

SAFETY DATA SHEET

1. Identification of the substance or mixture and of the supplier

A. GHS product identifier : BB, BB8055, BL, BL8050, BR, BR8040, BR-V, HR, HR7155

NOTE : Not all the above grades are available in all markets.

B. Recommended use of the chemical and restrictions on use

Recommended use : Plastics

Restrictions on use : Use for recommended use only

C. Supplier

Company name : SK Chemicals America, Inc.

Address : 2 Park Plaza Suite 1250, Irvine CA, 92614 USA

Emergency phone number : +1-949-336-8088

Fax : +1-949-336-8089

2. Hazards identification

A. GHS classification of the substance/mixture

Not classified

B. GHS label elements, including precautionary statements

Pictogram and symbol : Not applicable

Signal word : Not applicable

Hazard statements : Not applicable

Precautionary statements

Precaution : Not applicable

Treatment : Not applicable

Storage : Not applicable

Disposal : Not applicable

C. Other hazard information not included in hazard classification (NFPA)

Health : Not available

Flammability : Not available

Reactivity : Not available

3. Composition/information on ingredients

Chemical Name	Common Name (Synonyms)	CAS number	EC number	Content (%)
Polyethylene terephthalate	PET	25038-59-9	607-507-1	100

4. First aid measures

A. Eye contact

- Seek medical attention if eye symptoms occur.

- In case of contact with molten substance, immediately flush eyes with water for at least 15 minutes. Seek medical attention immediately.

B. Skin contact

- Remove and isolate contaminated clothing and shoes.
- Seek medical attention if skin symptoms occur.
- 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.

C. Inhalation : Not available**D. Ingestion**

- Get medical attention if substance is ingested.

E. 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 as quickly as possible with water, and then see a physician for treatment.

5. Fire fighting measures

A. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media: CO₂, water, sand

B. Specific hazards arising from the chemical

- Thermal decomposition products: Not available
- Hazardous combustion products: CO₂, CO
- Unusual fire and explosion hazards : No explosion hazards.

C. Special protective equipment and precautions for fire-fighters

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

6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures

- Stop leak if it can be done without risk.
- Isolate exposed area.
- Exclude unauthorised personnel.
- Use certified protective equipment.
- Ventilate the leaked area.
- Do not touch or walk through spilled material.

B. Environmental precautions and protective procedures

- Prevent entry into waterways, sewers, basements or confined areas.

C. The methods of purification and removal

- Use sweeping brush or vacuum cleaner.

7. Handling and storage

A. Precautions for safe 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.

B. Conditions for safe storage

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

8. Exposure controls/personal protection

A. Occupational Exposure limits

Korea regulation : Not applicable

ACGIH regulation : Not applicable

Biological exposure index : Not applicable

OSHA regulation : Not applicable

NIOSH regulation : Not applicable

EU regulation : Not applicable

Other : Latvia=TWA:5mg/m³, Lithuania=TWA: 5mg/m³

B. Appropriate engineering controls

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

C. Personal protective equipment**Respiratory Protection:**

- Wear NIOSH 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 when working with molten material..

Hand protection

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

Body protection

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

9. Physical and chemical properties

A. Appearance

Description : White solid (pellets)

Color : Not available

B. Odor : Slight odor

C. Odor threshold : Not applicable

D. pH : Not applicable

E. Melting point/freezing point : Not applicable

F. Initial boiling point and boiling range : Not applicable

G. Flash point : Not available

H. Evaporation rate : Not available

I. Flammability (solid, gas) : Not available

J. Upper/lower flammability or explosive limits : Not available

K. Vapor pressure : Negligible (20°C)

L. Solubility (ies) : Negligible

M. Vapor density : Not available

N. Specific gravity : > 1 (density: 1.34g/ml (25 °C))

O. Partition coefficient: n-octanol/water : Not available

P. Auto ignition temperature : 500 °C (cloud)

Q. Decomposition temperature : Not available

R. Viscosity : Not available

S. Molecular weight : Not available

10. Stability and reactivity

A. Chemical stability : Stable

B. Possibility of hazardous reactions: None Known

C. Conditions to avoid: None Known

D. Incompatible materials: Not available

E. Hazardous decomposition products: Not available

11. Toxicological information

A. Information of health Hazardous

Acute toxicity

Oral : None known

Dermal : Not available

Inhalation : Not available

Skin corrosion/ irritation : Molten material will produce thermal burns

Serious eye damage/ irritation : Molten material will produce thermal burns

Respiratory sensitization : Not available

Skin sensitization : Not available

Carcinogenicity : Not classified

KOREA-ISHL, IARC, NTP, OSHA, ACGIH, EU Regulation 1272/2008: Not listed

Mutagenicity : Polyethylene terephthalate (PET) was tested as a source of mutagen contamination from bottles used for beverage packaging. PET bottles were filled with mineral water and stored in daylight and in the dark for different periods of time. The water samples were concentrated and the concentrates (Non – volatile compounds) tested for mutagenicity with the Ames test (static tests). Total organic carbon (TOC) leaching was determined concurrently. Leaching of mutagens was also studied using dynamic tests; shaking distilled water in PET bottles. New methods were also used to test the leaching potential of both volatile and non-volatile compounds: directly testing the mutagenicity in unconcentrated water stored in PET bottles and growing Salmonella strains directly in the plastic bottles. The results were positive only for the static test, which identified leaching of mutagens after 1 month of storage in PET bottles. This activity was higher after storage in daylight.

Reproductive toxicity : Not available

Specific target organ toxicity (single exposure) : In a 1-month study, rats received wine extracts obtained after several months contact with PET. The treatment produced no harmful effect on animals.

Specific target organ toxicity (repeat exposure) : Rats were given 5.0 to 400mg technical grade PET/kg BW and 5.0 to 100mg pure PET/kg BW over a 3-month period. There were no changes in their behavior, BW gain, biochemical indices of blood serum, urine, or hematology analyses, or in relative weights of internal organs.

Aspiration Hazard : Not available

12. Ecological information

A. Ecological toxicity

- **Acute toxicity** : Not available

- **Chronic toxicity** : Not available

Fish : Not available

crustacean : Not available

Algae : Not available

B. Persistence and degradability

Persistence : Not available

Degradability : PET is subject to various types of degradations during processing. The main degradations that can occur are hydrolytic, thermal and, probably most important, thermal oxidation. When PET degrades, several things happen: discoloration, chain scission resulting in reduced molecular weight, formation of acetaldehyde and cross-links("gel" or "flash-eye" formation). Discoloration is due to the formation of various chromophoric systems following prolonged thermal treatment at elevated temperatures. This become a problem when the optical requirements of the polymer are very high, such as in packaging applications. The thermal and thermoxidative degradation results in poor processability characteristics and performance of the material.

C. Bioaccumulative potential

Bioaccumulation : Not available

Biodegradation : Not available

D. Mobility in soil : Not available**E. Other hazardous effect** : Commentary published in Environmental Health Perspectives in April 2010

suggested that PET might yield endocrine disruptors under conditions of common use and recommended research on this topic. Proposed mechanisms include leaching of phthalates as well as leaching of antimony. Other authors (Fraz and Welle) published evidence based on mathematical modeling, indicating that it is quite unlikely that PET yields endocrine disruptors in mineral water.

13. Disposal considerations

A. Disposal method

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

B. Disposal precaution

-Consider the requirements of any applicable waste treatment management regulation.

14. Transport information

A. UN Number

ADR/RID(International Carriage of Dangerous Goods by Rail and by Road), DOT (US Department of Transportation), IMDG (International Maritime Dangerous Goods Code), IATA (International Air Transport Association) : Not regulated as a hazardous material.

B. UN Proper shipping name

ADR/RID, DOT, IMDG, IATA : Not applicable

C. Transport Hazard class

ADR/RID, DOT, IMDG, IATA : Not applicable

D. Packing group

ADR/RID, DOT, IMDG, IATA : Not applicable

E. Marine pollutant : Not applicable

F. Special precautions

in case of fire : Not applicable

in case of leakage : Not applicable

15. Regulatory information

① US Regulatory information

U.S.A management information (OSHA Regulation) : Not regulated

U.S.A management information (CERCLA Regulation) : Not regulated

U.S.A management information (EPCRA 302 Regulation) : Not regulated

U.S.A management information (EPCRA 304 Regulation) : Not regulated

U.S.A management information (EPCRA 313 Regulation) : Not regulated

U.S.A management information Section 8(b) Inventory (TSCA): Present [XU]

② Foreign Regulatory Information

Korea regulatory Information

Occupational Safety and Health Regulation : Not regulated

Toxic Chemical Control Act : Existing Chemical Substance (KE-28979)

Dangerous Material Safety Management Regulation : Not regulated

Waste Control Act : Not regulate

Persistent Organic Pollutants Acts : Not regulated

External information

EU classification (classification) : Not regulated

EU classification (risk phrases) : Not regulated

EU classification (safety phrases) : Not regulated

EU SVHC list : Not regulated

EU Authorisation List : Not regulated

EU Restriction list : **Not regulated**

Persistent Organic Pollutants Acts : Not regulated

Japan management information Existing and New Chemical Substances (ENCS): (7)-1022, (7)-1037, (7)-1122

China management information Inventory of Existing Chemical Substances (IECSC): Present [21310]

Canada management information Domestic Substances List (DSL): Present

Australia management information Inventory of Chemical Substances (AICS): Present

New Zealand management information Inventory of Chemicals (NZIoC): May be used as a single component chemical under an appropriate group standard.

Philippines management information Inventory of Chemicals and Chemical Substances (PICCS): Present

Substance of Rotterdam Protocol : Not regulated

Substance of Stockholm Protocol : Not regulated

Substance of Montreal Protocol : Not regulated

16. Other information

A. Information source and references

B. Issuing date : 01/June/2015

C. Revision number and date

revision number : 5

date of the latest revision : 05/April/2017

D. Others

Revised Material Safety Data Sheet based on the amendments made on the Ministry of Employment and Labor Public Notice on Standard for Classification Labeling of Chemical Substance and Material Safety Data Sheet.

This SDS is authored in pursuant to the Article 41 of the Occupational Safety and Health Act.

The content is based on the latest information and knowledge that we currently possess.

This SDS was authored to aid buyer, processor or any other third person who handles the chemical of subject in the SDS; additionally, it does not warrant suitability of the chemical for any particular purposes or the commercial use of statements that approves the use of it in combination with other chemicals as well as technical or legal liabilities.