SECTION 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product Name: Polysorbate 20  
Product Code: 515-492X

1.2 Intended Use: Compound used in customer substance/mixture/product.

1.3 Supplier: Majestic Mountain Sage Inc  
2490 S 1350 W  
Nibley, 84321 - United States of America  
T 435.755.0863 - F 435.755.2108  
www.TheSage.com

1.4 Emergency Telephone Number  
No additional information available

SECTION 2: Hazards Identification

2.1 GHS Classification  
Not a hazardous substance or mixture.

2.2 Label Elements  
None

Hazard Statements  
NC Not a hazardous substance or mixture

Precautionary Statements  
NC Not a hazardous substance or mixture
SECTION 3: Composition/Information on Ingredients

3.1 Components

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS #</th>
<th>Component %</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysorbate 20</td>
<td>9005-64-5</td>
<td>&gt;97</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>&lt;3</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>1,4-Dioxane</td>
<td>123-91-1</td>
<td>0.01</td>
<td>25 ppm</td>
<td>20 ppm</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>&lt;0.001</td>
<td>1 ppm</td>
<td>1 ppm</td>
</tr>
</tbody>
</table>

SECTION 4: First Aid Measures

4.1 Description of First Aid Measures

**Contact With Eyes:** Immediately flush with plenty of running water for at least 15 minutes, keeping eyelids open. Remove contact lenses if present and easy to do so. Seek prompt medical attention if irritation persists.

**Skin Contact:** Remove contaminated clothing and shoes. Wash affected areas with plenty of running water, preferably under a shower. Seek prompt medical attention if irritation persists.

**Inhalation:** Seek prompt medical attention. Remove victim to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration.

**Ingestion:** Do not induce vomiting. Vomiting should only be influenced by medical personnel. If vomiting occurs, keep the head lower than chest to avoid aspiration into the lungs. Never give anything by mouth to an unconscious or convulsing person. Seek prompt medical attention if irritation persists.

4.2 Most Important Symptoms/Effects, Acute and Delayed

No information available

4.3 Indication of Immediate Medical Attention and Special Treatment Needed

No information available
SECTION 5: Firefighting Measures

5.1 Extinguishing Media

Suitable: Alcohol resistant foam, water spray, carbon dioxide (CO₂), dry chemical powder.

Unsuitable: Water jet.

Procedure: Cool the intact fire-exposed containers with water spray and remove them.

5.2 Special Hazards Arising from the Substance or Mixture
No information available

5.3 Unusual Fire and Explosion Hazards
No information available

5.4 Special Protective Equipment for Firefighters
Self-contained breathing apparatus and protective clothing are required.

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment and Emergency Procedures
Remove non-essential personnel. Keep heat and or ignition sources away. Use personal protection equipment in order to avoid contact with spilled product.

6.2 Environmental Precautions
Prevent product from entering into soil and waterways. Notify the competent authorities if the product has run into drainage systems or watercourse or has contaminated the ground or vegetation.

6.3 Methods and Materials for Containment and Cleaning Up
Stop if possible. Contain and dike spilled product with earth or sand. Eliminate ignition or heat sources. Transfer to proper container. Collect remnants with an appropriate absorbent material. Wash the contaminated surface with water, which should be collected for disposal.
SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling
Use in a well-ventilated area. Avoid inhalation and contact with eyes, skin or clothing through proper protection. If accidental contact occurs, exposed area should be washed immediately. Emergency eye wash stations and showers shall be located in accessible locations. Wash hands and face thoroughly after handling. Wash contaminated clothing before reuse.

7.2 Conditions for Safe Storage, Including Any Incompatibilities
Store in a covered and well-ventilated area, away from sunlight and sources of heat or open flames. Ensure that the storage location has adequate moisture, pressure and temperature. Keep containers tightly closed when not in use. The product can be stored, in a liquid state, at temperature between 68°F and 122°F, which, as recommended, is maintained at inert gas atmosphere. Recommended packaging: Stainless steel, Coated carbon steel with: Vinyl ester resin, Polyester resin reinforced with fiber glass, Polyethylene, Polypropylene.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control Parameters

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS #</th>
<th>OSHA PEL</th>
<th>ACGIH TLV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysorbate 20</td>
<td>9005-64-5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Water</td>
<td>7732-18-5</td>
<td>Not applicable</td>
<td>Not applicable</td>
</tr>
<tr>
<td>1,4-Dioxane</td>
<td>123-91-1</td>
<td>25 ppm</td>
<td>20 ppm</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>1 ppm</td>
<td>1 ppm</td>
</tr>
</tbody>
</table>

Engineering Controls: In closed environments, this product should be handled keeping proper exhaust (general diluter or local exhauster).

Monitoring: Information not available.

8.2 Personal Protective Equipment

Eye Protection: Side shields or wide vision safety goggles.
**Skin Protection:** Gloves made of: PCV (Polyvinyl chloride). PVC apron. It is recommended to adopt safety boots/shoes.

**Respiratory Protection:** In case of emergency or contact with high concentrations of the product, wear an air supplied mask or self container breathing apparatus. It is recommended to wear face mask with organic vapors cartridge in case of exposure to vapors/aerosols.

### SECTION 9: Physical and Chemical Properties

#### 9.1 Information on Basic Physical and Chemical Properties

- **Appearance:** Yellowish viscous liquid
- **Odor:** Mild, soapy odor
- **pH @ 25°C:** 5.0 - 7.0 (5% w/w, 25°C)
- **Melting/Freezing Point:** No data available
- **Flashpoint:** > 150°C (302°F) Open cup (OC)
- **Specific Gravity:** No data available
- **Solubility:** Soluble in water (20°C for 1 hour / 0.5% concentration)
- **Auto-Ignition Temperature:** No data available
- **Decomposition:** No data available
- **VOC Content:** No data available
- **Odor Threshold:** No data available
- **Boiling Range:** > 149°C (300.2°F) (1.013 hPa)
- **Evaporation Rate:** No data available
- **Flammable Limits - Upper:** Not applicable
- **Flammable Limits - Lower:** Not applicable
- **Vapor Pressure:** < 1.3 hPa (25°C)
- **Vapor Density (Air=1):** No data available
- **Viscosity:** c.a. 400 mPa.s (25°C)
SECTION 10: Stability and Reactivity

10.1 Reactivity
No information available.

10.2 Chemical Stability
Stable under ordinary conditions of use and storage.

10.3 Possibility of Hazardous Reactions
Hazardous polymerization will not occur.

10.4 Conditions to Avoid
High temperatures, ignition sources and prolonged exposure to the air.

10.5 Incompatible Materials
Avoid contact with: strong oxidizing agents, compounds with high affinity for hydroxyl groups.

10.6 Hazardous Decomposition Products
In case of combustion it may generate carbon monoxide, and/or CO₂.

SECTION 11: Toxicological Information

11.1 Toxicity Information

Likely Route of Exposure: Skin contact, ingestion, eye contact, inhalation.

Inhalation: Due to the low vapor pressure, no significant health hazard from inhalation is likely to occur at normal room temperatures. Mist or vapors produced from elevated temperatures may cause irritation of the mucous membranes and in high levels may cause a chemical pneumonitis.

Eye Contact: May cause minimal to moderate conjunctival irritation.

Skin Contact: Prolonged or repeated exposure may cause irritation of the skin by removing natural oils, causing redness and papular dermatitis.

Ingestion: High levels may cause diarrhea and other effects secondary to laxation. May cause intestinal obstruction.
Acute Toxicity Value: See Health Hazards below.

Chronic (Long Term) Effects: No data available

Toxicity:

<table>
<thead>
<tr>
<th>Component Name</th>
<th>LD50</th>
<th>LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polysorbate 20</td>
<td>Oral LD50, rat: 37000 mg/kg</td>
<td>Inhl LC50, rat: &gt; 5.1 mg/L</td>
</tr>
<tr>
<td></td>
<td>Dermal LD50, guinea pig: &gt;3000</td>
<td></td>
</tr>
<tr>
<td>Water</td>
<td>Oral (rat): 90000 mg/kg</td>
<td>No data available</td>
</tr>
<tr>
<td>1,4-Dioxane</td>
<td>Oral, rat: 4200 mg/kg</td>
<td>Inhalation, Rat, 2h: 46000 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Dermal, Rabbit: 7858 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>Oral, rat: &gt;5000 mg/kg</td>
<td>Not established</td>
</tr>
<tr>
<td></td>
<td>Dermal, rabbit: &gt;5000 mg/kg</td>
<td></td>
</tr>
</tbody>
</table>

Reproductive Effects: Maternal LOAEL (rats): 5000 mg/kg/day

Tetratogenicity: Developmental NOAEL (rats): > 5000 mg/kg/day

Mutagenicity: Ames test (mammalian chromosomal aberration): Negative in vitro

Embryotoxicity: No information available

Sensitization: Not a skin sensitizer.

Synergistic Products: No information available

Carcinogenicity: Oral studies showed no evidence for carcinogenicity by this route.

SECTION 12: Ecological Information

12.1 Ecotoxicity
The aquatic toxicity is not known. Based on similar products, it is not considered toxic to aquatic life.

12.2 Persistence and Degradability
Readily biodegradable. 62.5% after 28 days.

12.3 Bioaccumulative Potential
It is not expected to bioaccumulate in the environment. BCF = 7.07 (QSAR).
12.4 Mobility in Soil
It is expected to have high mobility in soil. Log Koc = 1.7308 (QSAR).

SECTION 13: Disposal Considerations

13.1 Disposal Methods
The preferred options for disposal include reuse, recycling, co-processing, finding a use for a byproduct, incineration or other thermal destruction process at licensed facilities. All procedures must follow specific operation standards in order to reduce health, safety and environmental risks. Perform co-processing, incineration or other thermal destruction process at facilities capable of minimizing or reducing air pollution emissions. The disposal must comply with federal, state, and local laws and regulations in accordance with the environmental agencies.

SECTION 14: Transport Information

14.1 DOT Shipping Information

<table>
<thead>
<tr>
<th>Proper Shipping Name:</th>
<th>Not classified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contains:</td>
<td>Not classified</td>
</tr>
<tr>
<td>Hazard Class and Label:</td>
<td>Not classified</td>
</tr>
<tr>
<td>Identification Number:</td>
<td>Not classified</td>
</tr>
<tr>
<td>Packaging Group:</td>
<td>Not classified</td>
</tr>
<tr>
<td>Other Shipping Info:</td>
<td>Not regulated</td>
</tr>
</tbody>
</table>

SECTION 15: Regulatory Information

15.1 U.S. Federal Regulations

TSCA Status:
The components of this product are listed on the TSCA Inventory.

SARA Title III Section 302/304 Extremely Hazardous Substance:

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS #</th>
<th>% by wt.</th>
<th>RQ (lbs.)</th>
<th>TPQ (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>&lt;0.001</td>
<td>N/A</td>
<td>1,000</td>
</tr>
</tbody>
</table>
**SARA Title III Section 311/312 Hazard Categorization:**

<table>
<thead>
<tr>
<th>Acute</th>
<th>Chronic</th>
<th>Fire</th>
<th>Pressure</th>
<th>Reactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**SARA Title III Section 313 Supplier Information:**

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS #</th>
<th>% by wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,4-Dioxane</td>
<td>123-91-1</td>
<td>&lt;0.01</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

**CERCLA Section 102(a) Hazardous Substance:**

<table>
<thead>
<tr>
<th>Component Name</th>
<th>CAS #</th>
<th>% by wt.</th>
<th>RQ (lbs.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,4-Dioxane</td>
<td>123-91-1</td>
<td>&lt;0.01</td>
<td>100</td>
</tr>
<tr>
<td>Ethylene oxide</td>
<td>75-21-8</td>
<td>&lt;0.001</td>
<td>10</td>
</tr>
</tbody>
</table>

**15.2 U.S. State Regulations**

**California Proposition 65:**
1,4-Dioxane (123-91-1): This product does contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

Ethylene oxide (75-21-8): This product does contain chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

**New Jersey Hazardous Substance List:**
1,4-Dioxane: Substance# 0789 (Special Health Hazard Code: CA - Carcinogen; F3 - Flammable 3rd Degree).

Ethylene oxide: Substance# 0882 (Special Health Hazard Code: CA - Carcinogen; MU - Mutagen; TE - Teratogen; F4 - Flammable 4th degree; R3 - Reactive 3rd degree).

**Pennsylvania Hazardous Substance List:**
1,4-Dioxane (CAS 123-91-1) and Ethylene oxide (CAS 75-21-8): Listed also as an environmental hazard and as a special hazardous substance. 1,2-ethanediol (CAS 107-21-1): Listed as an environmental hazard.


**15.3 International Inventories**

U.S. & Puerto Rico - Toxic Substances Control Act (TSCA) Inventory: Yes
Canada - Domestic Substances List (DSL): Yes
Canada - Non-Domestic Substances List (NDSL): No
Europe - European Inventory of Existing Commercial Chemical Substances (EINECS): No
Europe - European List of Notified Chemical Substances (ELINCS): No
Australia - Australian Inventory of Chemical Substances (AICS): Yes
Philippines - Philippine Inventory of Chemicals and Chemical Substances (PICCS): Yes
Japan - Inventory of Existing and New Chemical Substances (ENCS): Yes
Korea - Existing Chemicals List (ECL): Yes
China - Inventory of Existing Chemical Substances in China (IECSC): Yes
New Zealand - New Zealand Inventory: Yes

* A “Yes” indicates that all components of this product comply with the inventory requirements administered by the governing countries.

### SECTION 16: Other Information

#### 16.1 HMIS Rating

<table>
<thead>
<tr>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

#### 16.2 Additional Information


Notes:
This safety data sheet is based on the properties of the material known at the time the data sheet was issued. The safety data sheet is intended to provide information for a health and safety assessment of the material and the circumstances, under which it is packaged, stored or applied in the workplace. For such a safety assessment holds no responsibility. This document is not intended for quality assurance purposes.