1. Identification

Product identifier: STEPANOL DX-AS165P

Other means of identification

- Product code: 7686
- 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, Medical 1-800-228-5635, Chemtrec 1-800-424-9300, Chemtrec Int'l +1 703-527-3887, E-mail: Not available.

2. Hazard(s) identification

- Physical hazards: Flammable solids - Category 1
- Health hazards: Acute toxicity, oral - Category 4, Skin corrosion/irritation - Category 2, Serious eye damage/eye irritation - Category 1
- Environmental hazards: Hazardous to the aquatic environment, acute hazard - Category 2, Hazardous to the aquatic environment, long-term hazard - Category 3
- OSHA defined hazards: Combustible dust

Label elements

- Signal word: Danger
- Precautionary statement
  - Prevention: Keep container tightly closed. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Avoid release to the environment. Wear protective gloves/eye protection/face protection. Prevent dust accumulation to minimize explosion hazard.
  - 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. Immediately call a poison center/doctor. Specific treatment (see this label). Rinse mouth. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.
  - Storage: Store away from incompatible materials.
  - Disposal: Dispose of contents/container in accordance with local/regional/national/international regulations.
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>Sulfuric acid, mono-C10-16-alkyl esters, sodium salts</td>
<td></td>
<td>68585-47-7</td>
<td>90 - 100</td>
</tr>
<tr>
<td>Other components below reportable levels</td>
<td></td>
<td></td>
<td>3 - &lt; 5</td>
</tr>
</tbody>
</table>

4. First-aid measures

Inhalation
If dust from the material is inhaled, remove the affected person immediately 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
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth. Do not induce vomiting without advice from poison control center.

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. Permanent eye damage including blindness could result. 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

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. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection.

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
Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers exposed to flames with water until well after the fire is out. In the event of fire and/or explosion do not breathe fumes.

General fire hazards
Flammable solid. 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. Keep out of low areas. 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. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of dust from the spilled material. Ventilate closed spaces before entering them. 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

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. This product is miscible in water.

Large Spills: Collect spillage. If sweeping of a contaminated area is necessary use a dust suppressant agent which does not react with the product. Sweep up or vacuum up spillage and collect in suitable container for disposal. Collect dust using a vacuum cleaner equipped with HEPA filter. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimize dust generation and accumulation. Large Spills: Wet down with water and dike for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water. 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 handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Prevent dust accumulation to minimize explosion hazard. Provide appropriate exhaust ventilation at places where dust is formed. All equipment used when handling the product must be grounded. Use explosion-proof equipment. Avoid breathing dust. Avoid contact with skin and eyes. Avoid contact with clothing. In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash thoroughly after handling. Wash contaminated clothing before reuse. 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. Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS). Guard against dust accumulation of this material. Routine housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Keep in an area equipped with sprinklers.

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

Use explosion-proof equipment if high dust/air concentrations are possible. Keep formation of airborne dusts to a minimum. Ensure adequate ventilation, especially in confined areas. 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 eye/face protection. Use tight fitting goggles if dust is generated.

Skin protection

Hand protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

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
Solid.

Form
Powder.
P_{\text{max}} = 8.0 \text{bar}
K_s = 202 \text{ bar m/s}
Minimum Ignition Energy (MIE) = 1 - 3 \text{ (Estimated 2.4) mJ}
Minimum Explosive Concentration (MEC) = 46 \text{ g/m}^3
Minimum Autoignition Temperature (MAIT Cloud) = 260 \text{ C}
Limiting Oxygen Concentration (LOC) = 12.2 \text{ vol. %}
Mean particle size = 12 \text{ (100% < 75) micrometer}
Class II Dust for National Electric Code (NFPA 70)

Color
Not available.
Odor threshold Not available.

pH 9 - 10.5 (1% aqueous solution)

Melting point/freezing point Not available.

Initial boiling point and boiling range Not available.

Flash point > 201.0 °F (> 93.9 °C)

Evaporation rate Not available.

Flammability (solid, gas) Flammable solid.

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) Soluble

Auto-ignition temperature Not available.

Decomposition temperature Not available.

Viscosity Not available.

Other information

Bulk density 550 kg/m³

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. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Minimize dust generation and accumulation.

Incompatible materials Strong oxidizing agents. Strong acids.

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 Inhalation of dusts may cause respiratory irritation.

Skin contact Causes skin irritation.

Eye contact Causes serious eye damage. Dust in the eyes will cause irritation.

Ingestion Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Not available.

Information on toxicological effects

Acute toxicity Harmful if swallowed.
**Test Results**

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STEPANOL DX-AS165P</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td>Rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>1200 mg/kg</td>
</tr>
<tr>
<td><strong>Skin corrosion/irritation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Causes skin irritation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Serious eye damage/eye irritation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Causes serious eye damage. Dust in the eyes will cause irritation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Respiratory or skin sensitization</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td>Not available.</td>
<td></td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>This product is not expected to cause skin sensitization.</td>
<td></td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.</td>
<td></td>
</tr>
<tr>
<td><strong>Carcinogenicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>IARC Monographs. Overall Evaluation of Carcinogenicity</td>
<td>Not listed.</td>
<td></td>
</tr>
<tr>
<td>US. National Toxicology Program (NTP) Report on Carcinogens</td>
<td>Not listed.</td>
<td></td>
</tr>
<tr>
<td><strong>Reproductive toxicity</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>This product is not expected to cause reproductive or developmental effects.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Specific target organ toxicity - single exposure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Specific target organ toxicity - repeated exposure</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aspiration hazard</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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><strong>STEPANOL DX-AS165P</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>60 mg/l, 72 hours (Cell number)</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>1.37 - 4.7 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>3.6 mg/l, 96 hours</td>
</tr>
<tr>
<td><strong>Components</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sulfuric acid, mono-C10-16-alkyl esters, sodium salts (CAS 68585-47-7)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>1.18 - 2.21 mg/l, 48 hours</td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>3.6 mg/l, 96 hours</td>
</tr>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Expected to be readily biodegradable.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Bioaccumulative potential</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mobility in soil</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No data available.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other adverse effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

13. **Disposal considerations**

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

Local disposal regulations Dispose in accordance with all applicable regulations.
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**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN1325</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>FLAMMABLE SOLIDS, ORGANIC, N.O.S. (SODIUM LAURYL SULFATE)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>4.1</td>
</tr>
<tr>
<td>Class</td>
<td>4.1</td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Read safety instructions, SDS and emergency procedures before handling.</td>
</tr>
</tbody>
</table>

**IATA**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN1325</th>
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<tbody>
<tr>
<td>UN proper shipping name</td>
<td>FLAMMABLE SOLIDS, ORGANIC, N.O.S. (SODIUM LAURYL SULFATE)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>4.1</td>
</tr>
<tr>
<td>Class</td>
<td>4.1</td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Read safety instructions, SDS and emergency procedures before handling.</td>
</tr>
</tbody>
</table>

**IMDG**

<table>
<thead>
<tr>
<th>UN number</th>
<th>UN1325</th>
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<tbody>
<tr>
<td>UN proper shipping name</td>
<td>FLAMMABLE SOLIDS, ORGANIC, N.O.S. (SODIUM LAURYL SULFATE)</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>4.1</td>
</tr>
<tr>
<td>Class</td>
<td>4.1</td>
</tr>
<tr>
<td>Subsidiary risk</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>II</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>No.</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>No.</td>
</tr>
<tr>
<td>Special precautions for user</td>
<td>Read safety instructions, SDS and emergency procedures before handling.</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>
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.

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

Superfund Amendments and Reauthorization Act of 1986 (SARA)
Hazard categories
Immediate Hazard - Yes
Delayed Hazard - No
Fire Hazard - Yes
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>
</tbody>
</table>
Country(s) or region | Inventory name | On inventory (yes/no)*
--- | --- | ---
Europe | European List of Notified Chemical Substances (ELINCS) | No
Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes
Korea | Existing Chemicals List (ECL) | Yes
New Zealand | New Zealand Inventory (NZIoC) | Yes
Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes
Taiwan | Taiwan Inventory (TCSI) | Yes
United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | 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 | 02-24-2015
Revision date | 05-15-2017
Version # | 02

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.

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