SAFETY DATA SHEETS

According to Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Sixth revised edition

Version: 1.0
Creation Date: Aug 10, 2017
Revision Date: Aug 10, 2017

1. Identification

1.1 GHS Product identifier

Product name Triethylene glycol dimethacrylate

1.2 Other means of identification

Product number -
Other names (Ethane-1,2-diylbis(oxy))bis(ethane-2,1-diyl) bis(2-methylacrylate)

1.3 Recommended use of the chemical and restrictions on use

Identified uses For industry use only. Adhesives and sealant chemicals, Intermediates, Photosensitive chemicals
Uses advised against no data available

2. Hazard identification

2.1 Classification of the substance or mixture

Skin sensitization, Category 1B

2.2 GHS label elements, including precautionary statements

Pictogram(s)

Signal word Warning
Hazard statement(s)  
H317 May cause an allergic skin reaction

Precautionary statement(s)  
Prevention  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response  
P302+P352 IF ON SKIN: Wash with plenty of water/...  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.
P321 Specific treatment (see ... on this label).
P362+P364 Take off contaminated clothing and wash it before reuse.

Storage  
none

Disposal  
P501 Dispose of contents/container to ...

2.3 Other hazards which do not result in classification  
none

3. Composition/information on ingredients

3.1 Substances

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common names and synonyms</th>
<th>CAS number</th>
<th>EC number</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triethylene glycol dimethacrylate</td>
<td>Triethylene glycol dimethacrylate</td>
<td>109-16-0</td>
<td>none</td>
<td>100%</td>
</tr>
</tbody>
</table>

4. First-aid measures

4.1 Description of necessary first-aid measures

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms/effects, acute and delayed

no data available

4.3 Indication of immediate medical attention and special treatment needed, if necessary

no data available

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Specific hazards arising from the chemical

no data available

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures
6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal. Sweep up and shovel. Keep in suitable, closed containers for disposal.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Temp during storage must be kept low to minimize formation of peroxides and other oxidation products. ... Storage temp below 30°C are recommended for the polyfunctional methacrylates. ... The methacrylate monomers should not be stored for longer than one year. Shorter storage times are recommended for the aminomethacrylates, ie, three months, and the polyfunctional methacrylates, ie, six months. Many of these cmpd are sensitive to UV light and should, therefore, be stored in the dark. The methacrylic esters may be stored in mild steel, stainless steel, or aluminum. /Methacrylic acid & derivatives/

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values
8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove’s outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colour</td>
<td>no data available</td>
</tr>
<tr>
<td>Odour</td>
<td>no data available</td>
</tr>
<tr>
<td>Melting point/ freezing point</td>
<td>286°C(lit.)</td>
</tr>
<tr>
<td>Boiling point or initial boiling point and boiling range</td>
<td>170-172°C/5mmHg(lit.)</td>
</tr>
</tbody>
</table>
Flammability  no data available
Lower and upper explosion limit / flammability limit no data available
Flash point  167°C
Auto-ignition temperature no data available
Decomposition temperature no data available
pH no data available
Kinematic viscosity no data available
Solubility  > 10% in acetone
Partition coefficient n-octanol/water (log value) log Kow = 1.88
Vapour pressure  0.000119mmHg at 25°C
Density and/or relative density  1.092g/mL at 25°C (lit.)
Relative vapour density no data available
Particle characteristics no data available

10. Stability and reactivity

10.1 Reactivity
no data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
no data available

10.4 Conditions to avoid
no data available

10.5 Incompatible materials
no data available

10.6 Hazardous decomposition products
11. Toxicological information

Acute toxicity

- Oral: no data available
- Inhalation: no data available
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12. Ecological information
12.1 Toxicity

- Toxicity to fish: no data available
- Toxicity to daphnia and other aquatic invertebrates: no data available
- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

An estimated BCF value of 16 was calculated for triethylene glycol dimethacrylate (SRC), using an experimental log Kow of 1.88\textsuperscript{(1)} and a recommended regression-derived equation\textsuperscript{(2)}. According to a classification scheme\textsuperscript{(3)}, this BCF value suggests that bioconcentration in aquatic organisms is low (SRC).

12.4 Mobility in soil

The Koc of triethylene glycol dimethacrylate is estimated as approximately 250 (SRC), using an experimental log Kow of 1.88\textsuperscript{(1)} and a regression-derived equation\textsuperscript{(2,SRC)}. According to a recommended classification scheme\textsuperscript{(3)}, this estimated Koc value suggests that triethylene glycol dimethacrylate has medium mobility in soil (SRC).

12.5 Other adverse effects

no data available

13. Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or
reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. Transport information

14.1 UN Number

ADR/RID: UN3334  IMDG: UN3334  IATA: UN3334

14.2 UN Proper Shipping Name

ADR/RID: AVIATION REGULATED LIQUID, N.O.S.  
IMDG: AVIATION REGULATED LIQUID, N.O.S.  
IATA: AVIATION REGULATED LIQUID, N.O.S.

14.3 Transport hazard class(es)

ADR/RID: 8  IMDG: 8  IATA: 8

14.4 Packing group, if applicable

ADR/RID: III  IMDG: III  IATA: III

14.5 Environmental hazards

ADR/RID: no  IMDG: no  IATA: no

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

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<tr>
<td>dimethacrylate</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
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<tr>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
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<tr>
<td>EC Inventory</td>
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<tr>
<td>United States Toxic Substances Control Act (TSCA) Inventory</td>
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</tr>
<tr>
<td>China Catalog of Hazardous chemicals 2015</td>
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<td></td>
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<tr>
<td>New Zealand Inventory of Chemicals (NZIoC)</td>
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<tr>
<td>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</td>
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<tr>
<td>Vietnam National Chemical Inventory</td>
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<tr>
<td>Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)</td>
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16. Other information

Information on revision

Creation Date Aug 10, 2017
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Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.