MATERIAL SAFETY DATA SHEET

Version: SK-141028
Date Updated: 2016-06-01
Regulation: EC No 1272/2008

SECTION 1: SUBSTANCE IDENTIFICATION

Name of Substance:	1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol and alpha-hydro-omega-hydroxypoly(oxy-1,4-butanediyl), Butylene / Poly(alkylene ether) phthalate
Product Name:	SKYPEL G130D
Trade name and synonyms :	SKYPEL Polyester Elastomer "SKYPEL" is a registered trademark of SK chemicals
Chemical family :	Thermoplastic Polyester Elastomer
CAS #:	9078-71-1
EC #:	-
Registration information of monomers*:	DMT : 01-2119472299-26-**** 1,4 BD : 01-2119471849-20-****

* All monomers are (pre) registered in this substance (polymer)

PRIMARY / COMMON USES

Uses by workers in industrial settings

Identified Use (IU) name	Process Category (PROC)	Market sector by type of chemical product (PC)	Environmental release category (ERC)	Sector of Use (SU)
Polymerization at production sites of substance (on-site) and at downstream user sites (off-site)	PROC 1: Use in closed process, no likelihood of exposure PROC 2: Use in closed, continuous process with occasional controlled exposure PROC 3: Use in closed batch process (synthesis or formulation) PROC 4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact) PROC 8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC 8b: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities PROC 9: Transfer of substance or preparation into small containers (dedicated filling line, including	PC 19: Intermediate PC 32: Polymer preparations and compounds	ERC 6c: Industrial use of monomers for manufacture of thermoplastics ERC 6d: Industrial use of process regulators for polymerisation processes in production of resins, rubbers, polymers	SU 8: Manufacture of bulk, large scale chemicals (including petroleum products) SU 9: Manufacture of fine chemicals SU 12: Manufacture of plastics products, including compounding and conversion

Identified Use (IU) name	Process Category (PROC)	Market sector by type of chemical product (PC)	Environmental release category (ERC)	Sector of Use (SU)
	weighing)			

COMPANY INFORMATION	
Company name:	SK Chemicals Co., Ltd
Address:	686 Sampyeong dong, Bundang-gu, Seongnam-si, Gyeonggi-do 463-400, Korea
Fax:	+82-2-2008-2259
Email Address:	kjw0428@SK.com
Emergency Telephone:	+82-2-2008-2008

SECTION 2: HAZARDS IDENTIFICATION

Classification:
1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol and alpha-hydro-omega-hydroxypoly(oxy-1,4-butanediyl) is not classified according to Regulation (EC) 1272/2008 and Directive 67/548/EEC.

Labelling: Not applicable

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Component	Conc^{n} / %	CAS / EC #	Classification
Butylene / Poly(alkylene ether) phthalate	≥ 99	9078-71-1/ -	See section 2
Additive(s)	< 1%	Mixture, not applicable	

SECTION 4: FIRST AID MEASURES

After skin contact:
- Remove contaminated clothing and shoes.
- Get medical attention if skin symptoms occurred.
- If burned by contact with hot material, cool molten material adhering to skin as quickly as possible with water, and see a physician for removal of adhering material and treatment of burn.
- Wash contaminated clothing and shoes before reuse.

After eye contact:
- Get medical attention if eye symptoms occurred.
- In case of contact with molten substance, immediately flush eyes with water for at least 15 minutes. Get medical attention immediately.

After ingestion:
- No specific intervention is indicated as the compound is not likely to be hazardous by ingestion. Consult a physician if necessary.

Indication of immediate medical attention and notes for physician:	- Call emergency medical service. Get medical advice/attention if you needed. - Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. - If burned by contact with molten material, cool quickly as possible with water, and then go to see a physician for treatment of burn.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media:

○ Suitable extinguishing media: CO_2, water, sand, Foam, Dry Chemical

Special fire-fighting procedures:

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Structural fire fighters' protective clothing will only provide limited protection.

Special exposure hazards:

○ Thermal decomposition products: Not available
○ Hazardous combustion products: CO_2, CO, Acrolein, Tetrahydrofuran, Acetaldehyde
○ Unusual fire and explosion hazards: Combustible
Hazardous gases / vapors produced in fire are carbon monoxide.

Sensitivity to static discharge: Not available

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions:

- Stop leak if you can do it without risk.
- Isolate exposed area.
- Keep unauthorized personnel away.
- Use certificated protective equipment.
- Ventilate the leaked area.
- Pellets on floor may be slippery and cause falls

Environmental precautions:

- Spilled pellets may cause soil and air pollution.
- Disposal should be carried in compliance with federal, state and local regulations regarding health, air and water pollution

Methods for cleaning up / removal:

- Recover large spills for disposal.
- Carefully sweep up small spills and transfer to suitable container for disposal.
- Avoid creation of dusty atmosphere.
- Do not touch or walk through spilled material.
- Prevent entry into waterways, sewers, basements or confined areas.

SECTION 7: HANDLING AND STORAGE

Handling:

- Avoid contact with molten material.
- Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures.

Prevention of Fire and Explosion: Not available

Storage:

- Keep container closed.
- Do not expose to temperature exceeding 40℃ for a prolonged time.
- Protect from direct sunlight and all heat sources in order to avoid sintering.

- Store container in a well dry/cool place.
- Keep away from waterways and sewers.
- Keep away from any source of ignition.

Other precautions:
- Avoid contamination of foods.
- Avoid inhalation of dust during the processing of the resin

SECTION 8: EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure limits / standards:

Specific exposure limits have not been established or are not applicable unless listed below.

- ○ Regulation in Korean: Not applicable
- ○ US (NIOSH/OSHA AGGIH):
  - NIOSH- TWA: Not applicable
  - OHSA- TWA: Not applicable
  - ACGIH- TWA: Not applicable
- ○ EU Regulation: Not applicable
- ○ Biological Exposure Index: Not applicable

Engineering Controls:

- Provide local exhaust ventilation system or other engineering controls to keep the airborne below their respective threshold limit value.
- Check legal suitability of exposure level.

Personal Protection:

Respiratory Protection:
- Wear NIOSH or European Standard EN 149 approved full or half face piece (with goggles) respiratory protective equipment when necessary.

Eye Protection:
- An eye wash unit and safety shower station should be available nearby work place.
- Wear safety glasses to protect eyes from scattering toxic substance.

Skin Protection
- It is a good industrial hygiene practice to minimize skin contact. When material is heated, wear gloves to protect against thermal burns.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Off-white to light yellow solid (pellets)
Odor	Odorless
pH:	Not applicable
Melting / freezing point:	171~177℃℃
Initial boiling point and boiling range:	Not applicable
Flash point	384℃ (ASTM D1929)
Flammability:	Not available
Evaporation rate	Not available
Upper/lower flammability or explosive limits	Not available
Vapor pressure:	Negligible (20 °C)

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Vapor density:	Not available
Water solubility:	Negligible
Density:	> 1
Specific gravity:	1.07 to 1.09 g/ml (25 °C)
Log partition coefficient (n-octanol/water):	Not available
Auto ignition temperature:	Not available
Decomposition temperature:	Not available
Viscosity:	Not available

SECTION 10: STABILITY AND REACTIVITY

Stability: Not available

Conditions to avoid:

- **Avoid contact** with incompatible materials.
- **Avoid** release to the **environment.**

Materials to avoid: Not available

SECTION 11: TOXICOLOGICAL INFORMATION

	Conclusion / Remarks
(a) Acute toxicity;	Not available
(b) Skin corrosion/irritation;	Molten material will produce thermal burns
(c) Serious eye damage/irritation;	Molten material will produce thermal burns
(d) Respiratory or skin sensitization;	Not available
(e) Germ cell mutagenicity;	Not available
(f) Carcinogenicity;	IARC, NTP, OSHA, ACGIH, EU Regulation 1272/2008, US EPA: not listed
(g) Reproductive toxicity;	Not available
(h) STOT-single exposure;	Not available
(i) STOT-repeated exposure;	Not available
(j) Aspiration hazard.	Not available

SECTION 12: ECOLOGICAL INFORMATION

	Conclusion / Remarks
12.1 Toxicity	Not available
12.2 Persistence and degradability	Not available
12.3 Bioaccumulative potential	No bioconcentration is expected because of high molecular weight (MW > 10,000).
12.4 Mobility in soil	Not available
12.5 Results of PBT and vPvB assessment	Not available
12.6 Other adverse effects	Not available

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal method

- Waste must be disposed of in accordance with federal, state and local environmental control

regulations.

Disposal precaution

- Consider the require attentions in accordance with waste treatment management regulation.

SECTION 14: TRANSPORT INFORMATION

UN #:	Not regulated as a hazardous material in transportation by DOT/IMO/IATA.
Class:	Chemicals, N.O.S. (Not-regulated, Not-classified)
Proper shipping name:	SKYPEL G130D Chemicals, N.O.S. (Not-regulated)
Packing group:	Not applicable
Marine pollutant	Not applicable
Other information:	Not applicable

SECTION 15: REGULATORY INFORMATION

Dangerous as defined by the EU CLP 2008:

This product is not classified and labelled as dangerous according to EC directives.

FOREIGN INVENTORY STATUS:

EU (EINECS/ELINCS/NLPL): SKYPEL Copolyester is not classified as a hazardous substance under EU regulations. The polymer is exempted from listing on EINECS.

TSCA (US Toxic Substances Control Act): All components of SKYPEL Copolyester are listed on the TSCA inventory. Any impurities present in this product are exempt from listing. The polymer is exempted from listing on TSCA.

DSL (Canadian Domestic Substances List) and CEPA (Canadian Environmental Protection Act): All components of SKYPEL Copolyester are listed on the DSL. Any impurities present in this product are exempt from listing. The polymer is exempted from listing on DSL.

ENCS (Japanese Existing and New Chemical Substances): SKYPEL Copolyester is listed on the Japanese Existing and New Chemical Substances

ECL (Korean Toxic Substances Control Act): All components of SKYPEL Copolyester are listed on the Korean inventory or otherwise comply with the Korean Toxic Substances Control Act.

IECSC (Inventory of Existing Chemical Substances in China): All components of SKYPEL Copolyester are listed on the Inventory of Existing Chemical Substances in China. The polymer is exempted from listing on IECSC.

SECTION 16: OTHER INFORMATION

Product safety data sheet for 1,4-Benzenedicarboxylic acid, 1,4-dimethyl ester, polymer with 1,4-butanediol and alpha-hydro-omega-hydroxypoly(oxy-1,4-butanediyl) prepared in accordance with Annex II of the REACH Regulation EC 1907/2006, Regulation (EC) 1272/2008.

Version: 1.1/EN
Revision date: 8 May 2013

This safety data sheet (SDS) is based on the legal provisions of the REACH Regulation (EC 1907/2006; article 31 and Annex II), as amended. Its contents are intended as a guide to the appropriate precautionary handling of the material. It is the responsibility of recipients of this SDS to ensure that the information contained therein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. Information and instructions provided in this SDS are based on the current state of scientific and technical knowledge at the date of issue indicated. It should not be construed as any guarantee of technical performance, suitability for particular applications, and does not establish a legally valid contractual relationship. This version of the SDS supersedes all previous versions.