1. Identification

Product identifier: BIO-TERGE AS-90 BEADS

Other means of identification

Product code: 0538

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

Health hazards

Category 4 Acute toxicity, oral

Skin corrosion/irritation Category 2

Serious eye damage/eye irritation Category 1

Environmental hazards

Category 2 Hazardous to the aquatic environment, acute hazard

Category 3 Hazardous to the aquatic environment, long-term hazard

OSHA defined hazards

Combustible dust

Label elements

Signal word: Danger

Hazard statement: Harmful if swallowed. Causes skin irritation. Causes serious eye damage. Toxic to aquatic life. Harmful to aquatic life with long lasting effects. May form combustible dust concentrations in air.

Precautionary statement

Prevention


Response

If on skin: Wash with plenty of water. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage

Disposal

Store away from incompatible materials.

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

Hazard(s) not otherwise classified (HNOC)

None known.

Supplemental information

None.
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>Sodium (C14-16) olefin sulfonate</td>
<td></td>
<td>68439-57-6</td>
<td>80 - &lt; 90</td>
</tr>
<tr>
<td>Sodium xylenesulphonate (SXS)</td>
<td></td>
<td>1300-72-7</td>
<td>5 - &lt; 10</td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td></td>
<td></td>
<td>5 - &lt; 10</td>
</tr>
</tbody>
</table>

4. First-aid measures

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

Skin contact: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eye contact: Do not rub eyes. 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 immediately.

Ingestion: Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed:

- Dusts may irritate the respiratory tract, skin and eyes. 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. Keep victim under observation. Symptoms may be delayed.

General information:

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

5. Fire-fighting measures

Suitable extinguishing media:


Unsuitable extinguishing media:

- None known.

Specific hazards arising from the chemical:

- Explosion hazard: Avoid generating dust; fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. Class II Dust for National Electric Code (NFPA 70). 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. In the event of fire, cool tanks with water spray. Move containers from fire area if you can do so without risk.

Specific methods:

- Cool containers exposed to flames with water until well after the fire is out.

General fire hazards:

- May form combustible dust concentrations in air.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

- Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Use only non-sparking tools. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. 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.

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.
7. Handling and storage

Precautions for safe handling
Eliminate all sources of ignition. Minimize dust generation and accumulation. Combustible dust clouds may be created where operations produce fine material (dust). Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with ‘best practices’ (e.g. NFPA-654). 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. Dry powders can build static electricity charges when subjected to the friction of transfer and mixing operations. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres. Store in original tightly closed container. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces.

8. Exposure controls/personal protection

Occupational exposure limits
This mixture has no ingredients that have PEL, TLV, or other recommended exposure limit.

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

Appropriate engineering controls
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. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling of this product contain explosion relief vents or an explosion suppression system or an oxygen-deficient environment. Ensure that dust-handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e., there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks. 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
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
Solid.

Form
Free flowing beads. Powder.

Class II Dust for National Electric Code (NFPA 70)

Color
Off-white to light yellow.

Odor
Not available.

Odor threshold
Not available.

pH
8 - 10 (5% in water)

Melting point/freezing point
Not available.

Initial boiling point and boiling range
Not available.

Flash point
> 201.0 °F (> 93.9 °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 752 °F (400 °C) (MAIT Cloud)
Decomposition temperature Not available.
Viscosity Not available.
Other information
   Density 0.40 - 0.50 g/cm³
Dust explosion properties
   Pmax 7.3 bar
   Kst 132 bar.m/s
   Limiting oxygen concentration (LOC) 13.2 % v/v
   Minimum exploisible concentration (MEC) 47 g/m³
   Minimum ignition energy (MIE) - dust cloud < 1000 mJ
   Particle size 60 µm (69% < 75 um)

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 Keep away from heat, sparks and open flame. Avoid temperatures exceeding the flash point. Contact with incompatible materials. Minimize dust generation and accumulation.
Incompatible materials Strong oxidizing agents.
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 Causes skin irritation.
   Eye contact Causes serious eye damage.
   Ingestion Harmful if swallowed.
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 Harmful if swallowed.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO-TERGE AS-90 BEADS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
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</tr>
<tr>
<td>Dermal</td>
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<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Product</td>
<td>Species</td>
<td>Test Results</td>
</tr>
<tr>
<td>--------------------</td>
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<td>-------------------------</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>642 mg/kg</td>
</tr>
<tr>
<td>LD50</td>
<td></td>
<td>500 - 5000 mg/kg</td>
</tr>
</tbody>
</table>

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

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

**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 expected to cause skin sensitization.

IARC Monographs. Overall Evaluation of Carcinogenicity
Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
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. Harmful to aquatic life with long lasting effects.

<table>
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<tr>
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<th>Species</th>
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</tr>
</thead>
<tbody>
<tr>
<td>BIO-TERGE AS-90 BEADS</td>
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<td></td>
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<tr>
<td><strong>Aquatic</strong></td>
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<tr>
<td>Acute</td>
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<tr>
<td>Algae</td>
<td>EC50</td>
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<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Crustacea</td>
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<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fish</td>
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<td></td>
<td></td>
<td>42.3 mg/l, 72 hours</td>
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<td>4.48 mg/l, 48 hours</td>
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<td></td>
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<td>2.6 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

**Persistence and degradability**
Readily biodegradable.

**Bioaccumulative potential**
Not available.

**Mobility in soil**
Not available.

**Other adverse effects**
Not available.

### 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**
Not regulated as dangerous goods.
IATA
Not regulated as dangerous goods.

IMDG
Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable.

15. Regulatory information

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

Toxic Substances Control Act (TSCA)
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)
Not regulated.

SARA 304 Emergency release notification
Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 Extremely hazardous substance
Not listed.

SARA 311/312 Hazardous chemical
Classified hazard categories
Combustible dust
Acute toxicity (any route of exposure)
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.

Clean Water Act (CWA) Section 112(r) (40 CFR 68.130)
Safe Drinking Water Act (SDWA)
Hazardous substance
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>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</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>
</tbody>
</table>
Country(s) or region: United States & Puerto Rico
Inventory name: Toxic Substances Control Act (TSCA) Inventory
On inventory (yes/no)*: Yes

*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: 07-30-2014
Revision date: 12-20-2019
Version #: 06

Further information: Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

HMIS® ratings:
- Health: 3
- Flammability: 2
- Physical hazard: 0

NFPA ratings:
- Health: 3
- Flammability: 2
- Instability: 0

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Revision information:
- Composition / Information on Ingredients: Disclosure Overrides
- Transport Information: Material Transportation Information
- Regulatory Information: United States
- HazReg Data: International Inventories