1 - Product and Company Information

Product Name: GLYCIDYL METHACRYLATE, 97%

Company: Sigma-Aldrich Chemicals Private Limited
Plot # 12, Bommasandra Jigani Link Road
560100 BANGALORE India
Technical Phone #: 91-80-6621 9400
Fax: 91-80-6621 9450
E-mail Address: india@sial.com

2 - Hazards Identification

SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT
May cause cancer. May impair fertility. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin. May cause sensitization by skin contact.

3 - Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Product Name</th>
<th>CAS #</th>
<th>EC no</th>
<th>Annex I Index Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLYCIDYL METHACRYLATE</td>
<td>106-91-2</td>
<td>203-441-9</td>
<td>None</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Ingredient Name</th>
<th>Percent</th>
<th>CAS #</th>
<th>EC no</th>
<th>Annex I Index Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>GLYCIDYL METHACRYLATE</td>
<td>&gt;= 97</td>
<td>106-91-2</td>
<td>203-441-9</td>
<td>607-123-00-4</td>
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</tbody>
</table>

Symbols: Xn
R-Phrases: 20/21/22-36/38-43
Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin. May cause sensitization by skin contact.

IMPURITIES:

<table>
<thead>
<tr>
<th>IMPURITIES</th>
<th>None</th>
<th>None</th>
<th>None</th>
</tr>
</thead>
<tbody>
<tr>
<td>(R)-(+) GLYCIDOL</td>
<td>1</td>
<td>57044-25-4</td>
<td>404-660-4</td>
</tr>
<tr>
<td>Carc. Cat.2 Repr. Cat.2 Muta. Cat.3</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Symbols: E-T</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>R-Phrases: 45-2-60-68-21/22-23-34</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>May cause cancer. Risk of explosion by shock, friction, fire, or other sources of ignition. May impair fertility. Possible risk of irreversible effects. Harmful in contact with skin and if swallowed. Toxic by inhalation. Causes burns.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| EPICHLOROHYDRIN          | 0.2     | 106-89-8 | 203-439-8 | 603-026-00-6 |
| Carc. Cat.2              |         |         |         |         |
| Symbols: T-N             |         |         |         |         |
| R-Phrases: 45-10-23/24/25-34-43-52/53 |
| May cause cancer. Flammable. Also toxic by inhalation, in contact |
with skin and if swallowed. Causes burns. May cause sensitization
by skin contact. Harmful to aquatic organisms, may cause long-term
adverse effects in the aquatic environment.

Formula C7H10O3
Molecular Weight 142.16 AMU
Synonyms CP 105 * Acriester G * Blemmer G * Blemmer GMA *
2,3-Epoxypropyl methacrylate * Glycidyl
methacrylate * Glycidyl alpha-methyl acrylate *
Light Ester G * 2-((Methacryloxy)methyl)oxirane *
1-Propanol, 2,3-epoxy-, methacrylate *
2-Propenoic acid, 2-methyl-, oxiranyl methyl ester (9CI) * SR 379 * SY-Monomer G

4 - First Aid Measures

AFTER INHALATION
If inhaled, remove to fresh air. If breathing becomes difficult,
call a physician.

AFTER SKIN CONTACT
In case of contact, immediately wash skin with soap and copious
amounts of water.

AFTER EYE CONTACT
In case of contact with eyes, flush with copious amounts of
water for at least 15 minutes. Assure adequate flushing by
separating the eyelids with fingers. Call a physician.

AFTER INGESTION
If swallowed, wash out mouth with water provided person is
conscious. Call a physician.

5 - Fire Fighting Measures

EXTINGUISHING MEDIA
Suitable: For small (incipient) fires, use media such as
"alcohol" foam, dry chemical, or carbon dioxide. For large
fires, apply water from as far as possible. Use very large
quantities (flooding) of water applied as a mist or spray; solid
streams of water may be ineffective. Cool all affected
containers with flooding quantities of water.

SPECIAL RISKS
Specific Hazard(s): Combustible liquid. Emits toxic fumes under
fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS
Wear self-contained breathing apparatus and protective clothing
to prevent contact with skin and eyes.

6 - Accidental Release Measures

PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear self-contained breathing apparatus, rubber boots, and heavy
rubber gloves.

METHODS FOR CLEANING UP
Cover with dry lime or soda ash, pick up, keep in a closed
container, and hold for waste disposal.

7 - Handling and Storage

HANDLING
Directions for Safe Handling: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

STORAGE
Conditions of Storage: Keep tightly closed. Keep away from heat and open flame.
Store at 2-8°C

8 - Exposure Controls / Personal Protection

ENGINEERING CONTROLS
Safety shower and eye bath. Mechanical exhaust required.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory Protection: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.
Hand Protection: Compatible chemical-resistant gloves.
Eye Protection: Chemical safety goggles.

9 - Physical and Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Physical State: Clear liquid</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Color: Colorless</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>MP/MP Range</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Flammability</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Autoignition Temp</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Oxidizing Properties</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Explosion Limits</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>34 mmHg</td>
<td>100 °C</td>
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<tr>
<td>Partition Coefficient</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>2.5 Pas</td>
<td>20 °C</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>4.9 g/l</td>
<td></td>
</tr>
<tr>
<td>Saturated Vapor Conc.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Bulk Density</td>
<td>N/A</td>
<td></td>
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<tr>
<td>Decomposition Temp.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Solvent Content</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Water Content</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Surface Tension</td>
<td>25 mN/m</td>
<td>20 °C</td>
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<tr>
<td>Conductivity</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Miscellaneous Data</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Solubility</td>
<td>Other Solvents: BENZENE, ETHYL ETHER ETHYL ALCOHOL</td>
<td></td>
</tr>
</tbody>
</table>
10 - Stability and Reactivity

STABILITY
Stable: Stable.
Conditions to Avoid: May polymerize on exposure to light.
Materials to Avoid: Strong oxidizing agents, Strong acids, Strong bases, Peroxides.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.

HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

11 - Toxicological Information

RTECS NUMBER: OZ4375000

ACUTE TOXICITY
LD50
Oral
Rat
290 mg/kg

LD50
Oral
Rat
597 mg/kg

LD50
Oral
Mouse
390 mg/kg

LD50
Skin
Rabbit
450 UL/KG

LD50
Oral
Guinea pig
697 mg/kg

IRRITATION DATA

Skin
Rabbit
0.5 ml
24H
Remarks: Severe irritation effect

Eyes
Rabbit
0.1 ml
Remarks: Moderate irritation effect

SENSITIZATION
Skin: May cause allergic skin reaction.

SIGNS AND SYMPTOMS OF EXPOSURE
Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

ROUTE OF EXPOSURE
Skin Contact: Causes skin irritation.
Skin Absorption: Harmful if absorbed through skin.
Eye Contact: Causes eye irritation.
Inhalation: Harmful if inhaled. Material may be irritating to mucous membranes and upper respiratory tract. Material is irritating to mucous membranes and upper respiratory tract.
Ingestion: Harmful if swallowed.

TARGET ORGAN INFORMATION
Kidneys. Central nervous system.

CHRONIC EXPOSURE - CARCINOGEN
Result: This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

CHRONIC EXPOSURE - MUTGEN
Rat
300 MG/KG
Intraperitoneal
Cytogenetic analysis

Hamster
900 UG/L
Cell Type: Embryo
Morphological transformation.

Hamster
78 UMOL/L
Cell Type: lung
Sister chromatid exchange

Hamster
200 UMOL/L
Cell Type: lung
Mutation in mammalian somatic cells.

CHRONIC EXPOSURE - REPRODUCTIVE HAZARD
Species: Rat
Dose: 110 MG/KG
Route of Application: Oral
Exposure Time: (5-15D PREG)
Result: Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).
Effects on Newborn: Stillbirth.

Species: Rabbit
Dose: 50 PPM/6H
Route of Application: Inhalation
Exposure Time: (7-19D PREG)
Result: Maternal Effects: Other effects.
13 - Disposal Considerations

SUBSTANCE DISPOSAL
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

14 - Transport Information

RID/ADR
UN#: 2810
Class: 6.1
PG: III
Proper Shipping Name: Toxic liquid, organic, n.o.s.

IMDG
UN#: 2810
Class: 6.1
PG: III
Proper Shipping Name: Toxic liquid, organic, n.o.s.
Marine Pollutant: No
Severe Marine Pollutant: No
Technical Name: Required

IATA
UN#: 2810
Class: 6.1
PG: III
Proper Shipping Name: Toxic liquid, organic, n.o.s.
Inhalation Packing Group I: No
Technical Name: Required

15 - Regulatory Information

CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES
INDICATION OF DANGER: T
Toxic.
R-PHRASES: 45-60-20/21/22-36/38-43
May cause cancer. May impair fertility. Harmful by inhalation, in contact with skin and if swallowed. Irritating to eyes and skin. May cause sensitization by skin contact.
S-PHRASES: 53-26-36-37-45
Restricted to professional users. Attention - Avoid exposure - obtain special instructions before use. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing and gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

COUNTRY SPECIFIC INFORMATION

Germany
WGK: 3
Self-Classification

16 - Other Information
WARRANTY
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. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.
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