	-
	SK Materials (Shanghai) Co., Ltd.	-
	SK specialty Taiwan Co., Ltd.	-
	SK specialty (Xi'an) Co., Ltd.	-
	Mobile Energy Battery America, LLC	-
	Yancheng Yandu District M Energy Consulting Limited Company	-
	Ignis Therapeutics	-
	SK Life Science, Inc	-
	SK Bio Pharmaceutical Technology (Shanghai) LLC.	-
	Infosec Information technology(Wuxi) Co., Ltd.	-
	SK shieldus America, Inc.	-
	NextGen Broadcast Orchestration	-
	NextGen Broadcast service	-
	SK Square Americas, Inc.	-
	ID Quantique Ltd.	-
	ID Quantique Inc.	-
	ID Quantique S.A.	-
	Techmaker GmbH	-
	wavve Americas, Inc.	-
	SK Japan Investment Inc.	-
	SK Siltron America, Inc.	-
	SK Siltron CSS, LLC	-
	SK Siltron Japan, Inc.	-
	SK Siltron Shanghai Co., Ltd.	-
	SK Siltron USA, Inc.	-
	Absolics Inc.	-
	NEX INVESTMENT LIMITED	-
	NEX UK HOLDINGS LIMITED	-
	SKC (Nantong) PU Specialty Co., Ltd.	-
	SKC International Shanghai Trading Co., Ltd.	-
	SKC PU Specialty Co., Ltd.	-

	SKC (Jiangsu) High Tech Plastics	-
	SKC Europe GmbH	-
	SK Microworks America Inc. (formerly SKC, Inc.)	-
	ZA Advanced PVB Film(Nantong) Co., Ltd.	-
	SE(Jiangsu) Electronic Materials Co., LTD	-
	SKC (Nantong) Semiconductor Materials Technology Co., Ltd.	-
	SKC Semiconductor Materials(Wuxi) Co., Ltd	-
	SKC Solmics Hong Kong Co., LTD	-
	SKC-ENF Electronic Materials Ltd.	-
	SOLMICS SHANGHAI INTERNATIONAL TRADING CO., LTD.	-
	SOLMICS TAIWAN CO., LTD.	-
	SKC hi-tech&marketing Polska SP.Z.O.O	-
	SKC hi-tech&marketing USA LLC	-
	SKC hi-tech&marketing VINA Co., Ltd.	-
	SKC hi-tech&marketing(Suzhou) Co., Ltd.	-
	SK hi-tech battery materials (Jiangsu) Co., Ltd.	-
	SK hi-tech battery materials Poland sp. z o.o.	-
	Asia Bitumen Trading Pte, Ltd.	-
	GREEN & CO. ASIA LIMITED	-
	Shandong SK Hightech Oil Co., Ltd.	-
	SK Energy Hong Kong Co., Ltd.	-
	SK Energy Road Investment Co., Ltd.	-
	SK Energy Road Investment(HK) Co., Ltd.	-
	SK Shanghai Asphalt Co., Ltd.	-
	Energy Solution Group, Inc.	-
	ATOM POWER, INC	-
	Green Technology Management Pty Ltd	-
	BAKAD Investment and Operation LLP	-
	Mesa Verde RE Ventures, LLC	-
	TES-ENVIROCORP PTE. LTD.	-
	Shanghai Taixiang Network Technology Co., Ltd	-
	BT RE Investments, LLC	-
	SK International Investment Singapore Pte. Ltd.	-
	Avrasya Tuneli Isletme Insaat Ve Yatirim A.S.	-
	Jurong Aromatics Corporation Pte. Ltd.	-
	Thai Woo Ree Engineering Co., Ltd	-
	SK E&C Consultores Ecuador S.A.	-
	Goldberg Enterprises Ltd	-
	TES-AMM CORPORATION (CHINA) LTD	-
	TES B PTE. LTD.	-
	TES ESS PTE. LTD.	-
	TES Sustainable Battery Solutions B.V.	-
	TES Sustainable Battery Solutions GmbH	-
	TES CHINA HOLDINGS PTE. LTD.	-

	TES-AMM EUROPE HOLDINGS LTD	-
	TES-AMM NEW ZEALAND LIMITED	-
	WEEE Return GmbH	-
	SHANGHAI TES-AMM WASTE PRODUCTS RECYCLE CO., LTD	-
	TES-AMM (BEIJING) CO., LTD	-
	TES-AMM (Guangzhou) Co., Ltd	-
	TES-AMM (SUZHOU) E-WASTE SOLUTIONS CO. LTD	-
	CASH FOR TECH LTD	-
	CUSTOM CONTROLLERS UK LIMITED	-
	Dataserv Compliance Services Limited	-
	Envirofone Limited	-
	Integrations Et Services	-
	REDEEM HOLDINGS LIMITED	-
	Redeem UK Limited	-
	Stock Must Go Limited	-
	Technology Supplies International Ltd.	-
	TES CONSUMER SOLUTIONS LTD	-
	TES Total Environmental Solution AB	-
	TES-AMM (Europe) Ltd	-
	TES-AMM Central Europe GmbH	-
	TES-AMM ESPANA ASSET RECOVERY AND RECYCLING, S.L.	-
	TES-AMM ITALIA SRL	-
	TES-AMM SAS	-
	TES-AMM UK Ltd	-
	VSL Support Limited	-
	Sustainable Product Stewards Pty Ltd	-
	TES Recupyl	-
	Advanced Datacom (Australia) Pty Ltd	-
	Environment & Asset Services (Thailand) Co., Ltd	-
	GENPLUS PTE. LTD	-
	PC Off Corporation	-
	PT. TES-AMM INDONESIA	-
	TES ENERGY SOLUTIONS PTE. LTD.	-
	TES SUSTAINABILITY PRODUCTS PTE. LTD.	-
	TES USA, Inc.	-
	TES-AMM (CAMBODIA) CO., LTD	-
	TES-AMM (H.K.) LIMITED	-
	TES-AMM (MALAYSIA) SDN. BHD.	-
	TES-AMM (SINGAPORE) PTE. LTD.	-
	TES-AMM (TAIWAN) CO., LTD	-
	TES-AMM AUSTRALIA PTY LTD	-
	TES-AMM JAPAN K.K.	-
	TES-AMM MIDDLE EAST FZE	-
	TES-AMM PHILIPPINES, INC.	-

	Total Environmental Solutions Co., Ltd.	-
	Hi Vico Construction Company Limited	-
	BAKAD International B.V	-
	Eco Frontier (Singapore) Pte. Ltd.	-
	KS Investment B.V.	-
	SBC GENERAL TRADING & CONTRACTING CO. W.L.L.	-
	Silvertown Investco Ltd.	-
	SK E&C BETEK Corp.	-
	SK E&C India Private Ltd.	-
	SK E&C Jurong Investment Pte. Ltd.	-
	SK E&C Saudi Company Limited	-
	SK Engineering&Construction(Nanjing)Co.,Ltd.	-
	SK Holdco Pte. Ltd	-
	SKEC Anadolu LLC	-
	SKEC(Thai) Limited	-
	Sunlake Co., Ltd.	-
	TES C PTE. LTD.	-
	TES Sustainable Battery Solutions (Australia) Pty Ltd	-
	TES Sustainable Battery Solutions Limited Liability Company	-
	ECOPLANT HOLDING MALAYSIA SDN. BHD.	-
	Econovation, LLC	-
	ecoengineering Canada Co., Ltd.	-
	SK on Certification Center (Jiangsu) Co., Ltd.	-
	SK Battery America, Inc.	-
	SK Battery Manufacturing Kft.	-
	SK On (Shanghai) Co., Ltd.	-
	SK On Hungary Kft.	-
	SK On Jiangsu Co., Ltd.	-
	SK On Yancheng Co., Ltd.	-
	Blueoval SK LLC	-
	Blue Dragon Energy Co., Limited	-
	SK Innovation Insurance (Bermuda), Ltd.	-
	SK USA, Inc.	-
	SK Innovation America Inc.	-
	GROVE ENERGY CAPITAL IV, LLC	-
	NEW&COMPANY ONE PTE. LTD.	-
	BU12 Australia Pty. Ltd.	-
	BU13 Australia Pty. Ltd.	-
	CAES, LLC	-
	China Gas-SK E&S LNG Trading Ltd.	-
	DewBlaine Energy, LLC	-
	Electrodes Holdings, LLC	-
	Energy Solution Holdings, Inc.	-
	EverCharge Hawaii, LLC	-

	EverCharge Services, LLC	-
	EverCharge, Inc.	-
	Fajar Energy International Pte. Ltd.	-
	Grid Solution II LLC	-
	Grid Solution LLC	-
	KCE Brushy Creek Holdings, LLC	-
	KCE CT 1, LLC	-
	KCE CT 10, LLC	-
	KCE CT 2, LLC	-
	KCE CT 4, LLC	-
	KCE CT 5, LLC	-
	KCE CT 6, LLC	-
	KCE CT 7, LLC	-
	KCE CT 8, LLC	-
	KCE CT 9, LLC	-
	KCE Global Holdings, LLC	-
	KCE IL 1, LLC	-
	KCE IL 2, LLC	-
	KCE IN 1, LLC	-
	KCE IN 2, LLC	-
	KCE IN 3, LLC	-
	KCE Land Holdings, LLC	-
	KCE Market Operations, LLC	-
	KCE MD 1, LLC	-
	KCE ME 1, LLC	-
	KCE ME 2, LLC	-
	KCE MI 1, LLC	-
	KCE MI 2, LLC	-
	KCE MI 3, LLC	-
	KCE NY 1, LLC	-
	KCE NY 10, LLC	-
	KCE NY 11, LLC	-
	KCE NY 12, LLC	-
	KCE NY 14, LLC	-
	KCE NY 18, LLC	-
	KCE NY 19, LLC	-
	KCE NY 2, LLC	-
	KCE NY 21, LLC	-
	KCE NY 22, LLC	-
	KCE NY 26, LLC	-
	KCE NY 27, LLC	-
	KCE NY 28, LLC	-
	KCE NY 29, LLC	-
	KCE NY 3, LLC	-

	KCE NY 32, LLC	-
	KCE NY 33, LLC	-
	KCE NY 5, LLC	-
	KCE NY 6, LLC	-
	KCE NY 8, LLC	-
	KCE OK 1, LLC	-
	KCE OK 2, LLC	-
	KCE OK 3, LLC	-
	KCE OK 4, LLC	-
	KCE PF Holdings 2021, LLC	-
	KCE PF Holdings 2022, LLC	-
	KCE Texas Holdings 2020, LLC	-
	KCE TX 10, LLC	-
	KCE TX 11, LLC	-
	KCE TX 12, LLC	-
	KCE TX 13, LLC	-
	KCE TX 14, LLC	-
	KCE TX 15, LLC	-
	KCE TX 16, LLC	-
	KCE TX 19, LLC	-
	KCE TX 2, LLC	-
	KCE TX 20, LLC	-
	KCE TX 21, LLC	-
	KCE TX 22, LLC	-
	KCE TX 24, LLC	-
	KCE TX 25, LLC	-
	KCE TX 26, LLC	-
	KCE TX 27, LLC	-
	KCE TX 28, LLC	-
	KCE TX 7, LLC	-
	KCE TX 8, LLC	-
	KCE TX 9, LLC	-
	Key Capture Energy, LLC	-
	LNG Americas, Inc.	-
	LAI CCS, LLC	-
	Lunar Energy, Inc.	-
	Mobility Solution I Inc.	-
	Mobility Solution II Inc.	-
	PassKey, Inc.	-
	PNES Investments, LLC	-
	PRISM DARWIN PIPELINE PTY LTD	-
	PRISM DLNG PTE. LTD.	-
	Prism Energy International China Limited	-
	Prism Energy International Hong Kong Limited	-

	Prism Energy International Pte., Ltd.	-
	Prism Energy International Zhoushan Limited	-
	PT PRISM Nusantara International	-
	PT Regas Energitama Infrastruktur	-
	RNES Holdings, LLC	-
	Roughneck Storage LLC d/b/a KCE TX 23, LLC	-
	Shandong Order-PRISM China Investment Co., Ltd.	-
	SK E&S Americas, Inc.	-
	SK E&S Australia Pty Ltd.	-
	SK E&S Dominicana S.R.L.	-
	Wagner Battery Storage LLC	-
	Moixa Energy Holdings Limited	-
	Moixa Technology Limited	-
	Moixa Energy Limited	-
	NEW RENEWABLE ENERGY NO.1 JSC	-
	KCE MI 4, LLC	-
	KCE IN 4, LLC	-
	KCE IN 5, LLC	-
	KCE IA 1, LLC	-
	KCE IL 3, LLC	-
	KCE WI 1, LLC	-
	KCE MA 4, LLC	-
	KCE ID 1, LLC	-
	KCE ID 2, LLC	-
	KCE ID 3, LLC	-
	Green & Connect Capital, Inc.	-
	Ningbo SK Performance Rubber Co., Ltd.	-
	SABIC SK Nexlene Company Pte.Ltd.	-
	Sino-Korea Green New Material (JiangSu) Ltd.	-
	SK Functional Polymer, S.A.S	-
	SK GC Americas, Inc.	-
	SK Geo Centric (Beijing) Holding Co., Ltd.	-
	SK Geo Centric Brazil LTDA	-
	SK Geo Centric China Ltd.	-
	SK Geo Centric International Trading (Shanghai) Co., Ltd.	-
	SK Geo Centric Investment Hong Kong Ltd.	-
	SK Geo Centric Japan Co., Ltd.	-
	SK Geo Centric Singapore Pte. Ltd.	-
	SK Global Chemical International Trading (Guangzhou) Co., Ltd.	-
	SK Primacor Americas LLC	-
	SK Primacor Europe, S.L.U.	-
	SK Saran Americas LLC	-
	SK Chemicals (Shanghai) Co., Ltd	-
	SK Chemicals (Suzhou) Co., Ltd	-

	SK Chemicals (Yantai) Co., Ltd.	-
	SK Chemicals America	-
	SK Chemicals GmbH	-
	SK Chemicals Malaysia	-
	SK Telesys Corp.	-
	TechDream Co. Limited	-
	AI ALLIANCE, LLC	-
	Atlas Investment Ltd.	-
	Axess II Holdings	-
	CYWORLD China Holdings	-
	Deutsche Telekom Capital Partners Venture Fund II Parallel GmbH & Co. KG	-
	SK TELECOM(CHINA)HOLDING CO.,Ltd.	-
	SKTA Innopartners, LLC	-
	ULand Company Limited	-
	YTK Investment Ltd.	-
	SK Telecom Americas, Inc.	-
	SK Telecom China Fund 1 L.P.	-
	SK Telecom Innovation Fund, L.P.	-
	SK telecom Japan Inc.	-
	SK Telecom Venture Capital, LLC	-
	SK Global Healthcare Business Group Ltd.	-
	SK Latin America Investment S.A.	-
	SK MENA Investment B.V.	-
	SK planet Japan Inc.	-
	SK Technology Innovation Company	-
	Global Opportunities Breakaway Fund	-
	Global opportunities Fund, L.P	-
	SAPEON Inc.	-
	FREEDOM CIRCLE CAPITAL, INC.	-
	Montague ESG CAPITAL, LLC.	-
	T1 esports US, Inc.	-
	SK Energy Americas Inc.	-
	SK Energy Europe, Ltd.	-
	SK Energy International Pte, Ltd.	-
	SK Terminal B.V.	-
	Dogus Planet Inc.	-
	SCODYS PTE. LTD.	-
	SK Planet Global Holdings Pte, Ltd.	-
	SK Planet, Inc.	-
	Gauss Labs Inc.	-
	HITECH Semiconductor (Wuxi) Co.,Ltd. (HITECH)	-
	SK APTECH Ltd.	-
	SK Hynix (Wuxi) Education Service Development Co., Ltd.	-

	SK hynix (Wuxi) Education Technology Co., Ltd.	-
	SK hynix (Wuxi) Industry Development Ltd.	-
	SK hynix (Wuxi) Investment Ltd.	-
	SK hynix (Wuxi) Semiconductor Sales Ltd.	-
	SK hynix America Inc.	-
	SK hynix Asia Pte.Ltd.	-
	SK hynix cleaning(Wuxi) Ltd.	-
	SK hynix Deutschland GmbH	-
	SK hynix Happiness (Wuxi) Hospital Management Ltd.	-
	SK hynix Italy S.r.l	-
	SK hynix Japan Inc.	-
	SK hynix memory solutions America, Inc.	-
	SK hynix memory solutions Eastern Europe, LLC.	-
	SK hynix memory solutions Taiwan, Inc.	-
	SK hynix NAND Product Solutions (Beijing) Co., Ltd.	-
	SK Hynix NAND Product Solutions (Shanghai) Co., Ltd.	-
	SK hynix NAND Product Solutions Asia Pacific LLC	-
	SK hynix NAND Product Solutions Canada Ltd.	-
	SK hynix NAND Product Solutions Corp.	-
	SK hynix NAND Product Solutions International LLC	-
	SK hynix NAND Product Solutions Israel Ltd.	-
	SK hynix NAND Product Solutions Japan G.K.	-
	SK hynix NAND Product Solutions Malaysia Sdn. Bhd.	-
	SK hynix NAND Product Solutions Mexico, S. DE R.L. DE C.V.	-
	SK hynix NAND Product Solutions Poland sp. Z o.o.	-
	SK hynix NAND Product Solutions Singapore Pte. Ltd.	-
	SK hynix NAND Product Solutions Taiwan Co., Ltd.	-
	SK hynix NAND Product Solutions UK Limited	-
	SK hynix Semiconductor (China) Ltd.	-
	SK hynix Semiconductor (Chongqing) Ltd.	-
	SK hynix Semiconductor (Dalian) Co., Ltd.	-
	SK hynix Semiconductor (Shanghai) Co.,Ltd.	-
	SK hynix Semiconductor Hong Kong Ltd.	-
	SK hynix Semiconductor India Private Ltd.	-
	SK hynix Semiconductor Taiwan Inc.	-
	SK hynix U.K. Ltd.	-
	SK hynix Ventures America LLC	-
	SK hynix Ventures Hong Kong Limited	-
	Hystars Semiconductor (Wuxi) Co., Ltd	-
	SK hynix system ic (Wuxi) Co., Ltd	-
	SkyHigh Memory Limited Japan	-
	SkyHigh Memory China Limited	-
	SkyHigh Memory Limited	-
	FSK L&S (Jiangsu) Co., Ltd.	-

		FSK L&S (Shanghai) Co., Ltd.	-
		FSK L&S Hungary Kft.	-
		FSK L&S VIETNAM COMPANY LIMITED	-
		FSK L&S USA, Inc.	-
		ONESTORE GLOBAL PTE.LTD.	-
		PHILKO UBINS LTD. CORP.	-
		CHONGQING HAPPYNARAE Co., Ltd.	-
		HAPPYNARAE AMERICA LLC.	-
		HAPPYNARAE HUNGARY KFT.	-
		SUZHOU HAPPYNARAE Co., Ltd.	-
		SK bioscience USA, Inc.	-
		KEY FOUNDRY, INC.	-
		KEY FOUNDRY SHANGHAI CO., LTD	-
		KEY FOUNDRY, LTD	-

Note 1) As of January 2, 2023, SK Microworks Co., Ltd., Jindo Sanwol Solar Power Plant Co., Ltd., and Cast.era LLC. were incorporated as affiliates. Note 2) As of February 1, 2023, Uiseong Hwanghaksan Wind Power Co., Ltd., and JS1 Co., Ltd. were incorporated as affiliates.

Note 3) As of February 15, 2023, SK Telesys Co., Ltd. was excluded from affiliates.

Note 4) SKC Solmix Co., Ltd. was renamed SK N-Pulse Co., Ltd. on January 2, 2023.

Note 5) Samkang M&T Co., Ltd. was renamed SK Ocean Plant Co., Ltd. on February 1, 2023.

Note 6) SKC Hi-Tech & Marketing Co., Ltd. was renamed SK Microworks Solutions Co., Ltd. on January 6, 2023. Note 7)

Overseas affiliates are classified as unlisted companies.

(*) Trade name change: SK Co., Ltd. (formerly SK C&C Co., Ltd.), Entis Co., Ltd. (formerly SK Cytec Co., Ltd.), Paju Energy Services Co., Ltd. (formerly PMP Co., Ltd.), SK M&Service Co., Ltd. (formerly M&Service Co., Ltd.), SK Magic Service Co., Ltd. (formerly Magic Service Co., Ltd.), SK Discovery Co., Ltd. (formerly SK Chemicals Co., Ltd.), SKC Hi-Tech & Marketing Co., Ltd. (formerly SKC Hi-Tech & Marketing LLC.), SK Rent-A-Car Service Co., Ltd. (formerly CarLife Service Co., Ltd.), Dreamus Company (formerly I River Co., Ltd.), SK O&S Co., Ltd. (formerly Network O&S Co., Ltd.), Ulsan GPS Co., Ltd. (formerly Dangjin Eco-Power Co., Ltd.), SK Rent-A-Car (formerly AJ Rent-a-Car Co., Ltd.), Dangjin Eco-Power Co., Ltd. (formerly Dangjin Eco Solar Power Development Co., Ltd.), Narae Energy Services Co., Ltd. (formerly Wirye Energy Service Co., Ltd.), SK Nexilis Co., Ltd. (formerly KCF Technologies Co., Ltd.), D&D Property Management Co., Ltd. (formerly B&M Development Co., Ltd.), SK Materials Performance Co., Ltd. (formerly SK Performance Materials Co., Ltd.), SK Materials Air Plus (formerly SK Air Gas Co., Ltd.), SK Materials Renew Tech Co., Ltd. (formerly Hanyu Chemical Co., Ltd.), SK Ecoplant Co., Ltd. (formerly SK E&C Co., Ltd.), SK Geo Centric Co., Ltd. (formerly SK Global Chemicals Co., Ltd.), SK Shieldus Co., Ltd. (formerly ADT Caps Co., Ltd.), SK Ecoengineering Co., Ltd. (formerly BLH Engineering Co., Ltd.), SK Materials Holdings Co., Ltd. (formerly SK Materials Co., Ltd.), SK Plug Hyverse Co., Ltd. (formerly Halo Hydrogen Co., Ltd.), SK PU Core Co., Ltd. (formerly Mitsui Chemicals & SKC Polyurethanes Inc.), SK Specialty Co., Ltd. (formerly SK Materials Co., Ltd.), D&D Property Solutions Co., Ltd. (formerly D&D Living Solution Co., Ltd.), SK Enmove Co., Ltd. (formerly SK Lubricants Co., Ltd.), SK Resonac Co., Ltd. (formerly SK Showa Denko Co., Ltd.)

[Status of investments between the affiliates]

2022.12.31

(based on common stocks)

Investee \ Investor	SK Innovation	Korea Oil Pipeline Corporation	Happy Kiwoom	SK Energy	Nae Truck	Jeju United FC	Happy Didim	SK Geo Centric	Ulsan Aromatics	Happy Moum
SK Co., Ltd.	33.8%									
SK Innovation		41.0%	100.0%	100.0%				100.0%		
SK Energy					100.0%	100.0%	100.0%			
SK Geo Centric									50.0%	100.0%

SK Enmove										
SK On										
SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S										
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medicine										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	33.8%	41.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	50.0%	100.0%

Investee \ Investor	Wonpol	STAC	SK Enmove	U-Base Manufacturing Asia	SK On	SK Mobile Energy	Happy Miteum	SK Earthon	SK Incheon Petrochemical	SK Trading International
SK Co., Ltd.										
SK Innovation			60.0%		96.5%			100.0%	100.0%	100.0%
SK Energy										
SK Geo Centric	100.0%	50.0%								
SK Enmove				70.0%						
SK On						100.0%	100.0%			

SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S										
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	100.0%	50.0%	60.0%	70.0%	96.5%	100.0%	100.0%	100.0%	100.0%	100.0%

Investee \ Investor	SK IE Technology	SK Telecom	SK Communications	F&U Credit Information	PS & Marketing	SK M&Service	SK O&S	Service Ace	Service Top	SK Telink
SK Co., Ltd.		30.0%								
SK Innovation	61.2%									
SK Energy										
SK Geo Centric										
SK Enmove										
SK On										
SK Telecom			100.0%	50.0%	100.0%		100.0%	100.0%	100.0%	100.0%
SK Broadband										

PS & Marketing						100.0%				
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S										
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	61.2%	30.0%	100.0%	50.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Investee \ Investor	Happy Hanwool	SK Store	SK Broadband	Home & Service	Media S	SK Square	Dreamus Company	Studio Dolphin	Nano & Tech	FSK L&S
SK Co., Ltd.						30.0%				
SK Innovation										
SK Energy										
SK Geo Centric										
SK Enmove										
SK On										
SK Telecom	100.0%	100.0%	74.4%							
SK Broadband				100.0%	100.0%					
PS & Marketing										

SK Square							51.4%		28.4%	60.0%
Dreamus Company								100.0%		
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S										
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	100.0%	100.0%	74.4%	100.0%	100.0%	30.0%	51.4%	100.0%	28.4%	60.0%

Investee \ Investor	11st	SK Planet	Incross	Infra Communications	Mind Knock	Solu-tion	SK Telecom CST1	Content Wavve	Studio Wavve	SK Shieldus
SK Co., Ltd.										
SK Innovation										
SK Energy										
SK Geo Centric										
SK Enmove										
SK On										
SK Telecom										
SK Broadband										

PS & Marketing										
SK Square	98.1%	98.7%	36.1%				55.4%	37.5%		63.1%
Dreamus Company										
One Store										
Incross				100.0%	100.0%	100.0%				
Content Wavve									100.0%	
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S										
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	98.1%	98.7%	36.1%	100.0%	100.0%	100.0%	55.4%	37.5%	100.0%	63.1%

Investee \ Investor	Caps Tech	One Store	Lock Media	Tmap Mobility	YLP	Good Service	Seoul Air Bus	Logi Soft	SK Hynix	SK Hystec
SK Co., Ltd.										
SK Innovation										
SK Energy										
SK Geo Centric										
SK Enmove										
SK On										
SK Telecom										

SK Broadband										
PS & Marketing										
SK Square		47.5%		62.5%					20.1%	
Dreamus Company										
One Store			100.0%							
Incross										
Content Wavve										
Tmap Mobility					100.0%	100.0%	100.0%	100.0%		
SK Shieldus	100.0%									
SK Planet										
SK Hynix										100.0%
SK E&S										
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	100.0%	47.5%	100.0%	62.5%	100.0%	100.0%	100.0%	100.0%	20.1%	100.0%

Investee \ Investor	SK Hyeng	Happy-More	SK Hynix System IC	Happy Narae	Key Foundry	SK E&S	Cowon Energy Service	Busan City Gas	Chungcheong Energy Service	Yeongnam Energy Service
SK Co., Ltd.						90.0%				
SK Innovation										
SK Energy										
SK Geo Centric										
SK Enmove										
SK On										

SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix	100.0%	100.0%	100.0%	100.0%	100.0%					
SK E&S							100.0%	100.0%	100.0%	100.0%
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	100.0%	100.0%	100.0%	100.0%	100.0%	90.0%	100.0%	100.0%	100.0%	100.0%

Investee Investor	Jeonnam City Gas	Kangwon City Gas	Jeonbuk Energy Service	Paju Energy Service	Narae Energy Service	Yeoju Energy Service	Boryeong LNG Terminal	Jeonnam Offshore Wind Power	Sinan Jeungdo Solar	Haetsal Solar Power
SK Co., Ltd.										
SK Innovation										
SK Energy										
SK Geo Centric										
SK Enmove										

SK On										
SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S	100.0%	100.0%	100.0%	51.0%	100.0%	100.0%	50.0%	51.0%	100.0%	100.0%
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Sittron										
ANTS										
Subsidiaries Total	100.0%	100.0%	100.0%	51.0%	100.0%	100.0%	50.0%	51.0%	100.0%	100.0%

Investee \ Investor	Solis	Ariul Happy Solar	Busan Jeongkwan Energy	IGE	Jeonnam 2 Offshore Wind Power	Jeonnam 3 Offshore Wind Power	Dangjin Happiness Solar	Haesola Energy	Parking Cloud	SK Plug Hyverse
SK Co., Ltd.										
SK Innovation										
SK Energy										
SK Geo Centric										

SK Enmove										
SK On										
SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S	71.2%	100.0%	100.0%	100.0%	55.0%	55.0%	100.0%	50.0%	47.0%	51.0%
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	71.2%	100.0%	100.0%	100.0%	55.0%	55.0%	100.0%	50.0%	47.0%	51.0%

Investee \ Investor	Lake Busa Happy Nanum Solar	SKC	SKC Solmix	SKC Hi-tech & Marketing	SKCFT Holdings	SK Nexilis	SK PIC Global	SK TVM Geo Stone	Ecovance	All New One
SK Co., Ltd.		40.6%								
SK Innovation										
SK Energy										
SK Geo Centric										
SK Enmove										
SK On										

SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S	70.0%									
Parking Cloud										
SKC			100.0%	100.0%	100.0%		51.0%	51.0%	73.2%	100.0%
SKCFT Holdings						100.0%				
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	70.0%	40.6%	100.0%	100.0%	100.0%	100.0%	51.0%	51.0%	73.2%	100.0%

Investee \ Investor	SK Telesys	SK PU Core	SK Networks	SK Networks Service	SK Rent-A-Car	SK Rent-A-Car Service	Minitit	Katini	SK Magic	SK Magic Service
SK Co., Ltd.			39.1%							
SK Innovation										
SK Energy										
SK Geo Centric										
SK Enmove										

SK On										
SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S										
Parking Cloud										
SKC	81.4%	100.0%								
SKCFT Holdings										
SK Networks				86.5%	72.9%		100.0%	100.0%	100.0%	
SK Rent-A-Car						100.0%				
SK Magic										100.0%
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	81.4%	100.0%	39.1%	86.5%	72.9%	100.0%	100.0%	100.0%	100.0%	100.0%

Investee \ Investor	SK Ecoplant	Environmental Facility Management	YS Tech	Chungcheong Environmental Energy	Gyeonggi Environmental Energy	Gyeongin Environmental Energy	Gyeongbuk Environmental Energy	Seonam Environmental Energy	Honam Environmental Energy	Green Soonchang
SK Co., Ltd.	44.5%									
SK Innovation										
SK Energy										
SK Geo Centric										

SK Enmove										
SK On										
SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S										
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant		100.0%								
Environmental Facility Management			100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	44.5%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Investee \ Investor	Green Hwasoon	Gokseong Environment	Dalseong Clear Water	Gyeongsan Clear Water	Daewon Green Energy	Daewon Hi-tech	E-Medione	E-Medione Logis	Seongju Tech	DDS
SK Co., Ltd.										
SK Innovation										
SK Energy										

SK Geo Centric										
SK Enmove										
SK On										
SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S										
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant					100.0%		100.0%		100.0%	100.0%
Environmental Facility Management	100.0%	100.0%	100.0%	100.0%						
Daewon Green Energy						100.0%				
E-Medione								100.0%		
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Investee \ Investor	Samwon ENT	Saehan Environment	SK Ecoengineering	Urban Environment	Green Environment Technology	Gangdong Green Complex	Southeast Coast Offshore Wind Power	AP Development	JA Green	DY Polymer
SK Co., Ltd.										
SK Innovation										
SK Energy										
SK Geo Centric										
SK Enmove										

SK On										
SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S										
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant	100.0%	100.0%	100.0%	100.0%	100.0%	86.6%	100.0%	100.0%	100.0%	100.0%
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery										
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	100.0%	100.0%	100.0%	100.0%	100.0%	86.6%	100.0%	100.0%	100.0%	100.0%

Investee \ Investor	DY Indus	Samkang M&T	Goseong Holdings	Samkang S&C	SK Plasma	SK Gas	SK Advanced	Ulsan GPS	Dangjin Eco Power	G-Energy
SK Co., Ltd.										
SK Innovation										
SK Energy										
SK Geo Centric										

SK Enmove											
SK On											
SK Telecom											
SK Broadband											
PS & Marketing											
SK Square											
Dreamus Company											
One Store											
Incross											
Content Wavve											
Tmap Mobility											
SK Shieldus											
SK Planet											
SK Hynix											
SK E&S											
Parking Cloud											
SKC											
SKCFT Holdings											
SK Networks											
SK Rent-A-Car											
SK Magic											
SK Ecoplant	100.0%	30.6%									
Environmental Facility Management											
Daewon Green Energy											
E-Medione											
Samkang M&T			100.0%	36.6%							
Goseong Holdings				59.1%							
SK Discovery					85.0%	72.2%					
SK Gas							45.0%	99.5%	54.9%	50.0%	
Lotte SK Eneroot											
SK D&D											
Korea Marketplace Systems											
SK Chemicals											
Hweechan											
SK Consigned Management											
Real Estate Investment Company											
SK Specialty											
SK Siltron											
ANTS											
Subsidiaries Total	100.0%	30.6%	100.0%	95.7%	85.0%	72.2%	45.0%	99.5%	54.9%	50.0%	

Investee / Investor	Lotte SK Eneroot	Ulsan Eneroot 1	Ulsan Eneroot 2	SK D&D	D&D Investment	DDIYS832	DDIOS108	D&D Property Solutions	Korea Marketplace Systems	The Biz
SK Co., Ltd.										
SK Innovation										
SK Energy										

SK Geo Centric										
SK Enmove										
SK On										
SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S										
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery				34.1%					81.0%	
SK Gas	45.0%									
Lotte SK Eneroot		100.0%	100.0%							
SK D&D					100.0%	100.0%	100.0%	100.0%		
Korea Marketplace Systems										100.0%
SK Chemicals										
Hweechan										
SK Consigned Management										
Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	45.0%	100.0%	100.0%	34.1%	100.0%	100.0%	100.0%	100.0%	81.0%	100.0%

Investee \ Investor	SK Chemicals	SK Bioscience	Entis	JSI	SK Chemicals Daejung	SK Multi-Utility	SK Biopharmaceuticals	SK Forest	Hweechan	SK Pinx
SK Co., Ltd.							64.0%	100.0%	100.0%	
SK Innovation										
SK Energy										
SK Geo Centric										
SK Enmove										

SK On										
SK Telecom										
SK Broadband										
PS & Marketing										
SK Square										
Dreamus Company										
One Store										
Incross										
Content Wavve										
Tmap Mobility										
SK Shieldus										
SK Planet										
SK Hynix										
SK E&S										
Parking Cloud										
SKC										
SKCFT Holdings										
SK Networks										
SK Rent-A-Car										
SK Magic										
SK Ecoplant										
Environmental Facility Management										
Daewon Green Energy										
E-Medione										
Samkang M&T										
Goseong Holdings										
SK Discovery	40.9%									
SK Gas										
Lotte SK Eneroot										
SK D&D										
Korea Marketplace Systems										
SK Chemicals		68.2%	50.0%	40.0%	50.0%	100.0%				
Hweechan										100.0%
SK Consigned Management Real Estate Investment Company										
SK Specialty										
SK Siltron										
ANTS										
Subsidiaries Total	40.9%	68.2%	50.0%	40.0%	50.0%	100.0%	64.0%	100.0%	100.0%	100.0%

Investee / Investor	SK REITs Management	SK Materials Air Plus	SK Trichem	SK Resonac	SK Materials Renew Tech	SK Materials Performance	Materials JNC	SK Materials Group 14	SK Consigned Management Real Estate Investment Company	Clean Energy Consigned Management Real Estate Investment Company
SK Co., Ltd.	100.0%	100.0%	65.0%	51.0%	100.0%	100.0%	51.0%	75.0%	43.0%	
SK Innovation										
SK Energy										
SK Geo Centric										

SK Enmove											
SK On											
SK Telecom											
SK Broadband											
PS & Marketing											
SK Square											
Dreamus Company											
One Store											
Incross											
Content Wavve											
Tmap Mobility											
SK Shieldus											
SK Planet											
SK Hynix											
SK E&S											
Parking Cloud											
SKC											
SKCFT Holdings											
SK Networks											
SK Rent-A-Car											
SK Magic											
SK Ecoplant											
Environmental Facility Management											
Daewon Green Energy											
E-Medione											
Samkang M&T											
Goseong Holdings											
SK Discovery											
SK Gas											
Lotte SK Eneroot											
SK D&D											
Korea Marketplace Systems											
SK Chemicals											
Hweechan											
SK Consigned Management Real Estate Investment Company											100.0%
SK Specialty											
SK Siltron											
ANTS											
Subsidiaries Total	100.0%	100.0%	65.0%	51.0%	100.0%	100.0%	51.0%	75.0%	43.0%		100.0%

Investee \ Investor	Total Value No. 1 Consigned Management Real Estate Investment Company Investor	SK Specialty	Happy Donghaeng	SK Siltron	Happy Chaewoom	SM Core	Ubins
SK Co., Ltd.		100.0%		51.0%		26.6%	
SK Innovation							
SK Energy							
SK Geo Centric							
SK Enmove							

SK On							
SK Telecom							
SK Broadband							
PS & Marketing							
SK Square							
Dreamus Company							
One Store							
Incross							
Content Wavve							
Tmap Mobility							
SK Shieldus							
SK Planet							
SK Hynix							
SK E&S							
Parking Cloud							
SKC							
SKCFT Holdings							
SK Networks							
SK Rent-A-Car							
SK Magic							
SK Ecoplant							
Environmental Facility Management							
Daewon Green Energy							
E-Medione							
Samkang M&T							
Goseong Holdings							
SK Discovery							
SK Gas							
Lotte SK Eneroot							
SK D&D							
Korea Marketplace Systems							
SK Chemicals							
Hweechan							
SK Consigned Management Real Estate Investment Company	100.0%						
SK Specialty			100.0%				
SK Siltron					100.0%		
ANTS							98.1%
Subsidiaries Total	100.0%	100.0%	100.0%	51.0%	100.0%	26.6%	98.1%

Note 1) SKC Solmix Co., Ltd. was renamed SK N-Pulse Co., Ltd. on January 2, 2023.

Note 2) Samkang M&T Co., Ltd. was renamed SK Ocean Plant Co., Ltd. on February 1, 2023.

Note 3) SKC Hi-Tech & Marketing was renamed SK Microworks Solutions Co., Ltd. on January 6, 2023.

3. Status of Investments in Other Corporations (Details)

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(Reference date: 2022.12.31)

(Unit: KRW one million, stocks, %)

Name of corporation	Whether listed	Date of initial acquisition	Purpose of investment	Amount of initial acquisition	Balance at beginning of period			Increase (decrease)			Balance at end of period			Financial status of the latest business year	
					Quantity	Equity interest	Book amount	Acquired (disposed)		Gain and loss on valuation	Quantity	Equity interest	Book amount	Total assets	Net income
								Quantity	Amount						
SK Bioscience Co., Ltd.	Listed	2018.07.01	Management participation	193,664	52,350,000	68.43	168,972	-	-	-	52,350,000	68.18	168,972	2,141,931	122,452
SK Chemicals Daejung Co., Ltd.	Unlisted	2020.04.17	Management participation	3	877,303	50.00	6,141	-	-	-	877,303	50.00	6,141	18,307	2,779
SK bioscience USA, Inc.	Unlisted	2022.12.19	Management participation	6,551	-	-	-	-	6,551	-	-	100.00	6,551	6,292	-365
SK Multi-Utility	Unlisted	2021.12.01	Management participation	160,012	1,000,000	100.00	160,012	-	-	-	1,000,000	100.00	160,012	301,529	2,399
SK Chemicals (Qingdao) Co., Ltd.	Unlisted	2001.12.31	Management participation	2,537	-	-	-	-	-	-	-	-	-	-	-
SK Chemicals (Suzhou) Co., Ltd.	Unlisted	2005.12.13	Management participation	1,241	-	100.00	11,420	-	-	-	-	100.00	11,420	26,773	1,362
SK Environmental Materials (Yantai) Co., Ltd.	Unlisted	2020.07.13	Management participation	505	-	100.00	20,410	-	13,438	-	-	100.00	33,848	48,881	-
SK Chemicals (Shanghai) Co., Ltd.	Unlisted	2019.02.28	Management participation	102	-	100.00	102	-	-	-	-	100.00	102	1,203	-142
SK Chemicals America	Unlisted	2002.07.26	Management participation	1,058	-	100.00	1,448	-	-	-	-	100.00	1,448	69,065	2,434
SK Chemicals GmbH	Unlisted	2008.06.20	Management participation	40	-	100.00	433	-	-	-	-	100.00	433	60,036	3,036
SK Chemicals Malaysia	Unlisted	2020.12.28	Management participation	373	1,347,316	100.00	373	-	-	-	1,347,316	100.00	373	493	16
Enlis (formerly SK Cytech)	Unlisted	1987.08.10	Management participation	1,250	250,000	50.00	4,892	-	-	-	250,000	50.00	4,892	22,229	745
ST Green Energy Pte, Ltd	Unlisted	2009.04.08	Management participation	199	475,000	50.00	585	-475,000	-585	-	-	-	-	2,784	104
JSI Co., Ltd.	Unlisted	2015.04.29	Management participation	6,078	160,000	40.00	-	-	-	-	160,000	40.00	-	9,593	-46
HDC Polyall	Unlisted	2022.03.31	Management participation	7,700	-	20.00	7,700	-	-	-	-	20.00	7,700	49,292	-5,457
Eastman Fiber Korea Ltd. (EFKL) (preferred stocks)	Unlisted	2019.08.28	Simple investment	24,053	14,000,000	20.00	23,506	-	-	1,622	14,000,000	20.00	25,128	193,354	7,594
Korea Investment Bio Global Fund	Unlisted	2020.11.18	Simple investment	2,500	-	1.43	4,186	-	-	-1,473	-	1.43	2,712	374,930	-930
Standigm Inc. (preferred stocks)	Unlisted	2021.05.27	Simple investment	3,000	194,301	1.40	3,000	-	-	-	194,301	1.40	3,000	33,044	9,932
J2HBIOTECH Inc.	Unlisted	2021.08.06	Simple investment	1,500	24,136	0.88	1,500	-	-	-	24,136	0.88	1,500	41,104	-10,045
Oncobix Co., Ltd.	Unlisted	2021.11.18	Simple investment	1,000	27,066	2.34	1,000	-	-	-	27,066	2.34	1,000	5,021	-2,936
Sante Health Ventures IV, LP	Unlisted	2021.11.04	Simple investment	971	-	5.30	971	-	2,398	-	-	5.30	3,369	59,291	3,933
Yongyeon Industrial District 4 Industrial Water Management Association	Unlisted	2006.12.29	Simple investment	128	-	71.70	419	-	-	-	-	71.70	419	1,851	476
Total					-	-	417,068	-	21,802	148	-	-	439,018	-	-

※ During the current period, SK Bioscience USA, Inc. was incorporated as a consolidated subsidiary.

※ The shares of Eastman Fiber Korea Ltd. (EFKL) are the preferred shares with voting rights, and the equity interest ratio is based on the total number of shares issued, and the shares of Standigm Inc. are convertible redeemable preferred shares with voting rights, and the equity interest ratio is based on the total number of shares issued.

※ During the current period, SK Chemicals (Qingdao) Co., Ltd.'s holding interest was sold, and the financial status before the loss of control has been entered.

※ This is the financial status based on the consolidated financial statements adjusted to achieve consistency with the accounting policies of the consolidated subsidiaries to those of the controlling company.

※ The corporations without a separation marking are based on the common stocks.

4. Major Contracts in Terms of Management (Details)

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A. License-out contracts

[SK Bioscience]

1) Item: Recombinant Factor VIII (hemophilia treatment)

① Counterparty to contract	CSL (Australia)
② Contractual details	Granting of an exclusive license for recombinant Factor VIII (hemophilia treatment) in target territories
③ Target territories	All over the world except the Republic of Korea

④ Contract period	From May 2009 until the expiration of royalty term
⑤ Total contract value	(Note)
⑥ Amount received	(Note) (with no obligation to return)
⑦ Contractual terms and conditions	(Note)
⑧ Accounting method	Recognized as sales
⑨ Target technology	Recombinant Factor VIII
⑩ Progress of the development	On sale after securing permission for each territory after securing the permission and releasing in USA in 2016
⑪ Other matters	-

(Note) The details have not been entered as they are trade secrets.

2) Item: A cell culture-based high-efficiency influenza vaccine production technology

① Counterparty to contract	Sanofi Pasteur (USA)
② Contractual details	Granting of an exclusive license for the cell culture-based, high-efficiency influenza vaccine production technology limited for the target territories
③ Target territories	USA and Europe
④ Contract period	From February 12, 2018 until the expiration of royalty term
⑤ Total contract value	USD 155M
⑥ Amount received	USD 35M (with no obligation to return) (down payment of USD 15M, milestone of USD 20M for technology transfer upon completion)
⑦ Contractual terms and conditions	Down payment of USD 15M, milestone of USD20 M for technology transfer upon completion Milestone of up to USD 120M depending on entry into clinical trials and approval
⑧ Accounting method	Recognized as sales
⑨ Target technology	A cell-culture-based high-efficiency influenza vaccine production technology
⑩ Progress of the development	Contract terminated
⑪ Other matters	-

B. License-in contracts

[SK Chemicals]

1) Item: SKP204

① Counterparty to contract	ITALFARMACO, ITF RESEARCH
② Contractual details	Secure domestic sales rights for SKP204, and use original developer's permitted data and patent rights
③ Target territories	Korea
④ Contract period	Contract's effective date: January 28, 2021
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	The down payment was converted into an intangible asset and amortized, following which the R&D expenses were recognized as expenses.
⑨ Target technology	Formulation change product of the existing Lou Gehrig's disease treatment

⑩ Progress of the development	Approved
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

2) Item: SKP205

① Counterparty to contract	Miravo Healthcare
② Contractual details	Secure domestic sales rights for SKP205, and use original developer's permitted data and trademark rights
③ Target territories	Korea
④ Contract period	Contract's effective date: July 28, 2021
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	The down payment was converted into an intangible asset and amortized, following which the R&D expenses were recognized as expenses.
⑨ Target technology	Migraine combination
⑩ Progress of the development	Approval in progress
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

3) Item: SKP221

① Counterparty to contract	Korea United Pharm Inc.
② Contractual details	Joint development and consignment
③ Target territories	Korea
④ Contract period	Contract's effective date: June 28, 2022
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	The down payment was converted into an intangible asset and amortized.
⑨ Target technology	Hyperlipidemia combination
⑩ Progress of the development	Phase 1 clinical trial
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

4) Item: SKP222

① Counterparty to contract	Synthon B.V
② Contractual details	Secure domestic exclusive sales rights for SKP222, and use original developer's permitted data
③ Target territories	Korea

④ Contract period	Contract's effective date: May 31, 2022
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	The down payment was converted into an intangible asset and amortized, following which the R&D expenses were recognized as expenses.
⑨ Target technology	Formulation change product of existing serum phosphorus regulator
⑩ Progress of the development	Applied for approval
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

[SK Bioscience]

1) Introduction of Novavax COVID-19 vaccine technology

① Counterparty to contract	Novavax (USA)
② Contractual details	Authorized to exclusively develop, produce, and market COVID-19 vaccines developed by Novavax in the target territory
③ Target territories	Republic of Korea
④ Date of contract execution	February 12, 2021
⑤ Total contract value	(Note)
⑥ Amount of payment	(Note)
⑦ Contractual terms and conditions	Pay a certain amount of the product sales as the royalties
⑧ Accounting method	Recognized as expenses
⑨ Target technology	Synthetic antigen based COVID-19 vaccine "NVX-CoV2373" production technology
⑩ Progress of the development	Commercial production
⑪ Other matters	In accordance with the purchase contract between the Company and the Korea Centers for Disease Control and Prevention, the date of expiration of the contract to supply a total of 40 million doses is the latest among the dates below. 1) February 12, 2023 2) the date the contractual obligations between the two companies and the Korean government are completed; and 3) the date on which the WHO declares the end of the pandemic

(Note) The details have not been entered as they are trade secrets.

C. Joint development contract

[SK Bioscience]

1) Item: Next-generation pneumococcal vaccine

① Counterparty to contract	Sanofi (USA)
② Contractual details	Joint development and sales of a next-generation pneumococcal vaccine
③ Target territories	(Note)
④ Date of contract execution	March 19, 2014
⑤ Total contract value	USD 45M

⑥ Amount received	USD 45M (with no obligation to return)
⑦ Contractual terms and conditions	(Note)
⑧ Accounting method	Recognized as sales
⑨ Target technology	Development technology for a pneumococcal protein conjugate vaccine
⑩ Progress of the development	Phase 2 clinical trial in the USA
⑪ Other matters	-

(Note) The details have not been entered as they are trade secrets.

2) Item: Typhoid conjugate vaccine

① Counterparty to contract	International Vaccine Institute
② Contractual details	Joint development of a typhoid conjugate vaccine
③ Target territories	Worldwide
④ Date of contract execution	April 2013
⑤ Total contract value	Receipt of the R&D expenses
⑥ Amount received	(Note)
⑦ Contractual terms and conditions	Process development and commercial production supply for the typhoid conjugate vaccine developed by IVI
⑧ Accounting method	(Note)
⑨ Target technology	Application of conjugation technology of antigen and carrier protein
⑩ Progress of the development	Obtained export product approval
⑪ Other matters	Introduced the typhoid polysaccharide conjugate vaccine production technology from the International Vaccine Institute (IVI) and conducted clinical research via funds from Bill & Melinda Gates Foundation (BMGF)

(Note) The details have not been entered as they are trade secrets.

3) Item: Next-generation pediatric enteritis vaccine

① Counterparty to contract	Program for Appropriate Technology in Health (PATH)
② Contractual details	Joint development of a next-generation pediatric enteritis vaccine
③ Target territories	Worldwide
④ Date of contract execution	April 2017
⑤ Total contract value	Receipt of the R&D expenses
⑥ Amount received	(Note)
⑦ Contractual terms and conditions	Process development and commercial production supply for the next generation pediatric enteritis vaccine developed by PATH
⑧ Accounting method	(Note)
⑨ Target technology	Development of rotavirus vaccine using the recombinant protein manufacturing technology
⑩ Progress of the development	Phase 3 clinical trial completed (terminated early)
⑪ Other matters	Joint development contract with the international non-profit organization, PATH

(Note) The details have not been entered as they are trade secrets.

4) COVID-19 vaccine (GBP510) project research/development contract

① Counterparty to contract	Coalition for Epidemic Preparedness Innovations (CEPI)
② Contractual details	COVID-19 vaccine (GBP510) project research/development
③ Target territories	-
④ Date of contract execution	December 2020
⑤ Total contract value	USD 10.0M
⑥ Amount received	(Note)
⑦ Contractual terms and conditions	Support for clinical drug production and phase 1/2 clinical trial costs, compliance with open access policies, and supply of vaccines through COVAX facilities upon commercialization
⑧ Accounting method	Deduction of R&D expenses
⑨ Target technology	Prophylactic vaccine against the SARS-CoV-2 viral antigen
⑩ Progress of the development	Obtained domestic product approval, additional clinical research in progress (age expansion and additional vaccination, etc.)
⑪ Other matters	-

(Note) The details have not been entered as they are trade secrets.

5) Contract for additional support for COVID-19 vaccine (GBP510) project research/development

① Counterparty to contract	Coalition for Epidemic Preparedness Innovations (CEPI)
② Contractual details	Contract for additional support for COVID-19 vaccine (GBP510) project research/development
③ Target territories	-
④ Date of contract execution	May 2021
⑤ Total contract value	USD 200.1M
⑥ Amount received	(Note)
⑦ Contractual terms and conditions	Scale-up production, variant vaccine development, support for phase 3 clinical trials and additional clinical trials, compliance with open access policy, vaccine supply through COVAX facility upon commercialization
⑧ Accounting method	Deduction of R&D expenses
⑨ Target technology	Prophylactic vaccine against the SARS-CoV-2 viral antigen
⑩ Progress of the development	Obtained domestic product approval, additional clinical research in progress (age expansion and additional vaccination, etc.)
⑪ Other matters	-

(Note) The details have not been entered as they are trade secrets.

6) Vaccine (GBP511) project research/development contract to respond to a wide range of variants

① Counterparty to contract	Coalition for Epidemic Preparedness Innovations (CEPI)
② Contractual details	Vaccine (GBP511) project research/development contract to respond to a wide range of variants
③ Target territories	-
④ Date of contract execution	December 2021
⑤ Total contract value	USD 50.0M

⑥ Amount received	(Note)
⑦ Contractual terms and conditions	Discovery of antigen candidates, preclinical and phase 1/2 clinical trials, compliance with open access policy, supply of vaccines through COVAX facility upon commercialization
⑧ Accounting method	Deduction of R&D expenses
⑨ Target technology	Prophylactic vaccine against the SARS-CoV-2 viral antigen
⑩ Progress of the development	Candidate screening and process development in progress
⑪ Other matters	-

(Note) The details have not been entered as they are trade secrets.

7) COVID-19 mRNA vaccine (GBP550) development

① Counterparty to contract	Bill & Melinda Gates Foundation (BMGF)
② Contractual details	COVID-19 mRNA vaccine project R&D contract
③ Target territories	-
④ Date of contract execution	November 2021
⑤ Total contract value	USD 2.0M
⑥ Amount received	(Note)
⑦ Contractual terms and conditions	Process development and non-clinical evaluation of candidates
⑧ Accounting method	Deduction of R&D expenses
⑨ Target technology	Prophylactic mRNA vaccine against the SARS-CoV-2 viral antigen
⑩ Progress of the development	Non-clinical
⑪ Other matters	-

(Note) The details have not been entered as they are trade secrets.

8) Nasal Spray

① Counterparty to contract	International AIDS Vaccine Initiative (IAVI)
② Contractual details	Establishment of the nasal spray drug platform for prevention and treatment of respiratory viruses such as COVID-19 and influenza
③ Target territories	-
④ Date of contract execution	November 2021
⑤ Total contract value	USD 2.2M (Additional funding available at a later date)
⑥ Amount received	USD 2.2M
⑦ Contractual terms and conditions	(Note)
⑧ Accounting method	Deduction of R&D expenses
⑨ Target technology	The binding of the administered protein to the respiratory virus receptor in the nasal cavity to prevent the human body receptor binding of the virus and infection
⑩ Progress of the development	Basic research in progress
⑪ Other matters	-

(Note) The details have not been entered as they are trade secrets.

9) Japanese encephalitis virus/Lassa fever mRNA vaccine (GBP560, GBP570) development

① Counterparty to contract	Coalition for Epidemic Preparedness Innovations (CEPI)
② Contractual details	Research and development of Japanese encephalitis virus and Lassa fever virus mRNA vaccine platforms
③ Target territories	-
④ Date of contract execution	October 2022
⑤ Total contract value	USD 140.0M (maximum)
⑥ Amount received	(Note)
⑦ Contractual terms and conditions	(Note)
⑧ Accounting method	Deduction of R&D expenses
⑨ Target technology	Prophylactic mRNA vaccine against Japanese encephalitis virus and Lassa fever virus antigens
⑩ Progress of the development	Basic research in progress
⑪ Other matters	-

D. CDMO/CMO contract

1) Novavax COVID-19 vaccine CDMO contract

① Counterparty to contract	Novavax (USA)
② Contractual details	Consigned development and production of COVID-19 vaccine candidate NVX-CoV2373
③ Date of contract execution	August 11, 2020
④ Contract period	(Note)
⑤ Contract value	(Note)

(Note) The details have not been entered as they are trade secrets.

2) AstraZeneca COVID-19 vaccine CMO contract

① Counterparty to contract	AstraZeneca (UK)
② Contractual details	Consigned production of the COVID-19 vaccine AZD1222
③ Date of contract execution	July 3, 2020
④ Contract period	July 3, 2020 - December 31, 2021 (contract expired)
⑤ Contract value	(Note)

(Note) The details have not been entered as they are trade secrets.

E. Other contracts

[SK Chemicals]

1) Contract: Asset transfer contract

① Counterparty to contract	TiumBio Co., Ltd.
② Contractual details	Asset transfer contract (patent rights and other tangible and intangible assets for 5 research projects)
③ Target territories	(Note 1)

④ Contract period	Date of contract execution: February 23, 2017
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	(Note 1)
⑨ Target technology	5 research projects: NCE401, NCE403, NCE406, NBP604, NBP611
⑩ Progress of the development	NCE401 (preclinical), NCE403 (Europe, clinical phase 2a), NCE406 (preclinical), NBP604 (preclinical), NBP611 (Discovery)
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

2) Contract: Joint research

① Counterparty to contract	Standigm Inc.
② Contractual details	Joint research for discovery of candidates and development of new drugs using Standigm's AI technology
③ Target territories	Worldwide
④ Contract period	Date of contract execution: July 19, 2019
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Recognized as R&D expenses
⑨ Target technology	Standigm's AI technology related to new drug development
⑩ Progress of the development	Joint research in progress
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

3) Contract: Joint research

① Counterparty to contract	Deargen Inc.
② Contractual details	Joint research for discovery of candidates and development of new drugs using Deargen's AI technology
③ Target territories	Worldwide
④ Contract period	Date of contract execution: October 20, 2020
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Recognized as R&D expenses
⑨ Target technology	Deargen's AI technology related to new drug development
⑩ Progress of the development	Joint research in progress

⑪ Other matters	-
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(Note 1) The details have not been entered as they are trade secrets.

4) Contract: Fund investment

① Counterparty to contract	Korea Investment Partners Co., Ltd.
② Contractual details	Investment as a partner for Korea Investment Partners' "Korea Investment Bio Global Fund"
③ Target territories	N/A
④ Contract period	Date of contract execution: November 18, 2020
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Investments are recognized as available-for-sale financial assets
⑨ Target technology	N/A
⑩ Progress of the development	Fund investment in progress
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

5) Contract: Joint research

① Counterparty to contract	DR. NOAH Biotech Co., Ltd.
② Contractual details	Joint research for discovery of candidates and development of new drugs using DR. NOAH Biotech's AI technology
③ Target territories	Worldwide
④ Contract period	Date of contract execution: November 24, 2020
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Recognized as R&D expenses
⑨ Target technology	DR. NOAH Biotech's AI technology related to new drug development
⑩ Progress of the development	Joint research in progress
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

6) Contract: Equity investment

① Counterparty to contract	Standigm Inc.
② Contractual details	Participation as a strategic investor and equity investment
③ Target territories	N/A

④ Contract period	Date of contract execution: May 14, 2021
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Recognized as available-for-sale financial assets
⑨ Target technology	N/A
⑩ Progress of the development	Pre-IPO phase
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

7) Contract: Equity investment

① Counterparty to contract	J2H Biotech Co., Ltd.
② Contractual details	Participation as a strategic investor and equity investment
③ Target territories	N/A
④ Contract period	Date of contract execution: July 29, 2021
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Recognized as available-for-sale financial assets
⑨ Target technology	N/A
⑩ Progress of the development	Pre-IPO phase
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

8) Contract: Fund investment

① Counterparty to contract	Sante Ventures
② Contractual details	Investment as a partner for the fund of "Sante Health Ventures IV, LP"
③ Target territories	N/A
④ Contract period	Date of contract execution: September 14, 2021
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Investments are recognized as available-for-sale financial assets
⑨ Target technology	N/A
⑩ Progress of the development	Fund investment in progress
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

9) Contract: Joint research

① Counterparty to contract	J2H Biotech Co., Ltd.
② Contractual details	Discovery of candidates and development of new drugs using the OPTIFLEX platform of J2H Biotech Co., Ltd.
③ Target territories	N/A
④ Contract period	Date of contract execution: November 1, 2021
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Recognized as R&D expenses
⑨ Target technology	OPTIFLEX platform including the protein degradation technology of J2H Biotech Co., Ltd.
⑩ Progress of the development	Joint research in progress
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

10) Contract: Equity investment

① Counterparty to contract	Oncobix Co., Ltd.
② Contractual details	Participation as a strategic investor and equity investment
③ Target territories	N/A
④ Contract period	Date of contract execution: November 18, 2021
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Recognized as available-for-sale financial assets
⑨ Target technology	N/A
⑩ Progress of the development	Series A Bridge phase
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

11) Contract: Joint research

① Counterparty to contract	Oncobix Co., Ltd.
② Contractual details	Discovery of candidates and development of new drugs using the new drug development platform of Oncobix Co., Ltd.
③ Target territories	N/A
④ Contract period	Date of contract execution: April 5, 2022
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)

⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Recognized as R&D expenses
⑨ Target technology	New drug development platform of Oncobix Co., Ltd.
⑩ Progress of the development	Joint research in progress
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

12) Contract: Joint research

① Counterparty to contract	inCerebro Co., Ltd.
② Contractual details	Discovery of candidates and development of new drugs using the new drug development platform of inCerebro
③ Target territories	N/A
④ Contract period	Date of contract execution: April 7, 2022
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Recognized as R&D expenses
⑨ Target technology	New drug development platform of inCerebro
⑩ Progress of the development	Joint research in progress
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

13) Contract: Joint research

① Counterparty to contract	Cyclica Inc.
② Contractual details	Discovery of candidates and development of new drugs using the new drug development platform of Cyclica Inc.
③ Target territories	N/A
④ Contract period	Date of contract execution: November 22, 2022
⑤ Total contract value	(Note 1)
⑥ Amount of payment	(Note 1)
⑦ Contractual terms and conditions	(Note 1)
⑧ Accounting method	Recognized as R&D expenses
⑨ Target technology	New drug development platform of Cyclica
⑩ Progress of the development	Joint research in progress
⑪ Other matters	-

(Note 1) The details have not been entered as they are trade secrets.

E. Other contracts

(1) COVID-19 vaccine development and facility use contract

① Counterparty to contract	Coalition for Epidemic Preparedness Innovations (CEPI)
② Contractual details	A contract for providing facilities so that the CEPI-designated vaccine developer can use specific facilities and capabilities of the Company for developing and producing COVID-19 vaccines.
③ Date of contract execution	June 2020 October 2021 (extension contract executed)
④ Contract period	(Note)
⑤ Contract value	(Note)

(Note) The details have not been entered as they are trade secrets.

5. Performance in Research & Development (Details) - <Life Science>

[Go to the main text](#)

[Pharma Business]

1) Item: SID710

① Classification	Generic
② Indicant	Dementia
③ Action mechanism	AchE inhibitor
④ Product characteristics	1st generic in Europe
⑤ Progress	Commercialization in progress in Europe, South America, the Middle East, and others. Released in the USA, planned for release in Brazil.
⑥ Future plan	Expand markets
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Approximately KRW 800 billion in the global market
⑩ Other matters	-

2) Item: SID1806

① Classification	Incrementally modified drug
② Indicant	Arthritis
③ Action mechanism	-
④ Product characteristics	Incrementally modified drug
⑤ Progress	Phase 3 clinical trial
⑥ Future plan	Release in Korea
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Approximately KRW 130 billion in the Korean market
⑩ Other matters	-

3) Item: SID1901

① Classification	Generic
② Indicant	Hypertension
③ Action mechanism	Calcium channel blocker
④ Product characteristics	Salt-changed generic
⑤ Progress	Phase 1 clinical trial
⑥ Future plan	Approval
⑦ Competing products	-
⑧ Related papers	-

⑨ Market size	Approximately KRW 100 billion in the Korean market
⑩ Other matters	-

4) Item: SID1903

① Classification	Incrementally modified drug
② Indicant	Diabetes
③ Action mechanism	-
④ Product characteristics	Incrementally modified drug
⑤ Progress	Phase 1 clinical trial
⑥ Future plan	Approval
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Approximately KRW 500 billion in the Korean market
⑩ Other matters	-

5) Item: SID2001

① Classification	Generic
② Indicant	Hypertension
③ Action mechanism	Angiotensin II receptor blocker
④ Product characteristics	Generic
⑤ Progress	Released
⑥ Future plan	Expand marketing in Korea
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Approximately KRW 100 billion in the Korean market
⑩ Other matters	-

6) Item: SID2101

① Classification	Generic
② Indicant	Migraine
③ Action mechanism	Selective serotonin receptor agonist
④ Product characteristics	Generic
⑤ Progress	Formulation research
⑥ Future plan	Phase 1 clinical trial
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Estimated at approximately KRW 21 billion in the Korean market

⑩ Other matters	-
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7) Item: SID2102

① Classification	Generic
② Indicant	Thrombocytopenia
③ Action mechanism	TPO-RA (Thrombopoietin Receptor Agonist)
④ Product characteristics	Generic
⑤ Progress	Formulation research
⑥ Future plan	Phase 1 clinical trial
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Estimated at approximately KRW 2 trillion in 2022 in the global market
⑩ Other matters	-

8) Item: NCE201, NCE202, NCE204

① Classification	New drug
② Indicant	Non-alcoholic steatohepatitis
③ Action mechanism	-
④ Product characteristics	-
⑤ Progress	Non-clinical
⑥ Future plan	Global L/O
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Expected to be approximately KRW 26 trillion in 2027 in markets of 7 major countries
⑩ Other matters	-

9) Item: NCE205

① Classification	New drug
② Indicant	Idiopathic pulmonary fibrosis
③ Action mechanism	-
④ Product characteristics	-
⑤ Progress	Discovery
⑥ Future plan	Global L/O
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Expected to be approximately KRW 3.8 trillion in 2025 in markets of 7 major countries
⑩ Other matters	-

10) Item: NCE223, NCE224

① Classification	New drug
② Indicant	Cancer
③ Action mechanism	-
④ Product characteristics	-
⑤ Progress	Discovery
⑥ Future plan	Global L/O
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Target carcinoma undetermined
⑩ Other matters	-

11) Item: SKR206

① Classification	New drug
② Indicant	Non-alcoholic steatohepatitis
③ Action mechanism	-
④ Product characteristics	-
⑤ Progress	Non-clinical
⑥ Future plan	Non-clinical
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Expected to be approximately KRW 26 trillion in 2027 in markets of 7 major countries
⑩ Other matters	-

12) Item: SKR207

① Classification	New drug
② Indicant	Idiopathic pulmonary fibrosis
③ Action mechanism	-
④ Product characteristics	-
⑤ Progress	Non-clinical
⑥ Future plan	Global L/O
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Expected to be approximately KRW 3.8 trillion in 2025 in markets of 7 major countries
⑩ Other matters	-

13) Item: SKP201

① Classification	Generic
② Indicant	RA
③ Action mechanism	JAK inhibitor
④ Product characteristics	1st generic of the same ingredient
⑤ Progress	Approved
⑥ Future plan	Release in Korea
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Estimated at approximately KRW 12 billion in the market for same ingredient in Korea
⑩ Other matters	-

14) Item: SKP203

① Classification	Generic
② Indicant	Hyperlipidemia treatment
③ Action mechanism	HMG CoA reductase inhibitor, interference with the cholesterol absorption
④ Product characteristics	1st generic of the same ingredient
⑤ Progress	Applied for approval
⑥ Future plan	Release in Korea (April 1, 2021)
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Estimated at approximately KRW 400 billion in Korean market
⑩ Other matters	-

15) Item: SKP204

① Classification	Incrementally modified drug
② Indicant	Lou Gehrig's disease (amyotrophic lateral sclerosis: ALS)
③ Action mechanism	Riluzole's ingredient
④ Product characteristics	Improves the convenience of taking the existing treatments
⑤ Progress	Applied for approval
⑥ Future plan	Release in Korea
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Estimated at approximately KRW 1.05 trillion in 2026 in the global market, and estimated at approximately KRW 10 billion in the Korean market
⑩ Other matters	-

16) Item: SKP205

① Classification	Incrementally modified drug
② Indicant	Migraine
③ Action mechanism	Serotonin receptor + Inhibition for COX enzymes
④ Product characteristics	Incrementally modified combination
⑤ Progress	Applied for approval
⑥ Future plan	Release in Korea
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Estimated at approximately KRW 22 billion in the Korean market
⑩ Other matters	-

17) Item: SKP221

① Classification	Incrementally modified drug
② Indicant	Dyslipidemia
③ Action mechanism	HMG-CoA(3-hydroxy-3-methylglutaryl-coenzyme A) inhibitor /PPAR α (Peroxisome Proliferator Activated Receptor type alpha) agonist
④ Product characteristics	Incrementally modified combination
⑤ Progress	Phase 1 clinical trial
⑥ Future plan	Approval
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Estimated at approximately KRW 22 billion in the Korean market
⑩ Other matters	-

18) Item: SKP222

① Classification	Generic
② Indicant	Serum phosphorus regulation
③ Action mechanism	Phosphate binder
④ Product characteristics	Improves the convenience of taking the existing treatments
⑤ Progress	Applied for approval
⑥ Future plan	Release in Korea
⑦ Competing products	-
⑧ Related papers	-
⑨ Market size	Estimated at approximately KRW 21 billion in the Korean market
⑩ Other matters	-

[SK Bioscience]

1) Item: GBP510

① Classification	Vaccine medicine
② Indicant	Prevention of severe acute respiratory syndrome caused by SARS-CoV-2 virus
③ Action mechanism	Prophylactic vaccine against the SARS-CoV-2 viral antigen
④ Product characteristics	Recombinant nanoparticle protein vaccines
⑤ Progress	Obtained domestic product approval
⑥ Future plan	Overseas licensing and sales of vaccines at home and abroad
⑦ Competing products	11 products based on the WHO's emergency approval (2022, source: covid19.trackvaccines.org) (Oxford/AstraZeneca (AZD1222), Moderna (mRNA-1273), Pfizer/BioNTech (BNT162b2), etc.)
⑧ Related papers	Developing Covid-19 Vaccines at Pandemic Speed, N England Journal of Medicine, DOI: 10.1056/NEJMp2005630 COVID-19 Vaccine: A comprehensive status report, Virus Research (2020), doi: https://doi.org/10.1016/j.virusres.2020.198114 Elicitation of potent neutralizing antibody responses by designed protein nanoparticle vaccines for SARS-CoV-2, bioRxiv preprint doi: https://doi.org/10.1101/2020.08.11.247395
⑨ Market size	USD 13.6 billion in 2021 (2021, source: GlobalData)
⑩ Other matters	Technology introduced from the IPD developer of Washington University. Developed through the funds of Bill & Melinda Gates Foundation and CEPI. IND approval of the phase 3 clinical trial plan for immunogenicity and safety evaluation after GBP510 booster shot vaccination (April 2022)

2) Item: NBP618

① Classification	Vaccine medicine
② Indicant	Prevention of typhoid
③ Action mechanism	Prophylactic vaccine against typhoid antigen
④ Product characteristics	Application of conjugation technology of antigen and carrier protein
⑤ Progress	Obtained export product approval
⑥ Future plan	WHO PQ in progress
⑦ Competing products	Typhim VI (Sanofi), Peda Typh (Bio-Med)
⑧ Related papers	Safety and immunogenicity of a Vi-DT typhoid conjugate vaccine: Phase I trial in Healthy Filipino adults and children. Vaccine. 2018 Jun 18;36(26):3794-3801. doi: 10.1016/j.vaccine.2018.05.038.
⑨ Market size	Approximately USD 230 million in the global market (2018, source: Market Watch)
⑩ Other matters	Introduced the typhoid polysaccharide conjugate vaccine production technology from the International Vaccine Institute (IVI) and conducted clinical research via funds from the Bill & Melinda Gates Foundation.

3) Item: GBP410

① Classification	Vaccine medicine
② Indicant	Prevention of invasive diseases and otitis media caused by pneumococci
③ Action mechanism	Prophylactic vaccine against pneumococcal antigen
④ Product characteristics	Combination of polysaccharide antigens and conjugate proteins
⑤ Progress	Phase 2 clinical trial in the USA in progress (since 2020; targeting children and adults)
⑥ Future plan	Phase 2 clinical trial in the USA
⑦ Competing products	Prevena 13 (Pfizer), Synflorix (GSK)
⑧ Related papers	Creation, characterization, and assignment of opsonic values for a new pneumococcal OPA calibration serum panel (Ewha QC sera panel A) for 13 serotypes. <i>Medicine (Baltimore)</i> . 2018 Apr;97(17):e0567. doi: 10.1097/MD.00000000000010567. Comparative evaluation of a newly developed 13-valent pneumococcal conjugate vaccine in a mouse model. <i>Hum Vaccin Immunother</i> . 2017 May 4;13(5):1169-1176. doi: 10.1080/21645515.2016.1261772. Epub 2016 Dec 14.
⑨ Market size	Approximately USD 6.4 billion in the global market (2019, source: Datamonitor Healthcare)
⑩ Other matters	Joint research with Sanofi

4) Item: NBP615

① Classification	Vaccine medicine
② Indicant	Prevention of cervical cancer and genital warts
③ Action mechanism	Prophylactic vaccine against human papillomavirus antigen
④ Product characteristics	Virus-like particle utilization
⑤ Progress	Phase 1/2 clinical trial completed (2019)
⑥ Future plan	Confirm phase 1/2 clinical trial results to determine future development strategy
⑦ Competing products	Gardasil (MSD), Cervarix (GSK)
⑧ Related papers	-
⑨ Market size	Approximately USD 3.8 billion in the global market. (2019, source: Datamonitor Healthcare) Approximately KRW 65.4 billion in the Korean market (2019, source: IQVIA)
⑩ Other matters	-

5) Item: NBP613

① Classification	Vaccine medicine
② Indicant	Prevention of pediatric enteritis
③ Action mechanism	Prophylactic vaccine against rotavirus antigen
④ Product characteristics	Live attenuated vaccine for rotavirus

⑤ Progress	Phase 1/2 clinical trial completed (2016)
⑥ Future plan	Decide on future development strategies based on the research results
⑦ Competing products	Rotarix (GSK), Rotatech (MSD)
⑧ Related papers	-
⑨ Market size	Approximately USD 1.6 billion in the global market (2019, source: Datamonitor Healthcare)
⑩ Other matters	-

【Confirmation of Experts】

1. Confirmation of Experts

- Not applicable

2. Interest with Experts

- Not applicable