SAFETY DATA SHEET

1. Identification

Product identifier: BIO-SOFT D-62 LT
Other means of identification
Product code: 1564
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 Intl: +1 703-527-3887
- E-mail: Not available.

2. Hazard(s) identification

Physical hazards: Not classified.
Health hazards:
- Acute toxicity, oral: Category 4
- 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:
Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.
Precautionary statement

Prevention:
Wear eye/face protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves.

Response:
If swallowed: Call a poison center/doctor if you feel unwell. 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. Specific treatment (see this label). Rinse mouth. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Storage:
Store away from incompatible materials.

Disposal:
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

<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 (C10-16) benzenesulfonate</td>
<td>(Alternate CAS 25155-30-0; 68411-30-3)</td>
<td>68081-81-2</td>
<td>50 - &lt; 60</td>
</tr>
<tr>
<td>Water</td>
<td></td>
<td>7732-18-5</td>
<td>30 - &lt; 40</td>
</tr>
<tr>
<td>Sodium xylenesulphonate (SXS)</td>
<td></td>
<td>1300-72-7</td>
<td>5 - &lt; 10</td>
</tr>
<tr>
<td>Sodium sulfate</td>
<td></td>
<td>7757-82-6</td>
<td>1 - &lt; 3</td>
</tr>
<tr>
<td>_Dodecyl benzene-Ln. (C11)</td>
<td></td>
<td>123-01-3</td>
<td>1 - &lt; 3</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**
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. IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. 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. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

**General information**
In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

**Suitable extinguishing media**
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**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.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. 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. 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. 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. For waste disposal, see section 13 of the SDS.
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
Do not taste or swallow. 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. When using, do not eat, drink or smoke. Wash hands
thoroughly after handling. Avoid release to the environment. Do not empty into drains.

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

8. Exposure controls/personal protection
Occupational exposure limits
No exposure limits noted for ingredient(s).

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. 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 eat, drink or 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
7.5 - 9 (10% solids in water)

Melting point/freezing point
32 °F (0 °C)

Initial boiling point and boiling
range
> 212 °F (> 100 °C)

Flash point
> 201.0 °F (> 93.9 °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 available.

Vapor density
Estimated lighter than air.

Relative density
Not available.
Solubility(ies)

Solubility (water) Not available.

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity 8000 cP @ 25C

Other information

Pour point 44 °F (6.67 °C)
Specific gravity 1.09

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.

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 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-SOFT D-62 LT</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid</td>
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<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid</td>
<td>Rat</td>
<td>&gt; 1000 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.

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
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>BIO-SOFT D-62 LT</td>
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<tr>
<td>Aquatic</td>
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<tr>
<td>Acute</td>
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<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>Algae</td>
</tr>
<tr>
<td></td>
<td></td>
<td>29 mg/l, 96 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Daphnia</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2.4 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Fish</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.67 mg/l, 96 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability
Expected to be readily biodegradable.

Bioaccumulative potential
No data available.

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
UN3082
UN proper shipping name
Environmentally hazardous substance, liquid, N.O.S. (Sodium (C10-16) benzenesulfonate), MARINE POLLUTANT

Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III

Environmental hazards
Yes
Marine pollutant

Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.

IATA
UN number
UN3082
UN proper shipping name
Environmentally Hazardous Substance, Liquid, N.O.S. (Sodium (C10-16) benzenesulfonate)

Transport hazard class(es)
Class 9
Subsidiary risk -
Packing group III

Environmental hazards
Marine Pollutant

Special precautions for user
Read safety instructions, SDS and emergency procedures before handling.
IMDG

UN number  UN3082
UN proper shipping name Environmentally Hazardous Substance, Liquid, N.O.S. (Sodium (C10-16) benzenesulfonate), MARINE POLLUTANT

Transport hazard class(es)
- Class 9
- Subsidiary risk III
- Packing group Yes
- Marine pollutant Yes
- Environmental hazards Not available.
- EmS Not available.
- Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

DOT; IATA; IMDG

15. Regulatory information

US federal regulations
- This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
- CERCLA Hazardous Substance List (40 CFR 302.4) Not listed.
- SARA 304 Emergency release notification Not regulated.
- Superfund Amendments and Reauthorization Act of 1986 (SARA) Immediate Hazard - Yes
- Hazard categories Delayed Hazard - No
- Fire Hazard - No
- Pressure Hazard - No
- Reactivity Hazard - No

SARA 302 Extremely hazardous substance Not listed.
- SARA 311/312 Hazardous chemical Yes
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.

US state regulations
US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)
Not listed.
US. Massachusetts RTK - Substance List
Not regulated.
US. Pennsylvania Worker and Community Right-to-Know Law
Not listed.
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>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>
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<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>
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<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 06-02-2014
Revision date 11-16-2016
Version # 03

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