1. Identification

Product Name: Polysorbate 80
Cat No.: L13315
CAS No: 9005-65-6
Synonyms: Polyoxylethylene(20)sorbitan monooleate
Recommended Use: Laboratory chemicals.
Uses advised against: Food, drug, pesticide or biocidal product use.

Details of the supplier of the safety data sheet

Company:
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757

Emergency Telephone Number
For information US call: 001-800-227-6701 / Europe call: +32 14 57 52 11
Emergency Number US:001-201-796-7100 / Europe: +32 14 57 52 99
CHEMTREC Tel. No. US:001-800-424-9300 / Europe:001-703-527-3887

2. Hazard(s) identification

Classification

This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Label Elements
None required

Hazards not otherwise classified (HNOC)
None identified

3. Composition/Information on Ingredients
### 4. First-aid measures

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.

**Skin Contact**
Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

**Inhalation**
Remove to fresh air. Get medical attention immediately if symptoms occur.

**Ingestion**
Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

**Most important symptoms and effects**
None reasonably foreseeable.

**Notes to Physician**
Treat symptomatically

### 5. Fire-fighting measures

**Suitable Extinguishing Media**
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam.

**Unsuitable Extinguishing Media**
No information available

**Flash Point**
> 110 °C / > 230 °F

**Method -**
No information available

**Autoignition Temperature**
No information available

**Explosion Limits**
- **Upper**
  No data available
- **Lower**
  No data available

**Sensitivity to Mechanical Impact**
No information available

**Sensitivity to Static Discharge**
No information available

**Specific Hazards Arising from the Chemical**
Thermal decomposition can lead to release of irritating gases and vapors.

**Hazardous Combustion Products**
Carbon monoxide (CO). Carbon dioxide (CO2).

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical hazards</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### 6. Accidental release measures

**Personal Precautions**
Use personal protective equipment as required. Ensure adequate ventilation.

**Environmental Precautions**
Should not be released into the environment.

**Methods for Containment and Clean Up**
Sweep up and shovel into suitable containers for disposal.
7. Handling and storage

Handling
Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid contact with skin, eyes or clothing.

Storage.
Keep containers tightly closed in a dry, cool and well-ventilated place. Store indoors.

8. Exposure controls / personal protection

Exposure Guidelines
This product does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Engineering Measures
Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas.

Personal Protective Equipment

Eye/face Protection
Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA’s eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection
Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection
Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended Filter type: Organic gases and vapours filter. Type A. Brown. conforming to EN14387.

Hygiene Measures
Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Liquid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Amber</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No information available</td>
</tr>
<tr>
<td>pH</td>
<td>6 % 10 % aq.solution</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>&gt; 110 °C / &gt; 230 °F</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>&gt; 1 (Ether = 1.0)</td>
</tr>
<tr>
<td>Flammability (solid,gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability or explosive limits</td>
<td>No data available</td>
</tr>
</tbody>
</table>

| Upper          | No data available |
| Lower          | No data available |
| Vapor Pressure | <1 hPa @ 20 °C   |
| Vapor Density  | > 1.0            |
| Specific Gravity| 1.080            |
| Solubility     | Partially soluble |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | No information available |
| Decomposition Temperature | No information available |
| Viscosity      | 400 mPa.s at 25°C |

10. Stability and reactivity
Polysorbate 80

Reactive Hazard
None known, based on information available

Stability
Stable under normal conditions.

Conditions to Avoid
Incompatible products. Excess heat.

Incompatible Materials
Strong oxidizing agents, Bases, Heavy metals

Hazardous Decomposition Products
Carbon monoxide (CO), Carbon dioxide (CO₂)

Hazardous Polymerization
No information available.

Hazardous Reactions
None under normal processing.

11. Toxicological information

Acute Toxicity

Product Information

Component Information

<table>
<thead>
<tr>
<th>Component</th>
<th>LD50 Oral</th>
<th>LD50 Dermal</th>
<th>LC50 Inhalation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxyethylene(20)sorbitan monooleate</td>
<td>LD50 = 34500 µL/kg ( Rat )</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Toxicologically Synergistic Products
No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation
No information available

Sensitization
No information available

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>IARC</th>
<th>NTP</th>
<th>ACGIH</th>
<th>OSHA</th>
<th>Mexico</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxyethylene(20)sorbitan monooleate</td>
<td>9005-65-6</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Mutagenic Effects
No information available

Reproductive Effects
No information available.

Developmental Effects
No information available.

Teratogenicity
No information available.

STOT - single exposure
None known

STOT - repeated exposure
None known

Aspiration hazard
No information available

Symptoms / effects, both acute and delayed
No information available

Endocrine Disruptor Information
No information available

Other Adverse Effects
The toxicological properties have not been fully investigated.

12. Ecological information

Ecotoxicity
Do not empty into drains.

<table>
<thead>
<tr>
<th>Component</th>
<th>Freshwater Algae</th>
<th>Freshwater Fish</th>
<th>Microtox</th>
<th>Water Flea</th>
</tr>
</thead>
</table>

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Polysorbate 80

<table>
<thead>
<tr>
<th>Polyoxyethylene(20)sorbitan monooleate</th>
<th>Not listed</th>
<th>LC50: 471 mg/L/96h (Rainbow trout)</th>
<th>Not listed</th>
<th>Not listed</th>
</tr>
</thead>
</table>

**Persistence and Degradability**
Soluble in water. Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation**
No information available.

**Mobility**
Will likely be mobile in the environment due to its water solubility.

### 13. Disposal considerations

**Waste Disposal Methods**
Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

**DOT**
Not regulated

**TDG**
Not regulated

**IATA**
Not regulated

**IMDG/IMO**
Not regulated

### 15. Regulatory information

**United States of America Inventory**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>TSCA</th>
<th>TSCA Inventory notification - Active-Inactive</th>
<th>TSCA - EPA Regulatory Flags</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxyethylene(20)sorbitan monooleate</td>
<td>9005-65-6</td>
<td>X</td>
<td>ACTIVE</td>
<td>XU</td>
</tr>
</tbody>
</table>

**Legend:**
TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)
X - Listed
- - Not Listed
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base
Production and Site Reports (40 CFR 710(B)

TSCA - Per 40 CFR 751, Regulation of Certain Chemical Substances & Mixtures, Under TSCA Section 6(h) (PBT)
Not applicable

TSCA 12(b) - Notices of Export
Not applicable

**International Inventories**
Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>DSL</th>
<th>NDSL</th>
<th>EINECS</th>
<th>PICCS</th>
<th>ENCS</th>
<th>ISHL</th>
<th>AICS</th>
<th>IECSC</th>
<th>KECL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxyethylene(20)sorbitan monooleate</td>
<td>9005-65-6</td>
<td>X</td>
<td>-</td>
<td>-</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>KECL</td>
</tr>
</tbody>
</table>

KECL - NIER number or KE number (http://ncis.nier.go.kr/en/main.do)

**U.S. Federal Regulations**

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.
CWA (Clean Water Act)  
NOT APPLICABLE

Clean Air Act  
NOT APPLICABLE

OSHA - Occupational Safety and Health Administration  
NOT APPLICABLE

CERCLA  
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

California Proposition 65  
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations  
NOT APPLICABLE

U.S. Department of Transportation  
Reportable Quantity (RQ): N  
DOT Marine Pollutant: N  
DOT Severe Marine Pollutant: N

U.S. Department of Homeland Security  
This product does not contain any DHS chemicals.

Other International Regulations  
Mexico - Grade  
No information available

Authorisation/Restrictions according to EU REACH  
NOT APPLICABLE

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
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<tr>
<td>Polyoxyethylene(20)sorbitan monoooleate</td>
<td>9005-65-6</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Safety, health and environmental regulations/legislation specific for the substance or mixture

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS No</th>
<th>OECD HPV</th>
<th>Persistent Organic Pollutant</th>
<th>Ozone Depletion Potential</th>
<th>Restriction of Hazardous Substances (RoHS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxyethylene(20)sorbitan monoooleate</td>
<td>9005-65-6</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?  
NOT APPLICABLE

Other International Regulations

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
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<td>9005-65-6</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Polysorbate 80

<table>
<thead>
<tr>
<th></th>
<th>(2012/18/EC) - Qualifying Quantities for Major Accident Notification</th>
<th>(2012/18/EC) - Qualifying Quantities for Safety Report Requirements</th>
<th>Convention (PIC)</th>
<th>(Hazardous Waste)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polyoxyethylene(20)sorbitan monoooleate</td>
<td>9005-65-6</td>
<td>Not applicable</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

### 16. Other information

**Prepared By**
Health, Safety and Environmental Department
Email: chem.techinfo@thermofisher.com
www.thermofisher.com

**Creation Date**
12-Apr-2010

**Revision Date**
29-Mar-2024

**Print Date**
29-Mar-2024

**Revision Summary**
New emergency telephone response service provider.

**Disclaimer**
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of SDS