Dear Customer,

This File Contains Both The ANSI Material Safety Data Sheet and The GHS Safety Data Sheet For The Same Product

Spectrum is currently transitioning all chemical product labeling from the ANSI format to the GHS format (see note below). In order to ensure that you receive complete labeling during the transition, we have included both the ANSI MSDS and the GHS SDS in a single file. The ANSI MSDS is given first, followed by the GHS SDS. Please use whichever matches the container label.

Why It Matters:

The complete precautionary labeling for this chemical consists of BOTH the label on the container AND the matching Material Safety Data Sheet (for ANSI labels) or Safety Data Sheet (for GHS labels). Both elements of the labeling [Label + (M)SDS] are written to be read and understood together, so as to provide complete precautionary information. It is intended for you to read and understood BOTH before handling or using the chemical.

Picking the Right One: 2 Easy Ways To Tell Whether Your Container Has an ANSI Label or a GHS Label

1) GHS labels: any pictogram displayed in the upper left-hand corner will be inside a red diamond. ANSI labels: pictograms, if present, will be inside individual black boxes.
2) GHS labels: on the bottom of the right-hand panel of the label, locate the Lot Number. Directly to the left will be a string of control characters, followed by a single letter. For GHS labels, the string of characters will end in “GHS.”
Sincerely,

Regulatory Affairs

1 American National Standards Institute
2 Globally Harmonized System for Hazard Communication
1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product code: P1161
Product Name: POLOXAMER 188, SURFACTANT
Chemical Name: No information available.
Synonyms: Pluronic F68; Polyethylene-polypropylene glycol; Polyoxyethylene-Polyoxypropylene Block Copolymer; Poly(Ethylene oxide-co-Polypropylene oxide), Block; Block Copolymer of Ethylene Oxide and Propylene Oxide; Ethylene oxide/Polypropylene oxide copolymer; Methyl-oxirane polymer with oxirane; Oxirane, methyl,-polymer with oxirane, block
Recommended use: No information available.
CAS #: 9003-11-6
RTECS #: MD0911050
Formula: Polymer or (C3-H6-O.C2-H4-O)x
CI#: Not available
Supplier: Spectrum Chemicals and Laboratory Products, Inc.
14422 South San Pedro St.
Gardena, CA  90248
(310) 516-8000
Order Online At: https://www.spectrumchemical.com
Emergency Telephone Number: CHEMTREC: 1-800-424-9300
Contact Person: Regina Wachenheim (East Coast)
Contact Person: Martin LaBenz (West Coast)

2. HAZARDS IDENTIFICATION

See Section 8.
2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
May cause skin and eye irritation

<table>
<thead>
<tr>
<th>Odor:</th>
<th>Physical state:</th>
<th>Appearance:</th>
<th>Color:</th>
</tr>
</thead>
</table>

OSHA Regulatory Status
This material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

POTENTIAL HEALTH EFFECTS

Principal Routes of Exposure:
Ingestion. Inhalation.

Acute Potential Health Effects:

Skin Contact:
May cause skin irritation.

Eye Contact:
Contact with eyes may cause irritation.

Inhalation:
No hazard is expected. This material is in the form of prills and is unlikely to cause respiratory tract irritation.

Ingestion:
May cause hypermotility, diarrhea.

Chronic Potential Health Effects:

<table>
<thead>
<tr>
<th>Component</th>
<th>Carcinogen Status:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poloxamer 188 9003-11-6 (100)</td>
<td>No information available</td>
</tr>
</tbody>
</table>

Target Organs: No information available
Mutagenic Effects: No information available
Teratogenic Effects: No information available
Aggravated Medical Conditions: No information available

See Section 11 for additional Toxicological Information

POTENTIAL ENVIRONMENTAL EFFECTS
No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
<td>9003-11-6</td>
<td>100</td>
</tr>
</tbody>
</table>

Product code: P1161  Product name: POLOXAMER 188, SURFACTANT
4. FIRST AID MEASURES

General Advice: Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126)

Skin Contact: Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

Eye Contact: Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

Inhalation: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Notes to Physician: Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties

Flashpoint (°C/°F): No information available.

Flash Point Tested according to: Not available

Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available

Autoignition Temperature (°C/°F): No information available

Suitable Extinguishing Media: Carbon dioxide (CO2). Dry chemical. Water spray mist or foam.

Unsuitable Extinguishing Media: No information available.

Hazardous Combustion Products: Carbon monoxide; Carbon dioxide

Specific hazards: May be combustible at high temperatures.

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

Specific Methods: No information available.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition.
Environmental Precautions:
No information available.

Methods for Cleaning Up:
Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling

Technical Measures/Precautions:
Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

Safe Handling Advice:
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Avoid dust formation. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.

Storage

Technical Measures/Storage Conditions:
Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials.

Incompatible Materials:
Strong oxidizing agents.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:
Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protective Equipment

Eye protection: Safety glasses. Safety glasses with side-shields.

Skin and body protection: Long sleeved clothing. Chemical resistant apron. Gloves.

Respiratory protection: Effective dust mask. Wear respirator with dust filter.

Hygiene measures: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

National occupational exposure limits

United States
U.S Occupational Exposure Limits: Not determined

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
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<tbody>
<tr>
<td>Poloxamer 188 - 9003-11-6</td>
<td>None</td>
<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Canada
Canada Occupational Exposure Limits: Not determined
9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid.

Odor: No information available

Flash point (°C): No data available

Autoignition Temperature (°C/°F): No information available

pH: No information available

Decomposition temperature(°C/°F): No information available

Evaporation rate: No information available

Odor threshold (ppm): No information available

Solubility: No information available

Appearance: Prills.

Taste: No information available

Lower Explosion Limit (%): No information available

Melting point/range(°C/°F): 52 °C/125.6 °F

Specific gravity: No information available

Bulk density: No information available

Vapor density: No information available

Partition coefficient (n-octanol/water): No information available

Color: White.

Molecular/Formula weight: Av. M.W. 7680-9510

Density (g/cm3): No information available

Vapor pressure @ 20°C (kPa): No information available

VOC content (g/L): No information available

Miscibility: Miscible with water

10. STABILITY AND REACTIVITY

Stability: Stable at normal conditions


Incompatible Materials: Strong oxidizing agents.

Hazardous decomposition products: Carbon monoxide. Carbon dioxide.

Possibility of Hazardous Reactions: No information available

Polymerization: Hazardous polymerisation does not occur

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

Product code: P1161
Product name: POLOXAMER 188, SURFACTANT
11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

**Poloxamer 188 - 9003-11-6**

<table>
<thead>
<tr>
<th>LD50/oral/rat</th>
<th>&gt; 5000 mg/kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50/oral/mouse</td>
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<tr>
<td>LD50/dermal/rat</td>
<td>No information available</td>
</tr>
<tr>
<td>LD50/dermal/rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>LC50/inhalation/rat</td>
<td>320 mg/m³ 4 h Inhalation LC50 Rat 4 h</td>
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<tr>
<td>LC50/inhalation/mouse</td>
<td>No information available</td>
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<tr>
<td>Other LD50 or LC50 information</td>
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</table>

Product Information

<table>
<thead>
<tr>
<th>LC50/inhalation/rat</th>
<th>320 mg/m³ 4 h</th>
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<tbody>
<tr>
<td>LC50/Inhalation/mouse</td>
<td>No information available</td>
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<tr>
<td>LD50/dermal/rabbit</td>
<td>&gt;2000mg/kg</td>
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<tr>
<td>LD50/oral/mouse</td>
<td>No information available</td>
</tr>
<tr>
<td>LD50/oral/rat</td>
<td>&gt; 5000 mg/kg</td>
</tr>
</tbody>
</table>

Local Effects

- **Skin irritation:** May cause skin irritation.
- **Eye irritation:** Contact with eyes may cause irritation.
- **Inhalation:** This material is in the form of prills and is unlikely to cause respiratory tract irritation.
- **Ingestion:** May cause hypermotility, diarrhea. May affect behavior/central nervous system (somnolence). May cause muscle weakness.
- **Sensitization:** No information available

Chronic Toxicity

- **Chronic Toxicity:** No information available.
- **Carcinogenic effects:** No information available.

<table>
<thead>
<tr>
<th>Components</th>
<th>NTP</th>
<th>IARC</th>
<th>OSHA HCS - Carcinogens</th>
<th>ACGIH - Carcinogens</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
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<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 |
| Teratogenic Effects: | No information available |
| Target Organs: | No information available |

12. ECOLOGICAL INFORMATION

**Product code:** P1161  **Product name:** POLOXAMER 188, SURFACTANT
12. ECOLOGICAL INFORMATION

ECOTOXICITY

Toxicity to terrestrial and aquatic plants and animals: Information given is based on data on the components and the ecotoxicology of similar products.

Ecotoxicity effects: Aquatic environment.

Aquatic toxicity:

Poloxamer 188 - 9003-11-6

Freshwater Fish Species Data: Oncorhynchus mykiss LC50 96 h: >120 mg/kg

Mobility: No information available

Persistence and degradability: No information available

Bioaccumulative potential: No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging: Empty containers should be taken for local recycling, recovery or waste disposal.

<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</tr>
</tbody>
</table>

14. TRANSPORT INFORMATION

DOT

UN-No: Not regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: None
Subsidiary Risk: Not applicable
Marine Pollutant: No data available
ERG No: No information available
DOT RQ (lbs): No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available

ADR

UN-No: No information available
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Classification Code: No information available

Product code: P1161
Product name: POLOXAMER 188, SURFACTANT
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
MFAG: No information available
Maximum Quantity: No information available

RID
UN-No: No information available
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available

ICAO
UN-No: No information available
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available

IATA
UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Description: No information available

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>Philippines (PICCS)</th>
<th>KOREA KECL</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
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</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
<td>Present XU</td>
<td>Present</td>
<td>Present KE-24574</td>
<td>Present (7)-1246</td>
<td>Present</td>
<td>Present</td>
<td>Not present</td>
</tr>
</tbody>
</table>

U.S. Regulations


Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)
<table>
<thead>
<tr>
<th>Components</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity:</th>
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</thead>
<tbody>
<tr>
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<td>Not Listed</td>
<td>Not Listed</td>
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</tbody>
</table>

### CERCLA/SARA

<table>
<thead>
<tr>
<th>Components</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</tr>
</tbody>
</table>

### U.S. TSCA

<table>
<thead>
<tr>
<th>Components</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
</tr>
</tbody>
</table>

### Canada

**WHMIS hazard class:**
Non-controlled

**Canada Controlled Products Regulation:**
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

### Inventory

<table>
<thead>
<tr>
<th>Components</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
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<tbody>
<tr>
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<td>Present</td>
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<table>
<thead>
<tr>
<th>Components</th>
<th>CEPA Schedule I - Toxic Substances</th>
<th>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</th>
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</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

### EU Classification

**R-phrase(s)**
not determined

**S-phrase(s)**
none

<table>
<thead>
<tr>
<th>Components</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
<td></td>
<td>No information</td>
<td></td>
</tr>
</tbody>
</table>

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**
Not dangerous

**Product code:** P1161

**Product name:** POLOXAMER 188, SURFACTANT
16. OTHER INFORMATION

The MSDS format complies with ANSI Z400.1/Z129.1-2010 standards.

Preparation Date: 30-Jun-2014

Reason for revision: Not applicable

Prepared by: Sonia Owen

Literature reference: No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.
SAFETY DATA SHEET

1. IDENTIFICATION

Product identifier

Product code: P1161
Product Name: POLOXAMER 188, SURFACTANT

Other means of identification

Synonyms:
Pluronic F68; Polyethylene-polypropylene glycol; Polyoxylethylene-Polyoxypolypropylene Block Copolymer; Poly(Ethylene oxide-co-Polypropylene oxide), Block; Block Copolymer of Ethylene Oxide and Propylene Oxide; Ethylene oxide/Polypropylene oxide copolymer; Methyl-oxirane polymer with oxirane; Oxirane, methyl,-polymer with oxirane, block
CAS #: 9003-11-6
RTECS #: MD0911050
Cl#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: No information available.
Uses advised against: No information available

Supplier:
Spectrum Chemicals and Laboratory Products, Inc.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At:
https://www.spectrumchemical.com

Emergency telephone number: Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Regina Wachenheim (East Coast)

2. HAZARDS IDENTIFICATION

Classification

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

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Label elements

Not classified

Hazards not otherwise classified (HNOC)

Product code: P1161
Product name: POLOXAMER 188, SURFACTANT
3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Weight %</th>
<th>Trade Secret</th>
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<tbody>
<tr>
<td>Poloxamer 188</td>
<td>9003-11-6</td>
<td>100</td>
<td>*</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

**General Advice:**
Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126).

**Skin Contact:**
Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye Contact:**
Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

**Inhalation:**
Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:**
Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

**Symptoms**
May cause eye/skin irritation. May cause hypermotility, diarrhea.

**Indication of any immediate medical attention and special treatment needed**
Treat symptomatically

**Notes to Physician:**
Treat symptomatically

5. FIRE-FIGHTING MEASURES

**Extinguishing Media**

**Suitable Extinguishing Media:**
Carbon dioxide (CO2), Dry chemical. Water spray mist or foam.

**Unsuitable Extinguishing Media:**
No information available.

**Specific hazards arising from the chemical**

**Hazardous Combustion Products:**
Carbon monoxide; Carbon dioxide

**Specific hazards:**
May be combustible at high temperatures.

**Special Protective Actions for Firefighters**

Product code: P1161  Product name: POLOXAMER 188, SURFACTANT
Specific Methods: No information available.

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

### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:**
Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition.

**Environmental precautions:**
No information available.

#### Methods and material for containment and cleaning up

**Methods for containment:**
Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up:**
Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

### 7. HANDLING AND STORAGE

#### Precautions for safe handling

**Technical Measures/Precautions:**
Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

**Safe Handling Advice:**
Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Avoid dust formation. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.

#### Conditions for safe storage, including any incompatibilities

**Technical Measures/Storage Conditions:**
Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from incompatible materials.

**Incompatible Materials:**
Strong oxidizing agents.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Control parameters

#### National occupational exposure limits

**U.S Occupational Exposure Limits:** Not determined

**United States**

<table>
<thead>
<tr>
<th>Components</th>
<th>OSHA</th>
<th>NIOSH</th>
<th>ACGIH</th>
<th>AIHA WHEEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poloxamer 188 - 9003-11-6</td>
<td>None</td>
<td>None</td>
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**Canada**

**Canada Occupational Exposure Limits:** Not determined
### Components

<table>
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<tr>
<th>Components</th>
<th>Alberta</th>
<th>British Columbia</th>
<th>Ontario</th>
<th>Quebec</th>
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### Australia and Mexico

**Occupational Exposure Limits for Australia and Mexico:** Not determined

<table>
<thead>
<tr>
<th>Components</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>9003-11-6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Appropriate engineering controls

**Engineering measures to reduce exposure:** Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Individual protection measures, such as personal protective equipment

**Personal Protective Equipment**

- **Eye protection:** Safety glasses. Safety glasses with side-shields.
- **Skin and body protection:** Long sleeved clothing. Chemical resistant apron. Gloves.
- **Respiratory protection:** Effective dust mask. Wear respirator with dust filter.
- **Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.

### 9. PHYSICAL AND CHEMICAL PROPERTIES
9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Solid</td>
</tr>
<tr>
<td>Odor</td>
<td>No information available</td>
</tr>
<tr>
<td>Molecular/Formula weight</td>
<td>Av. M.W. 7680-9510</td>
</tr>
<tr>
<td>Flash Point Tested according to</td>
<td>Not available</td>
</tr>
<tr>
<td>Autoignition Temperature (°C/°F)</td>
<td>No information available</td>
</tr>
<tr>
<td>Boiling point/range(°C/°F)</td>
<td>No information available</td>
</tr>
<tr>
<td>Density (g/cm3)</td>
<td>No information available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
</tr>
<tr>
<td>Odor threshold (ppm)</td>
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</tr>
<tr>
<td>Miscibility</td>
<td>Miscible with water</td>
</tr>
<tr>
<td>Taste</td>
<td>No information available</td>
</tr>
<tr>
<td>Flash point (°C):</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature(°C/°F):</td>
<td>No information available</td>
</tr>
<tr>
<td>pH:</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No information available</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>No information available</td>
</tr>
<tr>
<td>Miscibility</td>
<td>Miscible with water</td>
</tr>
<tr>
<td>Solubility</td>
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</tr>
<tr>
<td>Miscibility</td>
<td>Miscible with water</td>
</tr>
<tr>
<td>Taste</td>
<td>No information available</td>
</tr>
<tr>
<td>Formula</td>
<td>Polymer or ((C3-H6-O.C2-H4-O)\times)</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
React with oxidizing materials

Chemical stability
Stability: Stable at normal conditions
Possibility of Hazardous Reactions: Hazardous polymerization does not occur
Incompatible Materials: Strong oxidizing agents.
Hazardous decomposition products: Carbon monoxide. Carbon dioxide.

Other Information
Corrosivity: No information available
Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product code: P1161
Product name: POLOXAMER 188, SURFACTANT
Principal Routes of Exposure:
Ingestion. Inhalation.

**Acute Toxicity**

**Component Information**

*Poloxamer 188 - 9003-11-6*

- **LD50/oral/rat**: > 5000 mg/kg
- **LD50/oral/mouse**: No information available
- **LD50/dermal/rabbit**: > 2000 mg/kg
- **LD50/dermal/rat**: No information available
- **LC50/inhalation/rat**: 320 mg/m³ Inhalation LC50 Rat 4 h
- **LC50/inhalation/mouse**: No information available
- **Other LD50 or LC50 Information**: No information available

**Product Information**

- **LD50/oral/rat**: > 5000 mg/kg
- **LD50/oral/mouse**: No information available
- **LD50/dermal/rabbit**: > 2000 mg/kg
- **LD50/dermal/rat**: No information available
- **LC50/inhalation/rat**: 320 mg/m³ (4-hr.)
- **LC50/inhalation/mouse**: No information available
- **Other LD50 or LC50 Information**: No information available

**Symptoms**

**Skin Contact:**
May cause skin irritation.

**Eye Contact:**
Contact with eyes may cause irritation.

**Inhalation**
This material is in the form of prills and is unlikely to cause respiratory tract irritation.

**Ingestion**
May cause hypermotility, diarrhea. May affect behavior/central nervous system (somnolence). May cause muscle weakness.

**Aspiration hazard**
No information available

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

**Chronic Toxicity**
No information available.

**Sensitization**
No information available

**Product code:** P1161  **Product name:** POLOXAMER 188, SURFACTANT
Mutagenic Effects: No information available

Carcinogenic Effects: No information available.

<table>
<thead>
<tr>
<th>Components</th>
<th>ACGIH - Carcinogens</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA HCS - Carcinogens</th>
<th>Australia - Prohibited Carcinogenic Substances</th>
<th>Australia - Notifiable Carcinogenic Substances</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
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<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
<td>Not listed</td>
</tr>
</tbody>
</table>

Reproductive toxicity No data is available

Reproductive Effects: No information available
Developmental Effects: No information available
Teratogenic Effects: No information available

Specific Target Organ Toxicity

STOT - single exposure No information available
STOT - repeated exposure No information available
Target Organs: No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Poloxamer 188 - 9003-11-6
Freshwater Fish Species Data: Oncorhynchus mykiss LC50 96 h: >120 mg/kg
Persistence and degradability: No information available
Bioaccumulative potential: No information available
Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:
Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:
Empty containers should be taken for local recycling, recovery or waste disposal

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
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<td>None</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

Product code: P1161 Product name: POLOXAMER 188, SURFACTANT
14. TRANSPORT INFORMATION

DOT

UN-No: Not regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: Not applicable
Packing Group: None
Marine Pollutant: No data available
ERG No: No information available
DOT RQ (lbs): No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available

ADR

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Packing Group: No information available
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Classification Code: No information available
Description: No information available

ICAO

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available

Product code: P1161  Product name: POLOXAMER 188, SURFACTANT
14. TRANSPORT INFORMATION

| Packing Group: | No information available |
| Description: | No information available |

IATA

| UN-No: | Not Regulated |
| Proper Shipping Name: | No information available |
| Hazard Class: | No information available |
| Subsidiary Risk: | No information available |
| Packing Group: | No information available |
| Description: | No information available |

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Components</th>
<th>U.S. TSCA</th>
<th>KOREA KECL (PICCS)</th>
<th>Philippines</th>
<th>Japan ENCS</th>
<th>CHINA</th>
<th>Australia (AICS)</th>
<th>EINECS-No.</th>
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<tbody>
<tr>
<td>Poloxamer 188</td>
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<td>Present KE-24574</td>
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<td>Present (7)-1246</td>
<td>Present</td>
<td>Present</td>
<td>Not present</td>
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</tbody>
</table>

U.S. Regulations


Chemicals Known to the State of California to Cause Cancer:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

<table>
<thead>
<tr>
<th>Components</th>
<th>Carcinogen</th>
<th>Developmental Toxicity</th>
<th>Male Reproductive Toxicity</th>
<th>Female Reproductive Toxicity</th>
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<td>Not Listed</td>
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CERCLA/SARA

<table>
<thead>
<tr>
<th>Components</th>
<th>CERCLA - Hazardous Substances and their Reportable Quantities</th>
<th>Section 302 Extremely Hazardous Substances and TPQs</th>
<th>Section 302 Extremely Hazardous Substances and RQs</th>
<th>Section 313 - Chemical Category</th>
<th>Section 313 - Reporting de minimis</th>
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<tbody>
<tr>
<td>Poloxamer 188</td>
<td>None</td>
<td>None</td>
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</table>

U.S. TSCA

<table>
<thead>
<tr>
<th>Components</th>
<th>TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)</th>
<th>TSCA 8(d) - Health and Safety Reporting</th>
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</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
<td>Not Applicable</td>
<td>Not Applicable</td>
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</tbody>
</table>

Canada

WHRMIS hazard class:
Non-controlled

Canada Controlled Products Regulation:
This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Product code: P1161  Product name: POLOXAMER 188, SURFACTANT
Inventory

<table>
<thead>
<tr>
<th>Components</th>
<th>Canada (DSL)</th>
<th>Canada (NDSL)</th>
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<tbody>
<tr>
<td>Poloxamer 188</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Components</th>
<th>CEPA Schedule I - Toxic Substances</th>
<th>CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting</th>
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</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
<td>Not listed</td>
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</tbody>
</table>

EU Classification

**R-phrase(s)**
not determined

**S -phrase(s)**
none

<table>
<thead>
<tr>
<th>Components</th>
<th>Classification</th>
<th>Concentration Limits:</th>
<th>Safety Phrases</th>
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</thead>
<tbody>
<tr>
<td>Poloxamer 188</td>
<td></td>
<td>No information</td>
<td></td>
</tr>
</tbody>
</table>

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**
Not dangerous

16. OTHER INFORMATION
16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>NFPA</th>
<th>HMIS</th>
<th>Personal Protective Equipment</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Glasses, Respirator, Apron</td>
</tr>
</tbody>
</table>

**Health Hazard:** 1  
**Fire Hazard:** 1  
**Reactivity:** 0

**Preparation Date:** 6/30/2014  
**Revision Date:** 6/30/2014  
**Prepared by:** Sonia Owen

**Disclaimer:** All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

*End of Material Safety Data Sheet*