1. Identification

Name: Glycerol monooleate

CAS Number: 25496-72-4

Recommendation for the chemical and restrictions on use

Applications: Research and development/Performance chemical/Industrial solvent.

Restrictions: No specific uses advised against are identified.

Supplier's Details

InKemia Green Chemicals, Inc.
1213 West Loop North Suite 140, Houston, TX 77005
+1 (713) 909-7717
web@inkemiagreenchemicals.com

Emergency contact number

InKemia Green Chemicals, Inc.
Tel: +1 (713) 909-7717
For emergency calls only.

2. Hazards

Classification of the substance or mixture

Classification: Not classified as a hazardous product.

Label elements

GHS label statements, including pictograms, hazard, and precautionary statements.

Signal word

The product does not need to be labeled. The product is not classified as a hazardous substance or mixture according to 29 CFR 1910 (OSHA HCS).

Other Hazards: None.

3 – Composition/information on ingredients

Substances

Chemical Name: Glycerol monooleate

Synonyms: Monoolein; 2,3-Dihydroxypropyl oleate; Glyceryl monooleate; 1-Monoolein; 1-Oleoylglycerol.

CAS Number: 25496-72-4
Hazardous components

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol monooleate</td>
<td>...</td>
<td>&lt;=100 wt.%</td>
</tr>
</tbody>
</table>

Note: For the full text of the H-Statements mentioned in this Section, see Section 16.

Impurities and stabilizing additives

No data available.

Mixtures

Not applicable.

4 – First-aid measures

Description of first aid measures

General information

No applicable data available.

Inhalation

If breathed in, move the person into fresh air. If symptoms persist, call a physician.

Ingestion

Do not induce vomiting. If symptoms persist, call a physician.

Skin contact

If symptoms persist, call a physician. Wash off with soap and plenty of water.

Eye contact

Immediately irrigate with copious amounts of water for 15 minutes. Consult a physician.

Protection of first-aiders

No applicable data available.

Most important symptoms and effects, both acute and delayed

General information

No applicable data available.

Inhalation

No hazards which require special first aid measure.

Ingestion

No hazards which require special first aid measure.

Skin contact

No hazards which require special first aid measure.

Eye contact

No hazards which require special first aid measure.
Indication of immediate medical attention and special treatment need

Notes for the doctor

No applicable data available.

5 – Fire-fighting measure

Extinguishing media

Suitable extinguisher media

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

Unsuitable extinguisher media

No data available.

Special hazards arising from the substance of mixture

Specific hazards

No data available.

Hazardous combustion products

Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapors.

Advice for firefighters

Protective actions during firefighting

Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. Avoid discharge to the aquatic environment. Control runoff water by containing and keeping it out of sewers and watercourses. If the risk of water pollution occurs, notify appropriate authorities.

Special protective equipment for firefighting

Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots, and gloves provide a basic level of protection for chemical incidents.

6 – Accidental release measures

Personal precautions, protective equipment, and emergency procedures

Personal Precautions

Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into the spilled material.

Environmental precautions

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods and materials for containment and cleanup
Methods for cleaning

Contain and remove the spillage, soaking up the residue with non-flammable absorbent. Place in an adequate container for immediate disposal. Eliminate sources of ignition. For waste disposal see Section 13.

Reference to other sections

For personal protection see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For disposal see section 13.

7 – Handling and storage

Precautions for safe handling

Usage precautions

Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink, and animal feeding stuff. Keep container tightly sealed when not in use. Avoid discharge to the aquatic environment. Do not handle until all safety precautions have been read and understood. Do not handle broken packages without protective equipment. Do not reuse empty containers. For precautions see Section 2.

Advice on general occupational hygiene

Wash if in contact with skin. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

Conditions for safe storage, including any Incompatibilities

Storage precautions

Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well-ventilated place. Keep containers upright. Protect containers from damage. Keep in a fresh and dry place, avoiding direct sunlight. Keep container tightly sealed, in a fireproof place.

Storage class

Miscellaneous hazardous material storage. Preferably in a well-ventilated solvent cabinet.

Specific end uses

The identified uses for this product are in Section 1.

8 – Exposure controls/personal protection

Control parameters

Occupational exposure limits:
OSHA Permissible Exposure Limit (PEL):
Contains no substances with occupational exposure limit values.

Protective equipment

Engineering control measures
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Eye/Face protection
Wear safety glasses with side-shields.

Hand protection
Where there is potential for skin contact have available and wear as appropriate impervious gloves, apron, pants, and jacket.

Other skin and body protection
Where risk assessment shows use engineering controls to reduce air contamination to permissible exposure level. Wear appropriate clothing to prevent any possibility of liquid contact and repeated or prolonged vapor contact.

Hygiene measures
Wash hands before and use and before eating, smoking and using the toilet. Do not eat, drink or smoke when using this product.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with a multi-purpose combination (US) or type ABEK (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. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Environmental exposure
9 – Physical and chemical properties

**Appearance**  Viscous colorless liquid to white waxy paste.  
**Water miscibility @ 20 °C, g/L**  Immiscible.  
**Odor threshold**  No data available.  
**Solubility (other)**  Miscible in ethanol, acetone, ethers and chloroform.  
**Melting point/Freezing point, °C**  25 (Unstable)  
**Partition coefficient, log Pow @ 25 °C**  6.40 (EPI Suite estimation)  
**Boiling point, °C**  238-240 @ 0.4 kPa  
**Autoignition temperature, °C**  No data available.  
**Evaporation rate**  No data available.  
**Decomposition temperature, °C**  No data available.  
**Upper / lower flammability or and explosive limits**  
**Vapor pressure @ 20 °C, kPa**  2 x 10-010 @ 25 °C  
**Explosive properties**  Not classified.  
**Vapor density (air=1)**  No data available.  
**Oxidizing properties**  No data available.  
**Relative density @ 25 °C, g/cm³**  0.942  
**Flammability**  Non-flammable liquid.  
**Surface tension @ 20 °C, mN/m**  37.6

10 – Stability and reactivity

**Reactivity**  No data available.  
**Chemical stability**  Stable under normal storage conditions.  
**Possibility of hazardous reactions**  Hazardous polymerization do not occur under normal conditions.  
**Incompatible materials**  Strong oxidizing agents. Strong bases. Strong acids.  
**Conditions to avoid**  High temperatures and ignition sources.  
**Hazardous decomposition products**  No data available.

11 – Toxicological information

**Acute toxicity – oral**  
**Acute toxicity – oral (LD50,mg/kg)**  >5,000  
**Species**  Rat
# SDS: Glycerol monooleate

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity – dermal</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Acute toxicity – dermal (LD50,mg/kg)</td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>Notes (Dermal LD50)</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Acute toxicity – inhalation</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Acute toxicity – inhalation (LC50,dust/mist mg/l)</td>
<td></td>
<td>No data available.</td>
</tr>
<tr>
<td>Notes (Inhalation LD50)</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td></td>
<td>Rabbit - No irritation.</td>
</tr>
<tr>
<td>Result</td>
<td></td>
<td>Rabbit - No irritation.</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Genotoxicity – in vitro</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Genotoxicity – in vivo</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>IARC</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>ACGIH</td>
<td></td>
<td>No component of this product present at levels greater than or equal to 0.1% is identified as human carcinogen by IARC.</td>
</tr>
<tr>
<td>NTP</td>
<td></td>
<td>No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.</td>
</tr>
<tr>
<td>OSHA</td>
<td></td>
<td>No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.</td>
</tr>
<tr>
<td>Reproductive toxicity</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Fertility</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Development</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>Specific target organ toxicity</td>
<td></td>
<td>Based on available data the classification criteria are not met.</td>
</tr>
<tr>
<td>STOT-single exposure</td>
<td></td>
<td>No data available.</td>
</tr>
</tbody>
</table>
**SDS: Glycerol monooleate**

**STOT-repeated exposure**
No data available.

**Additional information**

**General information**
This product is not classified as hazardous.

**Inhalation**
No data available.

**Ingestion**
No data available.

**Skin contact**
No data available.

**Eye contact**
Based on available data the classification criteria are not met.

**Route of entry**
Ingestion, Inhalation, skin and/or eye contact.

**Target organs**
Not specific target organ known.

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**12 – Ecological information**

**Toxicity**

**Ecotoxicity**
Not regarded as dangerous for the environment. However, large or frequent spills may have dangerous effects on the environment.

**Acute toxicity**

**Toxicity to fish**
LC50 (96h) >100 mg/l

**Aquatic invertebrates**
LC50 (48h) >100 mg/l (Daphnia magna)

**Aquatic plants**
No data available.

**Chronic toxicity**

**Toxicity to fish**
No data available.

**Aquatic invertebrates**
No data available.

**Aquatic plants**
No data available.

**Persistency and biodegradability**

**Persistency and biodegradability**
No data available.

**Result:** -
This product is readily biodegradable (EPI Suite estimation).

**Biological oxygen demand(mg/g)**
No data available.
13 – Disposal considerations

Waste treatment methods

General information
The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of safely. When handling waste, the safety precautions applying to the handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues.

Disposal methods
Do not empty into drains. Dispose of surplus products and those that cannot be recycled via a licensed waste disposal contractor. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labeled with their contents. Incineration and landfill should only be considered when recycling is not feasible.

14 – Transport information

DOT (US) Not dangerous goods.
IMDG Not dangerous goods.
IATA Not dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78, and the IBC Code.

Not applicable.

15 – Regulatory information

US Federal Regulations and state regulations
Components of the product are listed in the quoted regulations. For details, please refer to the regulations directly. This list is not exhaustive; please check for other applicable regulations.

This product has been classified by hazard criteria of the Controlled Products Regulations, and the SDS contains all the information required by the Controlled Products Regulations.
US Federal Regulations

SARA 302 Section 302 (Specific toxic chemical listings)
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA Section 311/312 (Specific toxic chemical listings)
No SARA Hazards.

SARA Section 313 (Specific toxic chemical listings)
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

RCRA (hazardous waste code)
None of the ingredients are listed.

TSCA (Toxic Substances Control Act)
CAS 111-03-5 is listed on the TSCA inventory.

CERCLA (Comprehensive Environmental Response, Compensation, and Liability Act)
None of the ingredients are listed.

US State Regulations

Proposition 65 (California)
Chemicals are known to cause cancer
None of the chemicals in this product are listed.
Chemicals are known to cause reproductive toxicity for females
None of the chemicals in this product are listed.
Chemicals are known to cause reproductive toxicity for males
None of the chemicals in this product are listed.

Massachusetts Right to Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right to Know Components
No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right to Know Components
No components are subject to the New Jersey Right to Know Act.

Canada

Canadian Domestic Substances List (DSL)
CAS: 111-03-5 is listed on Canada's DSL List.

Canadian NPRI Ingredient Disclosure list (limit 0.1%)
The substance is not specified on any list. There is no control measure imposed to this substance.

Canadian NPRI Ingredient Disclosure list (limit 1%)
The substance is not specified on any list. There is no control measure imposed to this substance.

16 – Other information

Full text of H-Statements referred to under sections 2 and 3
Not a hazardous substance or mixture.
GHS Column Model 2017 Classification

Acute health hazards (single exp)  Negligible
Chronic health hazards (repeated exp.)  Negligible
Environmental hazards  Negligible
Physical-chemical hazards  Negligible

Further Information
The information above is believed to be accurate and represents the best information available. However, we make no warranty of merchantability or any other warranty, express or implied, on such information and we assume no liability resulting from its use. Users should make their investigations to determine the suitability of the information for their purposes. In no event shall the InKemia Green Chemicals, Inc. be liable for any claims, losses or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages arising, even if the InKemia Green Chemicals, Inc. has been advised of the possibility of such damages.

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