1 Identification

Product identifier
Trade name: Glycerin USP Kosher
SAP Material Number: 100088891, 100089069, 100089070
CAS Number: 56-81-5
Application of the substance / the mixture: Personal care, toothpaste, food, industrial.
NOTE: This product is not intended to be used as an active pharmaceutical ingredient or for special applications, such as parenteral, ocular, inhalation, open wound use, or applications that require sterile and/or pyrogen free excipients.

Details of the supplier of the Safety Data Sheet
Manufacturer/Supplier:
Cargill, Incorporated
Cargill Industrial Specialties
9320 Excelsior Blvd.
Hopkins, Minnesota 55343
Tel: 1-952-984-9122
E-mail: CIS_CustomerService@Cargill.com
Emergency telephone number: 1-800-255-3924 (ChemTel)

2 Hazard(s) Identification

Classification of the substance or mixture
The substance is not classified as hazardous according to the Globally Harmonized System (GHS).

Label elements
GHS label elements Not Regulated
Hazard pictograms Not Regulated
Signal word Not Regulated
Hazard-determining components of labeling: None.
Hazard statements Not Regulated
Hazard description:
WHMIS-symbols: Not hazardous under WHMIS.

Classification system:
NFPA ratings (scale 0 - 4)
Health = 0
Fire = 1
Reactivity = 0

HMIS-ratings (scale 0 - 4)

Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

3 Composition/information on ingredients

Chemical characterization: Substance.
CAS No.: 56-81-5
Description: Glycerol
4. First-aid measures

Description of first aid measures

General information:
Immediately remove any clothing soiled by the product.

After inhalation:
Supply fresh air; consult doctor in case of complaints.

After skin contact:
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

After eye contact:
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

After swallowing:
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.

Most important symptoms and effects, both acute and delayed:
Gastric or intestinal disorders when ingested.

Danger: None.

Indication of any immediate medical attention and special treatment needed:
No additional information.

5. Fire-fighting measures

Extinguishing media

Suitable extinguishing agents: Use fire fighting measures that suit the environment.

For safety reasons unsuitable extinguishing agents: None.

Special hazards arising from the substance or mixture:
Formation of toxic gases is possible during heating or in case of fire.

Advice for firefighters

Protective equipment:
Wear self-contained respiratory protective device.
Wear fully protective suit.

Additional information: Use large quantities of foam as it is partially destroyed by the product.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Use respiratory protective device against the effects of fumes/dust/aerosol.
Particular danger of slipping on leaked/spilled product.
Wear protective equipment.
Keep unprotected persons away.
Ensure adequate ventilation.

Environmental precautions: No special measures required.

Methods and material for containment and cleaning up:
Absorb with non-combustible liquid-binding material (sand, diatomite, acid binders, universal binders).
Trade name: Glycerin USP Kosher

Pick up mechanically. Send for suitably qualified recovery and/or disposal companies. Dispose of the collected material according to regulations. Clean the affected area carefully; suitable cleaners are: Warm water

Reference to other sections
See Section 7 for information on safe handling. See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

7 Handling and storage

Precautions for safe handling
- Prevent formation of aerosols.
- Avoid splashes or spray in enclosed areas.

Information about protection against explosions and fires: No special measures required.

Conditions for safe storage, including any incompatibilities

Storage
Requirements to be met by storerooms and containers:
- Avoid storage near extreme heat, ignition sources or open flame.
- Protect from humidity and water.

Information about storage in one common storage facility:
- Do not store together with oxidizing and acidic materials.
- Do not store together with alcalies (caustic solutions).

Further information about storage conditions:
- Store in cool, dry conditions in well sealed containers.
- This product is hygroscopic.
- Protect from humidity and water.

Specific end use(s): No additional information.

8 Exposure controls/personal protection

Additional information about design of technical systems: No additional information.

Control parameters

Components with limit values that require monitoring at the workplace:

<table>
<thead>
<tr>
<th>56-81-5 glycerol</th>
<th>Long-term value: 15* 5** mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>PEL (USA)</td>
<td>total dust **respirable fraction</td>
</tr>
<tr>
<td>TLV (USA)</td>
<td>TLV withdrawn-insufficient data human occup. exp.</td>
</tr>
<tr>
<td>EL (Canada)</td>
<td>Long-term value: 10* 3** mg/m³</td>
</tr>
<tr>
<td>EV (Canada)</td>
<td>*mist; **mist, respirable</td>
</tr>
<tr>
<td>LMPE (Mexico)</td>
<td>Long-term value: 10 mg/m³</td>
</tr>
<tr>
<td>(l)</td>
<td>(l)</td>
</tr>
</tbody>
</table>

Created by Global Safety Management, Inc. -Tel: 1-813-435-5161 - www.globalsafetynet.com
Safety Data Sheet
acc. to HCS and GHS

Printing date: 03/17/2014
Reviewed on: 03/17/2014

Trade name: Glycerin USP Kosher

Additional Information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment

General protective and hygienic measures:
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Avoid contact with the eyes.
Wash hands before breaks and at the end of work.

Breathing equipment:
Not required under normal conditions of use.
Use suitable respiratory protective device in case of insufficient ventilation.
Use suitable respiratory protective device when aerosol or mist is formed.
For spills, respiratory protection may be advisable.

Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product. Selection of the glove material should be based on the penetration time, rates of diffusion and the degradation of the glove material. Wear protective gloves to handle contents of damaged or leaking units.

Material of gloves:
The selection of a suitable gloves does not only depend on the material, but also on the quality, and varies from manufacturer to manufacturer.

Penetration time of glove material:
The exact break through time has to be determined by the manufacturer of the protective gloves. DO NOT exceed the breakthrough time set by the Manufacturer.

Eye protection:

Safety glasses

Body protection:
Not required under normal conditions of use.
Protection may be required for spills.

Limitation and supervision of exposure into the environment: No special requirements.

9 Physical and chemical properties

Information on basic physical and chemical properties

General Information

Appearance:
Form: Viscous
Color: Colorless
Odor: Odorless
Odor threshold: Not determined.

pH-value: Not determined.

Change in condition
Melting point/Melting range: 18 °C / 64.4 °F
Safety Data Sheet
acc. to HCS and GHS

Trade name: Glycerin USP Kosher

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boiling point/Bolling range</td>
<td>290 °C / 554 °F</td>
</tr>
<tr>
<td>Flash point</td>
<td>199 °C / 390.2 °F</td>
</tr>
<tr>
<td>Flammability (solid, gaseous)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>370 °C / 698 °F</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not determined</td>
</tr>
<tr>
<td>Auto igniting</td>
<td>Not determined</td>
</tr>
<tr>
<td>Danger of explosion</td>
<td>Product does not present an explosion hazard.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td></td>
</tr>
<tr>
<td>Lower</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor pressure at 50 °C (122 °F)</td>
<td>0 mmHg</td>
</tr>
<tr>
<td>Density at 25 °C (77 °F)</td>
<td>1.26 g/cm³ (10.515 lbs/gal)</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapor density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility in / Miscibility with Water:</td>
<td>Fully miscible.</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water):</td>
<td>Not determined.</td>
</tr>
<tr>
<td>Viscosity</td>
<td></td>
</tr>
<tr>
<td>Dynamic</td>
<td>Not determined</td>
</tr>
<tr>
<td>Kinematic</td>
<td>Not determined</td>
</tr>
<tr>
<td>Other information</td>
<td>No additional information</td>
</tr>
</tbody>
</table>

10 Stability and reactivity

Reactivity
Chemical stability
Thermal decomposition / conditions to be avoided:
No decomposition if used and stored according to specifications.
Possibility of hazardous reactions:
Violent reactions with strong alkalis and oxidizing agents.
Reacts with strong acids.
Toxic fumes may be released if heated above the decomposition point.

Conditions to avoid:
Moisture.
Store away from oxidizing agents.
Incompatible materials: No additional information.
Hazardous decomposition products: Carbon monoxide and carbon dioxide.
11. Toxicological information

Information on toxicological effects

Acute toxicity

LD/LC50 values that are relevant for classification:

<table>
<thead>
<tr>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>LD50 12600 mg/kg (rat)</td>
</tr>
</tbody>
</table>

Primary irritant effect:

- On the skin: No irritant effect.
- On the eye: Slight irritant effect on eyes.
- Sensitization: No sensitizing effects known.

Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects. The substance is not subject to classification.

Carcinogenic categories

NTP (National Toxicology Program):

- Substance is not listed.

12. Ecological information

Toxicity

Aquatic toxicity: No additional information.

Persistence and degradability: Readily biodegradable.

Bioaccumulative potential: Does not accumulate in organisms

Mobility in soil: No additional information.

Additional ecological information

General notes:

- Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Due to available data on eliminability/decomposition and bioaccumulation potential a prolonged damage of the environment is unlikely.

Results of PBT and vPvB assessment

- PBT: Not applicable.
- vPvB: Not applicable.

Other adverse effects: No additional information.

13. Disposal considerations

Waste treatment methods

Recommendation:

- Smaller quantities can be disposed of with household waste.
- Small amounts may be diluted with plenty of water and washed away. Dispose of bigger amounts in accordance with Local Authority requirements.
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Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to all the applicable regulations.

Uncleaned packagings:
Recommendation: Disposal must be made according to the applicable regulations.

### 14 Transport information

<table>
<thead>
<tr>
<th>UN-Number</th>
<th>DOT, ADR, ADN, IMDG, IATA:</th>
<th>Not Regulated</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>DOT, ADR, ADN, IMDG, IATA:</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>DOT, ADR, ADN, IMDG, IATA Class:</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>Packing group</td>
<td>DOT, ADR, IMDG, IATA:</td>
<td>Not Regulated</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Marine pollutant:</td>
<td>No</td>
</tr>
<tr>
<td>Special precautions for use:</td>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</td>
<td></td>
<td>Not applicable.</td>
</tr>
<tr>
<td>UN &quot;Model Regulation&quot;:</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

### 15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture.

**SARA**

Section 355 (extremely hazardous substances):
Substance is not listed.

Section 313 (Specific toxic chemical listings):
Substance is not listed.

TSCA (Toxic Substances Control Act):
Substance is listed.

**Proposition 65 (California)**

Chemicals known to cause cancer:
Substance is not listed.

Chemicals known to cause reproductive toxicity for females:
Substance is not listed.

Chemicals known to cause reproductive toxicity for males:
Substance is not listed.

Chemicals known to cause developmental toxicity:
Trace amounts of methanol present.
Trade name: Glycerin USP Kosher

Carcinogenic categories

<table>
<thead>
<tr>
<th>EPA (Environmental Protection Agency)</th>
<th>Substance is not listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IARC (International Agency for Research on Cancer)</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>TLV (Threshold Limit Value established by ACGIH)</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>NIOSH-Ca (National Institute for Occupational Safety and Health)</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>OSHA-Ca (Occupational Safety &amp; Health Administration)</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>State Right to Know Listings</td>
<td>Substance is not listed.</td>
</tr>
</tbody>
</table>

Canadian substance listings:

<table>
<thead>
<tr>
<th>Canadian Domestic Substances List (DSL)</th>
<th>Substance is listed.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Canadian Ingredient Disclosure list (limit 0.1%)</td>
<td>Substance is not listed.</td>
</tr>
<tr>
<td>Canadian Ingredient Disclosure list (limit 1%)</td>
<td>Substance is not listed.</td>
</tr>
</tbody>
</table>

16 Other information

Date of preparation / last revision: 03/17/2014

Abbreviations and acronyms:
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road).
DOT: US Department of Transportation.
IATA: International Air Transport Association.
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
ACGIH: American Conference of Governmental Industrial Hygienists.
EINECS: European Inventory of Existing Commercial Chemical Substances.
CAS: Chemical Abstracts Service (division of the American Chemical Society).
DNEL: Derived No-Effect Level (REACH).
PNEC: Predicted No-Effect Concentration (REACH).
LC50: Lethal concentration, 50 percent.
LD50: Lethal dose, 50 percent.

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