Section 1 - Product and Company Information

Product Name                  POLYOXYETHYLENE 23 LAURYL ETHER
Product Number                P1254
Brand                        SIGMA

Company                      Sigma-Aldrich
Street Address               3050 Spruce Street
City, State, Zip, Country    SAINT LOUIS MO 63103 US
Technical Phone:             314 771 5765
Emergency Phone:             414 273 3850 Ext. 5996
Fax:                         800 325 5052

Section 2 - Composition/Information on Ingredient

Substance Name   CAS #     SARA 313
BRIJ            9002-92-0 No

Formula          C20H42O5

RTECS Number: MD0875000

Section 3 - Hazards Identification

EMERGENCY OVERVIEW
Irritant.
Irritating to eyes, respiratory system and skin.

HMIS RATING
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0
NFPA RATING
HEALTH: 2
FLAMMABILITY: 0
REACTIVITY: 0

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

ORAL EXPOSURE
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

INHALATION EXPOSURE
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

DERMAL EXPOSURE
In case of contact, immediately wash skin with soap and copious amounts of water.

EYE EXPOSURE
In case of contact, immediately flush eyes with copious amounts of water for at least 15 minutes.

Section 5 - Fire Fighting Measures

FLASH POINT
235 °F   113 °C   Method: closed cup

AUTOIGNITION TEMP
N/A

FLAMMABILITY
N/A

EXTINGUISHING MEDIA
Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

FIREFIGHTING
Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Specific Hazard(s): Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

PROCEDURE(S) OF PERSONAL PRECAUTION(S)
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

METHODS FOR CLEANING UP
Absorb on sand or vermiculite and place in closed containers for disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

HANDLING
User Exposure: Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.
STORAGE
Suitable: Keep tightly closed.

Section 8 - Exposure Controls / PPE

ENGINEERING CONTROLS
Mechanical exhaust required. Safety shower and eye bath.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory: Government approved respirator.
Hand: Compatible chemical-resistant gloves.
Eye: Chemical safety goggles.

GENERAL HYGIENE MEASURES
Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
<th>At Temperature or Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molecular Weight</td>
<td>362.5 AMU</td>
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<tr>
<td>pH</td>
<td>5.5 - 7.5</td>
<td>Concentration: 100 g/l</td>
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<tr>
<td>BP/BP Range</td>
<td>100 °C</td>
<td>760 mmHg</td>
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<td>MP/MP Range</td>
<td>41 - 45 °C</td>
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<td>Freezing Point</td>
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<tr>
<td>Vapor Pressure</td>
<td>&lt; 1 mmHg</td>
<td>20 °C</td>
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<td>Vapor Density</td>
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<td>Saturated Vapor Conc.</td>
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<tr>
<td>Bulk Density</td>
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<tr>
<td>Odor Threshold</td>
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<tr>
<td>Volatile%</td>
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<tr>
<td>VOC Content</td>
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<tr>
<td>Water Content</td>
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</tr>
<tr>
<td>Solvent Content</td>
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<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
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<tr>
<td>Viscosity</td>
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<tr>
<td>Surface Tension</td>
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<tr>
<td>Partition Coefficient</td>
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<td>Decomposition Temp.</td>
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<td>Flash Point</td>
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<td>Explosion Limits</td>
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<td>Flammability</td>
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<tr>
<td>Autoignition Temp</td>
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<td>Refractive Index</td>
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<td>Optical Rotation</td>
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<tr>
<td>Miscellaneous Data</td>
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</tr>
<tr>
<td>Solubility</td>
<td>Solubility in Water: Soluble.</td>
<td></td>
</tr>
</tbody>
</table>

N/A = not available

Section 10 - Stability and Reactivity

STABILITY
Stable: Stable.
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS
Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide.
HAZARDOUS POLYMERIZATION
Hazardous Polymerization: Will not occur

Section 11 - Toxicological Information

ROUTE OF EXPOSURE
Skin Contact: May cause skin irritation.
Eye Contact: Causes eye irritation.
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract.
Multiple Routes: May be harmful by inhalation, ingestion, or skin absorption.

SIGNS AND SYMPTOMS OF EXPOSURE
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

TOXICITY DATA

Oral
Rat
1000 mg/kg
LD50
Remarks: Gastrointestinal: Ulceration or bleeding from stomach. Gastrointestinal: Other changes. Liver: Fatty liver degeneration.

Intraperitoneal
Rat
125 MG/KG
LD50
Remarks: Gastrointestinal: Other changes.

Subcutaneous
Rat
953 MG/KG
LD50

Intravenous
Rat
27 MG/KG
LD50

Oral
Mouse
1170 mg/kg
LD50

Intraperitoneal
Mouse
160 MG/KG
LD50

Subcutaneous
Mouse
792300 UG/KG
LD50

Intravenous
Mouse
100 MG/KG
LD50

Intravenous
Rabbit
36 MG/KG
LD50
Remarks: Behavioral: Change in motor activity (specific assay).

Parenteral
Rabbit
>75 MG/KG
LD50

Intratracheal
Rabbit
>15 MG/KG
LD50

Oral
Guinea pig
384 mg/kg
LD50
Behavioral: Change in motor activity (specific assay). Lungs, Thorax, or Respiration: Other changes.

Intravenous
Guinea pig
38 MG/KG
LD50
Remarks: Behavioral: Change in motor activity (specific assay).

IRRITATION DATA

Skin
Human
6 mg
3D
I
Remarks: Moderate irritation effect

Skin
Rabbit
500 mg
24H
Remarks: Mild irritation effect

Skin
Rabbit
75 mg
24H
Remarks: Mild irritation effect
Section 12 - Ecological Information

ACUTE ECOTOXICITY TESTS

Test Type: EC50 Algae
Species: Selenastrum capricornutum resp.
Value: 2 - 4 mg/l

Test Type: EC50 Daphnia
Species: Daphnia magna
Time: 48 h
Value: 4.78 - 7.580 mg/l

Test Type: LC50 Fish
Species: Cyprinus carpio
Time: 96 h
Value: 1.4 mg/l

Test Type: LC50 Fish
Species: other fish
Time: 96 h
Value: 1.5 mg/l

Section 13 - Disposal Considerations

APPROPRIATE METHOD OF DISPOSAL OF SUBSTANCE OR PREPARATION
Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
Proper Shipping Name: Environmentally hazardous substances, liquid, n.o.s.
UN#: 3082
Class: 9
Packing Group: Packing Group III
Hazard Label: Class 9
PIH: Not PIH

IATA
Proper Shipping Name: Environmentally hazardous substance, liquid, n.o.s.
IATA UN Number: 3082
Hazard Class: 9
Section 15 - Regulatory Information

EU ADDITIONAL CLASSIFICATION
Symbol of Danger: Xn
Indication of Danger: Harmful.
R: 22 36/38
Risk Statements: Harmful if swallowed. Irritating to eyes and skin.
S: 26
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

US CLASSIFICATION AND LABEL TEXT
Indication of Danger: Irritant.
Risk Statements: Irritating to eyes, respiratory system and skin.
Safety Statements: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

UNITED STATES REGULATORY INFORMATION
SARA LISTED: No
TSCA INVENTORY ITEM: Yes

CANADA REGULATORY INFORMATION
WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: Yes
NDSL: No

Section 16 - Other Information

DISCLAIMER
For R&D use only. Not for drug, household or other uses.

WARRANTY
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.