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

Product identifier
Product Name VYCERIN™ GL88 99.5% USP Glycerine

Other means of identification
Product Code GL88
Synonyms 1,2,3-propanetriol

Recommended use of the chemical and restrictions on use
Recommended Use Multi-purpose fluid.

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 US 1-800-424-9300 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 to white 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. Consult a physician.

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 Cleaning Up  Absorb with an inert material.

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) TWA: 5 mg/m³ (respirable fraction)</td>
<td>n/a</td>
</tr>
</tbody>
</table>

#### Appropriate engineering controls

**Engineering Measures**
Provide showers, eyewash stations, and 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 to white</td>
<td></td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>Odorless</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>Solidifies at much lower temperature</td>
</tr>
<tr>
<td><strong>Boiling point/boiling range</strong></td>
<td>290 °C / 554 °F</td>
<td>Atmospheric Pressure (760 mm Hg)</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>177 °C / 351 °F</td>
<td>Open cup</td>
</tr>
<tr>
<td><strong>Evaporation Rate</strong></td>
<td></td>
<td>No data available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>May burn if exposed to open flames</td>
<td></td>
</tr>
<tr>
<td><strong>Flammability Limits in Air</strong></td>
<td></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></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Specific Gravity</strong></td>
<td>1.26</td>
<td>@ 20°C</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></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>Not determined</td>
</tr>
<tr>
<td><strong>Kinematic viscosity</strong></td>
<td></td>
<td>Not determined</td>
</tr>
<tr>
<td><strong>Dynamic viscosity</strong></td>
<td>1300 mPa s</td>
<td>@ 20 °C</td>
</tr>
<tr>
<td><strong>Explosive Properties</strong></td>
<td>None</td>
<td></td>
</tr>
<tr>
<td><strong>Oxidizing Properties</strong></td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

**Other Information**

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**Revision Date** 20-Feb-2015
10. STABILITY AND REACTIVITY

Reactivity
Not reactive

Chemical stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to Avoid
None known.

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
The ingredients of this product do not present an acute toxicity hazard based on published data.

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

Eye contact
Not irritating to eyes.

Skin contact
Not irritating to skin.

Ingestion
Ingestion may cause stomach discomfort.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>LD50 Oral (LD50 Dermal)</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin 56-81-5</td>
<td>&gt; 4,000 mg/kg (Mouse), &gt;25,000 mg/kg (Rabbit)</td>
<td>&gt; 18,700 mg/kg (Rabbit)</td>
</tr>
</tbody>
</table>

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
Not irritating to skin.

Serious eye damage/eye irritation
Not irritating to eyes.

Sensitization
Not a skin sensitizer.

Mutagenic Effects
No known hazard.

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

Reproductive Toxicity
No known hazard.

Developmental Toxicity
No known hazard.

Teratogenic
No known hazard.

STOT - single exposure
No known hazard.

STOT - repeated exposure
No known hazard.

Aspiration hazard
No known hazard.

Numerical measures of toxicity-Product Information
Not determined
**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</td>
<td>Oncorhynchus mykiss 96 h</td>
<td>Pseudomonas putida (16 hr) &gt;10 g/l</td>
<td>EC50 &gt;10,000 mg/l 24 h 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

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**13. DISPOSAL CONSIDERATIONS**

**Waste treatment methods**
Dispense of in accordance with applicable regulations.

**Contaminated Packaging**
Dispense of in accordance with applicable regulations.

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**14. TRANSPORT INFORMATION**

**DOT**
Not regulated

**IATA**
Not regulated

**IMDG / IMO**
Not regulated

---

**15. REGULATORY INFORMATION**

**International Inventories**

<table>
<thead>
<tr>
<th>TSCA</th>
<th>DSL</th>
<th>ENCS</th>
<th>IECSC</th>
<th>KECL</th>
<th>PICCS</th>
<th>AICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complies</td>
<td>Complies</td>
<td>Complies</td>
<td>Complies</td>
<td>Complies</td>
<td>Complies</td>
<td>Complies</td>
</tr>
</tbody>
</table>

**Legend**

- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- **EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
- **ENCs** - Japan Existing and New Chemical Substances
- **IECSC** - China Inventory of Existing Chemical Substances
- **KECL** - Korean Existing and Evaluated Chemical Substances
- **PICCS** - Philippines Inventory of Chemicals and Chemical Substances
**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 56-81-5</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

**16. OTHER INFORMATION**

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

Issuing Date: 28-Apr-2015
Revision Date: 20-Feb-2015
Revision Note: Update to company logo

**Disclaimer**
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End of MSDS