1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier
Product Name VYCERIN™ GL93 Glycerine Kosher, USP

Other means of identification
Product Code GL93
Synonyms 1,2,3-propanetriol

Recommended use of the chemical and restrictions on use
Recommended Use Multi-purpose fluid.
Uses advised against None identified

Details of the supplier of the safety data sheet
Manufacturer Address Vantage Oleochemicals, Inc.
4650 South Racine Avenue
Chicago, IL 60609 USA
+1-773-376-9000

Emergency Telephone Number
Company Phone Number +1-773-376-9000
Emergency Telephone Number CHEMTREC International +1-703-527-3887
CHEMTREC USA: 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification
This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard.
This is not a dangerous substance or mixture according to the United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Label Elements

EMERGENCY OVERVIEW

Color Colorless  Physical State Liquid  Odor Odorless

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms 1,2,3-propanetriol.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin</td>
<td>56-81-5</td>
<td>99.5</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

FIRST AID MEASURES
Eye contact
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Consult a physician if irritation occurs.

Skin contact
Wash exposed skin with soap and plenty of water. Consult a physician if irritation occurs.

Inhalation
Remove to fresh air and keep at rest in a position comfortable for breathing. Consult a physician if breathing is difficult or other respiratory symptoms develop.

Ingestion
DO NOT induce vomiting. Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed
Symptoms
None identified.

Indication of any immediate medical attention and special treatment needed

Notes to Physician
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures appropriate to local circumstances and surrounding materials.

Unsuitable extinguishing media
None identified.

Specific hazards arising from the chemical
None identified.

Hazardous combustion products
Acrolein may be formed if product is burned or strongly heated, especially in acidic conditions.

Explosion Data

Sensitivity to Mechanical Impact
None.

Sensitivity to Static Discharge
None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions
Use personal protective equipment.

Environmental precautions

Environmental precautions
Prevent release to surface water.

Methods and material for containment and cleaning up

Methods for Containment
Dike to collect large liquid spills.

Methods for Cleaning Up
Absorb with inert material and transfer to containers for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling
Handle in accordance with good industrial hygiene and safety practice. Avoid generation of mist/aerosol.
## Conditions for safe storage, including any incompatibilities

**Storage**
Keep containers tightly closed in a dry, cool and well-ventilated place.

**Packaging Material**
Store tightly closed in original container. Prevent exposure to high humidity, material is hygroscopic.

**Incompatible materials**
Strong oxidizing agents.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

**Exposure Guidelines**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin 56-81-5</td>
<td>n/a</td>
<td>TWA: 15 mg/m³ (total)</td>
<td>n/a</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 5 mg/m³ (respirable fraction)</td>
<td></td>
</tr>
</tbody>
</table>

**Appropriate engineering controls**

**Engineering Measures**
Showers, Eyewash stations, Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face Protection**
Safety glasses with side-shields.

**Skin and Body Protection**
Impervious gloves.

**Respiratory Protection**
Use NIOSH/MSHA approved respirator if exposure limit is exceeded.

**Hygiene Measures**
Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical State</strong></td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td><strong>Appearance</strong></td>
<td>Clear</td>
<td></td>
</tr>
<tr>
<td><strong>Color</strong></td>
<td>Colorless</td>
<td></td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>7</td>
<td>Neat</td>
</tr>
<tr>
<td><strong>Melting point/freezing point</strong></td>
<td>18 °C / 64 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Boiling point/boiling range</strong></td>
<td>290 °C / 554 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>177 °C / 351 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>May burn if exposed to open flame.</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability Limits in Air</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limits</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td>Lower Flammability Limit</td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Vapor pressure</strong></td>
<td>0.000106</td>
<td>hPa at (20 °C)</td>
</tr>
<tr>
<td><strong>Vapor Density</strong></td>
<td>Not determined</td>
<td>@ 20°C</td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>1.26</td>
<td></td>
</tr>
<tr>
<td><strong>Water Solubility</strong></td>
<td>Miscible</td>
<td></td>
</tr>
<tr>
<td><strong>Solubility in other solvents</strong></td>
<td>Not determined</td>
<td></td>
</tr>
<tr>
<td><strong>Partition coefficient</strong></td>
<td>-2.6</td>
<td>Calculated</td>
</tr>
<tr>
<td><strong>Autoignition Temperature</strong></td>
<td>400 °C / 752 °F</td>
<td></td>
</tr>
<tr>
<td><strong>Decomposition temperature</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Kinematic viscosity</strong></td>
<td>1300 mPa s</td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Dynamic viscosity</strong></td>
<td></td>
<td>@ 20 °C</td>
</tr>
</tbody>
</table>
Explosive Properties
Oxidizing Properties

Other Information

10. STABILITY AND REACTIVITY

Reactivity
- Not reactive

Remarks
- Stable under recommended storage conditions.

Possibility of Hazardous Reactions
- None under normal processing.
- Hazardous polymerization does not occur.

Conditions to Avoid
- Extremes of temperature and direct sunlight

Incompatible materials
- Strong oxidizing agents.

Hazardous Decomposition Products
- Acrolein may be formed if product is burned or strongly heated, especially in acidic conditions.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Inhalation
- Inhalation of aerosol or mist may cause irritation of the respiratory tract.

Eye contact
- May cause slight irritation.

Skin contact
- Prolonged or repeated contact may dry skin and cause irritation.

Ingestion
- Ingestion may cause stomach discomfort.

Chemical Name | LD50 Oral | LD50 Dermal | LC50 Inhalation
--- | --- | --- | ---
Glycerin (GL93 Glycerine Kosher, USP, 56-81-5) | > 4,000 mg/kg (Mouse), >25,000 mg/kg (rat) | > 18,700 mg/kg (Rabbit) | > 570 mg/m³ (Rat) 1 h

Information on toxicological effects

Symptoms
- No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation
- Caused mild irritation in animal studies.

Serious eye damage/eye irritation
- Caused temporary (<24h) eye irritation in animal studies.

Sensitization
- Not a skin sensitizer.

Mutagenic Effects
- Not classified as a mutagen by IARC.

Carcinogenicity
- This substance is not classified as a carcinogen by IARC, OSHA, ACGIH, or NTP.

Reproductive Toxicity
- Reproductive effects are unknown.

Developmental Toxicity
- Not classified as a developmental toxin.

Teratogenic
- Not classified as a teratogen.

STOT - single exposure
- No known effects under normal use conditions.

STOT - repeated exposure
- No known hazard.

Aspiration hazard
- No known hazard.
Numerical measures of toxicity - Product Information

12. ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Toxicity to Algae</th>
<th>Toxicity to Fish</th>
<th>Microtox</th>
<th>Daphnia Magna (Water Flea)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin 56-81-5</td>
<td>LC50 51 - 57 mL/L Oncorhynchus mykiss 96 h</td>
<td>Pseudomonas putida (16 hr) &gt;10 g/l</td>
<td>EC50 &gt;10,000 mg/l 24 h</td>
<td>Daphnia magna</td>
</tr>
</tbody>
</table>

Persistence and degradability
Readily biodegradable.

Bioaccumulation/Accumulation
Not expected to be bioaccumulative.

Mobility
Will likely be mobile in the environment due to its water solubility.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin 56-81-5</td>
<td>-1.76</td>
</tr>
</tbody>
</table>

Other Adverse Effects
None identified

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste Disposal Method
Dispose of in accordance with applicable regulations.

Contaminated Packaging
Dispose of in accordance with applicable regulations.

14. TRANSPORT INFORMATION

DOT
Not regulated

TDG
Not regulated

MEX
Not regulated

IATA
Not regulated

IMDG / IMO
Not regulated

15. REGULATORY INFORMATION

International Inventories

- TSCA: Complies
- DSL: Complies
- EINECS: Complies
- ENCS: Complies
- IECSC: Complies
- KECL: Complies
- PICCS: Complies
U.S. Federal Regulations

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories
Acute health hazard No
Chronic Health Hazard No
Fire hazard No
Sudden release of pressure hazard No
Reactive Hazard No

Clean Water Act
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

U.S. State Regulations

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

16. OTHER INFORMATION

NFPA
<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and Chemical Hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
<td>n/a</td>
</tr>
</tbody>
</table>

HMIS
<table>
<thead>
<tr>
<th>Health Hazard</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal Precautions</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>0</td>
<td>B</td>
</tr>
</tbody>
</table>

Issuing Date 13-Apr-2015
Revision Date 13-Apr-2015
Revision Note Update to GHS format
Reason for Revision

Disclaimer
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