1. Identification

Product identifier: STEPANTEX ST-90

Other means of identification:
- Product code: 8136
- Recommended use: Surfactant
- Recommended restrictions: For industrial use only.

Manufacturer/Importer/Supplier/Distributor information:

**Manufacturer**
- Company name: Stepan Company
- Address: 22 West Frontage Road, Northfield, IL 60093, USA

**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**: Flammable liquids - Category 3

**Health hazards**:
- Skin corrosion/irritation - Category 2
- Serious eye damage/eye irritation - Category 2A

**Environmental hazards**:
- Hazardous to the aquatic environment, acute hazard - Category 2
- Hazardous to the aquatic environment, long-term hazard - Category 3

**OSHA defined hazards**: Not classified.

**Label elements**

**Signal word**: Warning

**Hazard statement**: Flammable liquid and vapor. Causes skin irritation. Causes serious eye irritation. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

**Precautionary statement**

**Prevention**

**Response**
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

**Storage**
- Store in a well-ventilated place. Keep cool.

**Disposal**
- Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)**
- Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment. Sparks may ignite liquid and vapor. May cause flash fire or explosion.
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Mixtures</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatty acids, C10-20 and C16-18-unsat., reaction products with triethanolamine, di-ME sulfate-quaternized</td>
<td>91995-81-2 (Alternate CAS 157905-74-3)</td>
<td>80 - &lt; 90</td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>5 - &lt; 10</td>
</tr>
<tr>
<td>Glycerin</td>
<td>56-81-5</td>
<td>1 - &lt; 3</td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td>&lt; 0.2</td>
<td></td>
</tr>
</tbody>
</table>

4. First-aid measures

**Inhalation**
Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**
Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

**Eye contact**
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

**Ingestion**
Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

**Most important symptoms/effects, acute and delayed**
Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

**General information**
Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

**Suitable extinguishing media**
Water fog. Foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

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

**Specific hazards arising from the chemical**
Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. 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**
In case of fire and/or explosion do not breathe fumes. 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**
Flammable liquid and vapor.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

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. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. 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.

Never return spills to original containers for re-use.

Environmental precautions

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.

7. Handling and storage

Precautions for safe handling

Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Do not smoke. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid contact with skin. Avoid contact with eyes. Avoid contact with clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid release to the environment. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Avoid spark promoters. Eliminate sources of ignition. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in original tightly closed container. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Refrigeration recommended. Keep in an area equipped with sprinklers.

8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)</th>
<th>Value</th>
<th>Form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Components</td>
<td>Type</td>
<td>Value</td>
</tr>
<tr>
<td>Ethanol (CAS 64-17-5)</td>
<td>PEL</td>
<td>1900 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1000 ppm</td>
</tr>
<tr>
<td>Glycerin (CAS 56-81-5)</td>
<td>PEL</td>
<td>5 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>15 mg/m³ Total dust.</td>
</tr>
<tr>
<td>US. ACGIH Threshold Limit Values</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Components</td>
<td>Type</td>
<td>Value</td>
</tr>
<tr>
<td>Ethanol (CAS 64-17-5)</td>
<td>STEL</td>
<td>1000 ppm</td>
</tr>
<tr>
<td>US. NIOSH: Pocket Guide to Chemical Hazards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Components</td>
<td>Type</td>
<td>Value</td>
</tr>
<tr>
<td>Ethanol (CAS 64-17-5)</td>
<td>TWA</td>
<td>1900 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1000 ppm</td>
</tr>
</tbody>
</table>

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

Occupational Exposure Limits are not relevant to the current physical form of the product.

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.
Individual protection measures, such as personal protective equipment

**Eye/face protection**
Wear safety glasses with side shields (or goggles).

**Skin protection**
- **Hand protection**
  Wear appropriate chemical resistant gloves.
- **Other**
  Wear appropriate chemical resistant clothing.

**Respiratory protection**
In case of insufficient ventilation, wear suitable respiratory equipment. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

**Thermal hazards**
Wear appropriate thermal protective clothing, when necessary.

**General hygiene considerations**
When using do not smoke. 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**
  Paste.
- **Color**
  Tan.
- **Odor**
  Alcoholic.

**Odor threshold**
2.5 - 4 (5% in water)

**pH**
2.5 - 4 (5% in water)

**Melting point/freezing point**
80.6 °F (27 °C)

**Initial boiling point and boiling range**
Not available.

**Flash point**
80.0 °F (26.7 °C) Pensky-Martens Closed Cup

**Evaporation rate**
Not available.

**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 available.

**Vapor density**
Not available.

**Relative density**
Not available.

**Solubility(ies)**
- **Solubility (water)**
  Not available.
- **Auto-ignition temperature**
  Not available.

**Decomposition temperature**
90 cP @ 50C

**Viscosity**
Not available.

**Other information**
- **Density**
  8.40 lbs/gal @ 25C

### 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 heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.

**Incompatible materials**
Strong oxidizing agents.
11. Toxicological information

Information on likely routes of exposure

**Inhalation**
- Prolonged inhalation may be harmful.

**Skin contact**
- Causes skin irritation.

**Eye contact**
- Causes eye irritation.

**Ingestion**
- May be harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Exposed individuals may experience eye tearing, redness, and discomfort. Skin irritation. May cause redness and pain.

Information on toxicological effects

**Acute toxicity**
- Expected to be a low hazard for usual industrial or commercial handling by trained personnel.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEPANTEX ST-90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>&gt; 2000 mg/l</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>&gt; 4250 mg/l</td>
</tr>
</tbody>
</table>

Skin corrosion/irritation
- Causes skin irritation.

Serious eye damage/eye irritation
- Causes eye 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.

- Not regulated.

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

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.

Chronic effects
- Prolonged inhalation may be harmful.

12. Ecological information

**Ecotoxicity**
- Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>STEPANTEX ST-90</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>Algae 3.1 mg/l, 72 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Daphnia 2.4 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>EC50</td>
<td>Fish 7.1 mg/l, 96 hours</td>
</tr>
</tbody>
</table>
### Product Test Results

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>3787.7879 mg/l, 96 hours estimated</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fish</td>
<td>&gt; 1000 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

**Fatty Acids, C16-18 And C18-unsatd., Compds. With Triethanolamine (CAS 68424-19-1)**

<table>
<thead>
<tr>
<th>aquaculture</th>
<th>LC50</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Fish</td>
<td>LC50</td>
<td>Fish</td>
<td>&gt; 1000 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)**: Ethanol -0.31
- **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 of contents/container in accordance with local/regional/national/international 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. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging**: Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### 14. Transport information

**DOT**

- **UN number**: UN1170
- **UN proper shipping name**: Ethanol Solution
- **Transport hazard class(es)**:
  - **Class**: 3
  - **Subsidiary risk**: -
  - **Packing group**: III
- **Special precautions for user**: Not available.

**IATA**

- **UN number**: UN1170
- **UN proper shipping name**: Ethanol Solution
- **Transport hazard class(es)**:
  - **Class**: 3
  - **Subsidiary risk**: -
  - **Packing group**: III
- **Environmental hazards**: No.
- **Special precautions for user**: Not available.

**IMDG**

- **UN number**: UN1170
- **UN proper shipping name**: Ethanol Solution
- **Transport hazard class(es)**:
  - **Class**: 3
  - **Subsidiary risk**: -
  - **Packing group**: III
- **Environmental hazards**: No.
- **Marine pollutant**: Not available.
- **EmS**: Not available.
- **Special precautions for user**: Not available.
- **Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**: Not available.
15. Regulatory information

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**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)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical**

Yes

**Classified hazard categories**

- Flammable (gases, aerosols, liquids, or solids)
- Skin corrosion or irritation
- Serious eye damage or eye irritation

**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**

- Ethanol (CAS 64-17-5) Low priority
- Glycerin (CAS 56-81-5) Other Flavoring Substances with OSHA PEL’s

**US state regulations**

**California Proposition 65**

**WARNING:** This product can expose you to chemicals including Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
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>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>No</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>Taiwan</td>
<td>Taiwan Inventory (TCSI)</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

Issue date 08-12-2014
Revision date 06-06-2018
Version # 04

Disclaimer
Terms and Conditions. This SDS is designed only as guidance for the products to which it applies. To the greatest extent permitted by applicable law, nothing contained herein creates any legal obligation including contractual obligations, expressed or implied warranties, including any warranties of merchantability or fitness for particular purpose; or confers any intellectual property rights, including rights to use trademarks or a license to use patents, issued or pending. The information contained herein is based on the manufacturer's own study and the work of others, and is subject to change at any time without further notice. There is no warranty, expressed or implied, as to the accuracy, completeness or adequacy of the information contained herein, and neither the provider nor the manufacturer (nor the agents, directors, officers, contractors or employees of either) are liable to any party for any damages of any nature, including direct, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy or furnishing of any information in this SDS, or in any other way related (directly or indirectly) to this SDS. The receipt and use of this information constitutes consent to these terms and conditions.

Revision information
Identification: Recommended restrictions
Hazard(s) identification: Disposal
Hazard(s) identification: Prevention
Hazard(s) identification: Response
Hazard(s) identification: Supplemental information
Composition / Information on Ingredients: Disclosure Overrides
Physical & Chemical Properties: Multiple Properties
Physical and chemical properties: Flammability (solid, gas)
Stability and reactivity: Hazardous decomposition products
Transport Information: Material Transportation Information
Regulatory information: California Proposition 65
HazReg Data: International Inventories
GHS: Classification