1. Identification

Product identifier: DREWMULSE GMO KOSHER

Other means of identification:
- Product code: 2851
- Recommended use: Surfactant
- Recommended restrictions: None known.

Manufacturer/Importer/Supplier/Distributor information:
- Manufacturer: Stepan Company
- Address: 22 West Frontage Road, Northfield, IL 60093, USA
- Telephone: General 1-847-446-7500
- E-mail: Not available.
- Emergency phone number: Medical 1-800-228-5635, Chemtrec 1-800-424-9300, Chemtrec Int'l +1 703-527-3887

2. Hazard(s) identification

Physical hazards: Not classified.
Health hazards: Not classified.
Environmental hazards: Not classified.
OSHA defined hazards: Not classified.

Label elements:
- Hazard symbol: None.
- Signal word: None.
- Hazard statement: The mixture does not meet the criteria for classification.
- Precautionary statement:
  - Prevention: Observe good industrial hygiene practices.
  - Response: Wash hands after handling.
  - Storage: Store away from incompatible materials.
  - Disposal: Dispose of waste and residues in accordance with local authority requirements.

Hazard(s) not otherwise classified (HNOC): None known.

Supplemental information: Not applicable.

3. Composition/information on ingredients

Mixtures

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerol dioleate</td>
<td></td>
<td>25637-84-7</td>
<td>40 - 45</td>
</tr>
<tr>
<td>Glycerol monooleate</td>
<td></td>
<td>25496-72-4</td>
<td>40 - 45</td>
</tr>
<tr>
<td>Glycerol trioleate</td>
<td></td>
<td>122-32-7</td>
<td>10 - 20</td>
</tr>
<tr>
<td>Glycerin</td>
<td></td>
<td>56-81-5</td>
<td>2</td>
</tr>
</tbody>
</table>

4. First-aid measures

Inhalation: Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact: Wash off with soap and water. Get medical attention if irritation develops and persists.
**Eye contact**
- Rinse with water. Get medical attention if irritation develops and persists.

**Ingestion**
- Rinse mouth. Get medical attention if symptoms occur. Do not induce vomiting.

**Most important symptoms/effects, acute and delayed**
- Direct contact with eyes may cause temporary irritation.

**Indication of immediate medical attention and special treatment needed**
- Treat symptomatically.

**General information**
- Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

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**5. Fire-fighting measures**

**Suitable extinguishing media**

**Unsuitable extinguishing media**
- Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical**
- During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**
- Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**
- Move containers from fire area if you can do so without risk.

**Specific methods**
- Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards**
- No unusual fire or explosion hazards noted.

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**6. Accidental release measures**

**Personal precautions, protective equipment and emergency procedures**
- Keep unnecessary personnel away. For personal protection, see section 8 of the SDS.

**Methods and materials for containment and cleaning up**
- Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

- Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

**Environmental precautions**
- Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

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**7. Handling and storage**

**Precautions for safe handling**
- Observe good industrial hygiene practices.

**Conditions for safe storage, including any incompatibilities**
- Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

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**8. Exposure controls/personal protection**

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin (CAS 56-81-5)</td>
<td>PEL</td>
<td>5 mg/m3</td>
<td>Respirable fraction.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m3</td>
<td>Total dust.</td>
</tr>
</tbody>
</table>

**Biological limit values**
- No biological exposure limits noted for the ingredient(s).

**Appropriate engineering controls**
- Ensure adequate ventilation, especially in confined areas.

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

**Eye/face protection**
- If contact is likely, safety glasses with side shields are recommended.

**Skin protection**
- **Hand protection**
  - For prolonged or repeated skin contact use suitable protective gloves.

**Other**
- Wear suitable protective clothing. Use impervious gloves.

**Respiratory protection**
- In case of insufficient ventilation, wear suitable respiratory equipment.
Wear appropriate thermal protective clothing, when necessary.

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance
- Physical state: Liquid.
- Form: Liquid.
- Color: light yellow to yellow
- Odor: Not available.
- Odor threshold: Not available.
- pH: Not available.
- Melting point/freezing point: 75 °F (23.89 °C)
- Initial boiling point and boiling range: Not available.
- Flash point: 462.0 °F (238.9 °C)
- Evaporation rate: Estimated slower than ethyl ether
- Flammability (solid, gas): Not available.

Upper/lower flammability or explosive limits
- Flammability limit - lower (%): Not available.
- Flammability limit - upper (%): Not available.
- Explosive limit - lower (%): Not available.
- Explosive limit - upper (%): Not available.

Vapor pressure: Not applicable

Vapor density: Not applicable

Relative density: Not available.

Solubility(ies)
- Solubility (water): Not available.

Auto-ignition temperature: Not available.

Decomposition temperature: Not available.

Viscosity: Not available.

Other information
- Density: 0.90 g/ml

10. Stability and reactivity

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability: Material is stable under normal conditions.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Avoid temperatures exceeding the flash point. Contact with incompatible materials.

Incompatible materials: Strong oxidizing agents. This product may react with strong alkalies.

Hazardous decomposition products: No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure
- Inhalation: No adverse effects due to inhalation are expected.
- Skin contact: No adverse effects due to skin contact are expected.
- Eye contact: Direct contact with eyes may cause temporary irritation.
- Ingestion: Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics

Information on toxicological effects

Acute toxicity
- Not available.

Skin corrosion/irritation
- Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation
- Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitization
  
  Respiratory sensitization
  - Not available.

  Skin sensitization
  - This product is not expected to cause skin sensitization.

Germ cell mutagenicity
- No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity
- This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

  IARC Monographs. Overall Evaluation of Carcinogenicity
  - Not listed.

  US. National Toxicology Program (NTP) Report on Carcinogens
  - Not listed.

  US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
  - Not regulated.

Reproductive toxicity
- This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure
- Not applicable.

Specific target organ toxicity - repeated exposure
- Not applicable.

Aspiration hazard
- Not applicable.

12. Ecological information

Ecotoxicity

<table>
<thead>
<tr>
<th>Components</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Glycerin (CAS 56-81-5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic Fish</td>
<td>LC50 Rainbow trout,donaldson trout (Oncorhynchus mykiss)</td>
<td>51000 - 57000 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability
- Readily biodegradable.

Bioaccumulative potential
- No data available.

  Partition coefficient n-octanol / water (log Kow)
  - Glycerin -1.76

Mobility in soil
- No data available.

Other adverse effects
- No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations

Disposal instructions
- Dispose in accordance with all applicable regulations.

Hazardous waste code
- The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products
- Dispose of in accordance with local regulations.

Contaminated packaging
- Not available.

14. Transport information

DOT
- Not regulated as dangerous goods.

IATA
- Not regulated as dangerous goods.
15. Regulatory information

**US federal regulations**

- **CERCLA Hazardous Substance List (40 CFR 302.4)**
  Not listed.
- **SARA 304 Emergency release notification**
  Not regulated.
  Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

<table>
<thead>
<tr>
<th>Hazard categories</th>
<th>Immediate Hazard</th>
<th>Delayed Hazard</th>
<th>Fire Hazard</th>
<th>Pressure Hazard</th>
<th>Reactivity Hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>No</td>
</tr>
</tbody>
</table>

- **SARA 302 Extremely hazardous substance**
  Not listed.
- **SARA 311/312 Hazardous chemical**
  No
- **SARA 313 (TRI reporting)**
  Not regulated.

**Other federal regulations**

- **Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**
  Not regulated.
- **Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**
  Not regulated.
- **Safe Drinking Water Act (SDWA)**
  Not regulated.

**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

Glycerin (CAS 56-81-5) Other Flavoring Substances with OSHA PEL's

**US state regulations**

- **US - New Jersey RTK - Substances: Listed substance**
  Glycerin (CAS 56-81-5)
- **US - Pennsylvania RTK - Hazardous Substances: Listed substance**
  Glycerin (CAS 56-81-5)
- **US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**
  Not listed.
- **US. Massachusetts RTK - Substance List**
  Glycerin (CAS 56-81-5)
- **US. Pennsylvania Worker and Community Right-to-Know Law**
  Glycerin (CAS 56-81-5)
- **US. Rhode Island RTK**
  Not regulated.

**International Inventories**

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Country(s) or region</td>
<td>Inventory name</td>
<td>On inventory (yes/no)*</td>
</tr>
<tr>
<td>------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory (NZIoC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Philippines</td>
<td>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>United States &amp; Puerto Rico</td>
<td>Toxic Substances Control Act (TSCA) Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s).
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision

<table>
<thead>
<tr>
<th>Issue date</th>
<th>11-18-2014</th>
</tr>
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<tbody>
<tr>
<td>Revision date</td>
<td>02-27-2017</td>
</tr>
<tr>
<td>Version #</td>
<td>02</td>
</tr>
</tbody>
</table>

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Revision information

Hazard(s) identification: Response
Composition / Information on Ingredients: Disclosure Overrides
Physical & Chemical Properties: Multiple Properties
Regulatory information: California Prop 65
Other information, including date of preparation or last revision: Disclaimer
HazReg Data: International Inventories
GHS: Classification