

Safety Data Sheet(SDS)

1. Identification of the substance/mixture and of the company/undertaking

- 1) Product identifier : DMT
- 2) Relevant identified uses of the substance or mixture and uses advised against
 - Relevant identified uses
Raw Material of PET and PBT, Raw material of Polymerization
 - Uses advised against
Do not use product for any other non-recommended purposes
- 3) Supplier information
 - Manufacturer
Company : SK Chemicals co. ltd.,
Address : 310 (Sampyeong-dong), Pangyo-ro, Bundang-gu, Seongnam-si, Gyeonggi-do, Korea
Emergency number : 02-2008-2008
Fax number :

2. HAZARD IDENTIFICATION

- 1) Hazard classification
 - SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE Category 3(Respiratory tract irritation)
 - SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE Category 1

- 2) Allocation label elements

Hazard pictograms



Signal word

- DANGER

Hazard statements

H335 May cause respiratory irritation.

H372 Causes damage to organs (or state all organs affected, if known) through prolonged or repeated exposure (state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard).

Precautionary statements

- Prevention

- P260 Do not breathe dust/fume/gas/mist/vapours/spray.
- P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
- P264 Wash ... thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.

- Response

- P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
- P312 Call a POISON CENTER or doctor/physician if you feel unwell.
- P314 Get medical advice/attention if you feel unwell.

- Storage

- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.

- Disposal

- P501 Dispose of contents/container to

3) Other hazards

- o Product NFPA Level : Health = 2, Flammability = 1, Reactivity = 0
(* 0 = Insufficient , 1 = Slightly , 2 = ordinary , 3 = Highness , 4 = Very high)

3. Composition/Information on ingredients

Components	Common name	CAS No.	PCT(wt%)
Dimethyl Terephthalate		120-61-6	100

4. FIRST AID MEASURES

1) Following eye contact

- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Seek immediate medical assistance.

2) Following skin contact

- For minor skin contact, avoid spreading material on unaffected skin.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Remove and isolate contaminated clothing and shoes.
- Seek immediate medical assistance.

3) Following inhalation

- Administer oxygen if breathing is difficult.
- Give artificial respiration if victim is not breathing.
- If exposed to excessive levels of dusts or fumes, remove to fresh air and get medical attention if cough or other symptoms develop.
- Keep victim warm and quiet.

- Move to fresh air.
- 4) Following ingestion
 - Seek immediate medical assistance.
- 5) Advice to physician
 - Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. FIRE FIGHTING MEASURES

- 1) Suitable (and unsuitable) extinguishing media
 - Suitable extinguishing media
 - CO₂.
 - Dry chemical.
 - Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material.
 - Use dry sand or earth to smother fire.
 - Water spray.
 - Unsuitable extinguishing media
 - Direct water.
- 2) Special hazards arising from the substance or mixture
 - Pyrolytic product
 - Can decompose at high temperatures forming toxic gases.
 - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
 - Risk of fire and explosion
 - Containers may explode when heated.
 - Some may burn but none ignite readily.
 - Other
 - No data available
- 3) Special protective equipment for firefighters
 - Dike fire-control water for later disposal; do not scatter the material.
 - Evacuate area and fight fire from a safe distance.
 - Fire involving Tanks: ALWAYS stay away from tanks engulfed in fire.
 - Fire involving Tanks: Cool containers with flooding quantities of water until well after fire is out.
 - Fire involving Tanks: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
 - Fire involving Tanks: For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
 - Fire involving Tanks: Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank.
 - Move containers from fire area if you can do it without risk.
 - Substance may be transported in a molten form.

6. ACCIDENTAL RELEASE MEASURES

1) Health considerations and protective equipment

- Clean up spills immediately, observing precautions in Protective Equipment section.
- Cover with plastic sheet to prevent spreading.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area).
- Isolate hazard area.
- Keep unnecessary and unprotected personnel from entering.
- Please note that materials and conditions to be avoided.
- Stop leak if you can do it without risk.

2) Environmental precautions

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

3) For cleaning up

- Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers.
- Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container.
- Absorb the liquid and scrub the area with detergent and water.

7. HANDLING AND STORAGE

1) Precautions for safe handling

- Avoid breathing vapors from heated material.
- Do not enter storage area unless adequately ventilated.
- Follow all MSDS/label precautions even after container is emptied because they may retain product residues.
- Handling refer to engineering control/personal protection section.
- Loosen closure cautiously before opening.
- Please note that materials and conditions to be avoided.
- Use care in handling/storage.
- Use only in a well-ventilated area.

2) Conditions for safe storage (including any incompatibilities)

- Empty drums should be completely drained, properly bunged, and promptly returned to a drum reconditioner, or properly disposed of.
- Keep away from food and drinking water.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

1) Chemical exposure limits, Biological exposure standard

Components	Occupational exposure	ACGIH	Biological standard
Dimethyl Terephthalate	No data available	No data available	No data available

2) Appropriate engineering controls

- Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.
- If user operations generate dust, fume, or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

- Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.

3) Personal protection equipment

- Respiratory protection
 - No data available
- Eye protection
 - No data available
- Hand protection
 - No data available
- Body protection
 - No data available

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	flakes/Briquet
Physical state	solid
Colour	No data available
Odour	No data available
Odour threshold	No data available
pH	Not applicable
Melting point/freezing point	141 °C
Initial boiling point and boiling range	284 °C
Flash point	151 °C
Evaporation rate	Not applicable
Flammability(solid, gas)	non flammable
Upper/lower flammability or explosive limits	11.8 / 0.8 %
Vapour pressure	293.15K
Solubility(ies)	1.367g/cm ³
Vapour density	5.5
Relative density	31mg/L
n-octanol/water partition coefficient	2.21
Auto ignition temperature	518 °C
Decomposition temperature	Dissociating properties:no
Viscosity	No data available
Molecular weight(mass)	194.185

10. STABILITY AND REACTIVITY

1) Stability and hazardous reactivity

- Can decompose at high temperatures forming toxic gases.

- Containers may explode when heated.
 - Fire may produce irritating, corrosive and/or toxic gases.
 - Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.
 - Some may burn but none ignite readily.
- 2) Conditions to avoid
- Ignition source(heat, spark, flame, etc.).
- 3) Incompatible materials
- Combustibles, reducing material.
- 4) Hazardous decomposition products
- Corrosive/toxic fume.
 - Irritating, corrosive and/or toxic gas.

11. TOXICOLOGICAL INFORMATION

- 1) Exposure route information
- Inhalation
 - No data available
 - Skin Contact
 - No data available
 - Eye Contact
 - No data available
 - Ingestion
 - No data available
- 2) Health hazard information
- Acute toxicity
 - ACUTE TOXICITY(Oral)
LD50>10000mg/kg bw
 - ACUTE TOXICITY(Dermal)
LD50>5000mg/kg bw
 - ACUTE TOXICITY(Inhalation:Gases)
No data available
 - ACUTE TOXICITY(Inhalation:Vapours)
No data available
 - ACUTE TOXICITY(Inhalation:Dust/mist)
LC50>6mg/l
 - SKIN CORROSION/IRRITATION
not irritating rabbit
 - SERIOUS EYE DAMAGE/EYE IRRITATION
not irritating rabbit
 - RESPIRATORY SENSITIZATION
No data available
 - SKIN SENSITIZATION

not sensitising guinea pig

○ CARCINOGENICITY

ECHA: No clear evidence of carcinogenicity was seen under the conditions of this study. (ECHA)
SIDS: DMT was not deemed to have carcinogenic effects in a two year feeding study in male and female rats and female mice, but equivocal evidence was noted in male mice. (SIDS)

○ GERM CELL MUTAGENICITY

negative with and without metabolic activation
Salmonella typhimurium

○ REPRODUCTIVE TOXICITY

NOAEL(Reproduction (no effects at this dose level) 1000 The single generation reproduction study revealed no adverse effects on libido, pregnancy, gestation, litter size or on the viability of the young. ppm rat

○ SPECIFIC TARGET ORGAN TOXICITY SINGLE EXPOSURE

Reported respiratory irritation due to vapors or dust in human.

○ SPECIFIC TARGET ORGAN TOXICITY REPEATED EXPOSURE

Reported nervous system suppression, weak degeneration, increase reticulocyte, liver hyperactivity, chronic inflammation to respiratory, rhinitis, bronchitis, inflammation to pulmonary and emphysema, degeneration of liver and kidney in experimental animals.

○ ASPIRATION HAZARD

No data available

12. ECOLOGICAL INFORMATION

1) Aquatic toxicity

- Fish
LC50 13 mg/L Danio rerio
- Crustacea
EC50 > 23.5 mg/L Daphnia magna
- Aquatic algae
ErC50 > 29 mg/L Scenedesmus subspicatus

2) Persistence and degradation

- n-octanol water partition coefficient
log Pow 2.21
- Degradation
Half life 321 slow abiotic hydrolysis
- Biodegradation
94 %

3) Bioaccumulative potential

It is not expected to bioaccumulate in fish.

4) Mobility in soil

Koc 368700

5) Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

- 1) Disposal methods
No data available
- 2) Precautions (including disposal of contaminated container of package)
No data available

14. TRANSPORT INFORMATION

- 1) UN No. : Not applicable
 - 2) Proper shipping name : Not applicable
 - 3) Class or division : Not applicable
 - 4) Packing group : Not applicable
 - 5) Marine pollutant : Not applicable
 - 6) Special safety response for transportation or transportation measure :
Emergency measures in case of fire : Not applicable
Emergency measures in the effluent : Not applicable
- ADR
 - Tunnel restriction code : Not applicable
 - IMDG
 - Marine pollutant : Not applicable
 - Air transport(IATA)
 - UN No. : Not applicable
 - Proper shipping name : Not applicable
 - Class or division : Not applicable
 - Packing group : Not applicable

15. REGULATORY INFORMATION

- 1) Occupational Safety and Health Act in Korea
 - Not established
- 2) Chemical Control Act in Korea
 - Existing Commercial Chemical Substances
- 3) Safety Control of Dangerous Substances Act in Korea
 - Not established
- 4) Wastes Control Act in Korea
 - Designated waste
- 5) Other regulations in KOREA and Abroad regulations
 - PERSISTENT ORGANIC POLLUTANTS CONTROL ACT
 - Not established
 - Act on the registration and evaluation of chemicals
 - Not established
 - China Regulations on the Safety Administration of Explosives for Civilian Use

- Not established
- 1907/2006/EC
 - EU - REACH (1907/2006) - List of Pre-registered Substances, EU - REACH (1907/2006) - List of Registered Substances, EU - REACH (1907/2006) - Registered Substances Considered not to be PBT/vPvB
- U.S. Designation, Reportable Quantities, and Notification
 - Not established
- China Catalog of Goods Prohibited from Export (No. 3)
 - Not established
- China Catalog of Goods Prohibited from Import (No. 6)
 - Not established
- U.S. Emergency Planning and Notification
 - Not established
- China Catalog of Hazardous Chemicals
 - Not established
- U.S. Toxic Chemical Release Reporting - Community Right-to-Know
 - Not established
- China Catalog of Toxic Chemicals Severely Restricted From Import and Export
 - Not established
- China Measures on Administration of Toxic Drugs for Medical Use
 - Not established
- U.S. Department of Transportation, 49 CFR 172.101 Hazardous Materials Table, Appendix A Table 1 - Hazardous Substances Other Than Radionuclides
 - Not established
- China Catalogue of Occupational Disease Hazard Factors
 - Not established
- U.S. Integrated Risk Information System
 - Not established
- China List of Dangerous Goods
 - Not established
- U.S. Federal Insecticide, Fungicide and Rodenticide Act
 - Not established
- U.S. Toxic Substances Control Act
 - U.S. - TSCA (Toxic Substances Control Act) - Section 5(h) - Reactants From Which Polyester May be Made
- California Safe Drinking Water and Toxic Enforcement Act
 - Not established
- United Nations Environment Program Montreal Protocol on Substances that Deplete the Ozone Layer
 - Not established
- United Nations Environment Program Persistent Organic Pollutants (POPs) Intergovernmental Negotiating Committee (INC)
 - Not established

16. OTHER INFORMATION

- 1) Reference
 - ECHA

- EPISUITE
- SIDS
- chemIDplus
- Ministry of Employment and Labor(MOEL)
- Ministry of Environment

2) Issue date : 2018-05-11

3) Revision date

- o Revised version : 1
- o Last revised date : 2018-05-11
- o Last revised history :

4) Other