1. Identification

Product identifier: POLYSTEP B-1

Other means of identification

Product code: 0925

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

Telephone
General: 1-847-446-7500

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 2

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. Toxic 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. Collect spillage.

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

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>Ammonium Nonoxynol-(n) Sulfate (Alternate CAS 68649-55-8, 31691-97-1)</td>
<td>9051-57-4</td>
<td>58 - 60</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>21 - 23</td>
<td></td>
</tr>
<tr>
<td>Ethanol</td>
<td>64-17-5</td>
<td>14 - &lt; 17</td>
<td></td>
</tr>
<tr>
<td>Nonylphenol, 4-, Branched, Ethoxylated</td>
<td>127087-87-0</td>
<td>&lt; 3</td>
<td></td>
</tr>
<tr>
<td>Sodium sulfate</td>
<td>7757-82-6</td>
<td>0 - 1</td>
<td></td>
</tr>
</tbody>
</table>

Other components below reportable levels: < 0.1

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
Rinse mouth. Get medical attention if symptoms occur. Do not induce vomiting without advice from poison control center.

Most important symptoms/effects, acute and delayed
Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Indication of immediate medical attention and special treatment needed
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
Alcohol resistant foam. Water fog. 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, flames, 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. 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.

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 prolonged exposure. 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>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<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>
</tbody>
</table>

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<th>Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol (CAS 64-17-5)</td>
<td>STEL</td>
<td>1000 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>Type</th>
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<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).

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.

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: Liquid.
    Color: Yellow.

Odor
    Not available.

Odor threshold
    Not available.

pH
    6 - 7 (10% aqueous)

Melting point/freezing point
    -54 °F (-47.78 °C)

Initial boiling point and boiling range
    Not available.

Flash point
    76.0 °F (24.4 °C) Pensky-Martens Closed Cup

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 determined or unknown

Vapor density
    Estimated heavier than air

Relative density
    Not available.

Solubility(ies)
    Solubility (water)
    Not available.

Auto-ignition temperature
    Not available.

Decomposition temperature
    Not available.

Viscosity
    60.5 cP @ 20C

Other information
    Pour point
    -49 °F (-45 °C)
    Specific gravity
    1.06 @ 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.

Hazardous decomposition products
    Upon decomposition, this product may yield sulfur dioxide and oxides of sulfur.
11. Toxicological information

Information on likely routes of exposure

**Inhalation**
No adverse effects due to inhalation are expected.

**Skin contact**
Causes skin irritation.

**Eye contact**
Causes serious eye irritation.

**Ingestion**
Expected to be a low ingestion hazard.

Symptoms related to the physical, chemical and toxicological characteristics

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

Information on toxicological effects

**Acute toxicity**

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>POLYSTEP B-1</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/kg</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
</tbody>
</table>

**Skin corrosion/irritation**
Causes skin irritation.

**Serious eye damage/eye irritation**
Causes serious 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.

12. Ecological information

**Ecotoxicity**
Toxic 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>POLYSTEP B-1</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</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 - 10 mg/l, 72 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Daphnia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 - 10 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fish</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1 - 10 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

**Persistence and degradability**
Expected to be inherently 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 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. 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 (Marine Pollutant (Alcohol Ethoxy Sulfate))
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group III
Environmental hazards Yes
Special precautions for user Not available.

IMDG

UN number UN1170
UN proper shipping name Ethanol Solution (Marine Pollutant (Alcohol Ethoxy Sulfate))
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group III
Environmental hazards Marine pollutant Yes (see description)
EmS Not available.
Special precautions for user Not available.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

DOT

Flammable Liquid
3
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
  - Hazard not otherwise classified (HNOC)

- 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)
  FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace
  - Ethanol (CAS 64-17-5)
    - Low priority

US state regulations

- California Proposition 65
  WARNING: This product can expose you to chemicals including Ethylene oxide, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.
California Proposition 65 - CRT: Listed date/Carcinogenic substance
Ethylene oxide (CAS 75-21-8) Listed: July 1, 1987

California Proposition 65 - CRT: Listed date/Developmental toxin
Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009

California Proposition 65 - CRT: Listed date/Female reproductive toxin
Ethylene oxide (CAS 75-21-8) Listed: February 27, 1987

California Proposition 65 - CRT: Listed date/Male reproductive toxin
Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009

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>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

Issue date 09-19-2014
Revision date 08-15-2018
Version # 07

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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: Supplemental information
Composition / Information on Ingredients: Ingredients
Physical & Chemical Properties: Multiple Properties
Regulatory information: California Proposition 65
HazReg Data: International Inventories
GHS: Classification