

## SAFETY DATA SHEET POLYSORBATE 20

### 1. PRODUCT INFORMATION AND COMPANY IDENTIFICATION

Product Name: Polysorbate 20  
Recommended Uses: Industrial, Cosmetics  
Company: Natures Garden  
42109 State Route 18  
Wellington, OH 44090  
440-647-0100(p) 440-647-0220 (fax)  
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Emergency: Chemtrec: 800-262-8200

### 2. HAZARDS IDENTIFICATION

Classification: No classification is assigned according to OSHA HCS 2012.  
Label Elements  
Hazard Pictograms: Not applicable.  
Signal Word: Not applicable.  
Hazard Statements: Not applicable.  
Precautionary Statements: Not applicable.

### 3. COMPOSITION AND INFORMATION ON INGREDIENTS

Generic Chemical Name: Sorbitan Monolaurate 20 EO  
Product Type: Substance.  
Synonyms: Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs.;  
Polyoxyethylene sorbitan monolaurate;  
CAS Number: 9005-64-5.  
EINECS/NLP Number: 500-018-3.

#### Impurities which Contribute to the Classification of the Substance

There are no impurities which contribute to the classification of the substance.

### 4. FIRST AID MEASURES

Ingestion: Seek prompt medical attention.  
Do not induce vomiting.  
Vomiting should only be induced 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.  
Inhalation: Seek prompt medical attention.  
Remove victim to fresh air.  
If breathing is difficult, give oxygen.  
If not breathing, give artificial respiration.  
Skin Contact: Remove contaminated clothing and shoes. Wash affected areas with plenty of running water, preferably under a

shower. Seek prompt medical attention.

**Eye Contact:** Immediately flush with plenty of running water for at least 15 minutes, keeping eyelids open.  
Remove contact lenses if easy to do.  
Seek prompt medical attention.

**Most Important Symptoms/Effects, Acute and Delayed**

**Ingestion:** High levels may cause diarrhea and other effects secondary to laxation. May cause intestinal obstruction.

**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.

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

**Eyes:** May cause minimal to moderate conjunctival irritation.  
Information for doctor There is not known any specific antidote.  
Direct the treatment in accordance with the symptoms and clinical conditions of the patient.

**5. FIRE FIGHTING MEASURES**

**Extinguishing Media:** In case of fire, use:  
Water spray.  
Alcohol resistant foam.  
Carbon dioxide (CO<sub>2</sub>).  
Dry chemical powder.

**Specific Hazards:** Product is not flammable.  
In case of combustion it may generate carbon monoxide, besides CO<sub>2</sub>.

**Protective Measures For Fire-Fighters:** Water jets should not be used directly on igniting products because it may disperse the material and intensify the fire. Self-contained breathing apparatus and protective clothing are required.  
Cool the intact fire-exposed containers with water spray and remove them.

**NFPA Ratings:** Health: 1  
Flammability: 1  
Instability: 0  
Special:

**6. ACCIDENTAL RELEASE MEASURES**

**Personal Precautions, Protective Equipment and Emergency Procedures**

Isolate and signalize area. Keep heat and/or ignition sources away. Use personal protection equipment as indicated in Section 8, in order to avoid contact with spilled product.

- 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.
- Containment and Clean 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.

## 7. HANDLING AND STORAGE

- Safe Handling Precautions: Use in a well-ventilated area. Avoid inhalation and contact with eyes, skin or clothing through proper protection. If occurs accidental contact, exposed area should be washed immediately. Emergency eyewashes and showers shall be located in accessible locations. Wash hands and face thoroughly after handling. Wash contaminated clothing before reuse.
- Safe Storage Conditions: 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 liquid state, at temperatures slightly between 20 and 50°C, which, as recommended, is maintained at inert gas atmosphere.
- Incompatibilities: Avoid Contact With: Strong oxidizing agents. Strong acids and bases at high temperatures. Compounds with high affinity for hydroxyl groups.
- Packaging Material Recommended: Stainless steel. Coated carbon steel with: Vinyl ester resin. Polyester resin reinforced with fiber glass. Polyethylene. Polypropylene.

## 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Control Parameters

- TLV-TWA (ACGIH): 1,4-Dioxane: 20 ppm; 72 mg/m<sup>3</sup> [Skin] [A3].  
Ethylene oxide: 1 ppm; 1.8 mg/m<sup>3</sup> [A2].  
Skin: Danger of cutaneous absorption.  
A2: Suspected Human Carcinogen  
A3: Confirmed animal carcinogen with unknown relevance to humans.
- PEL-TWA (OSHA): 1,4-Dioxane: 100 ppm; 360 mg/m<sup>3</sup> [Skin].  
Ethylene oxide: 1 ppm.  
Skin: Danger of cutaneous absorption.

TLV-STEL (ACGIH):	Not established.
LT(NR15):	Ethylene oxide: 39 ppm; 70 mg/m <sup>3</sup> .
Odor Threshold:	Not available.
IDLH:	1,4-Dioxane: 500 ppm.
Ethylene Oxide:	800 ppm.
Biological Exposure:	Indices (ACGIH) Not established.
Engineering Control Measures:	In closed environments, this product should be handled keeping proper exhaust (general diluter or local exhauster).

#### Individual Protection Measures

Eye Protection:	Side shields or wide vision safety goggles.
Skin Protection:	PVC apron. It is recommended to adopt safety boots/shoes.
Hand Protection:	Gloves made of: Rubber. PVC (Polyvinyl chloride).
Breathing Equipment:	In case of emergency or contact with high concentrations of the product, wear an air supplied mask or self contained breathing apparatus. It is recommended to wear face mask with acid organic vapors cartridge in case of exposure to vapors/aerosols.

### **9. PHYSICAL AND CHEMICALS**

Appearance:	Liquid. Yellowish. Viscous. Bitter taste.
Odour and Odour Threshold:	Odorless.
pH:	5.0 - 7.0 (5% w/w, 25°C).
Melting /Freezing Point:	Not available.
Initial Boiling Point/Range:	> 100 °C.
Flash Point:	> 150 °C (open cup).
Evaporation Rate:	Not available.
Flammability (solid, gas):	Not applicable.
Upper/Lower Flammability or Explosive Limits:	Not available.
Vapour Pressure:	Not available.
Vapour Density (air = 1):	Not available.
Relative Density (water=1):	1100 kg/m <sup>3</sup> (25 °C).
Apparent Density:	Not applicable.
Solubility:	Soluble in water. (20 °C for 1 hour/concentration of 0.5%).
Partition Coefficient n-octanol/water:	Not available.
Auto-Ignition Temperature:	Not available.
Decomposition Temperature:	Not available.
Viscosity:	c.a. 400 mPa.s (25 °C).

## 10. STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions of use and storage.
Reactivity:	No hazardous reactivity is expected.
Possibility of Hazardous Reactions:	Not polymerize.
Conditions to Avoid:	High temperatures, ignition sources and prolonged exposure to the air.
Incompatible Materials:	Avoid contact with: Strong Oxidizing Agents. Strong acids and bases at high temperatures. Compounds with high affinity for hydroxyl groups.
Hazardous Decomposition Products:	In case of combustion it may generate carbon monoxide, besides CO <sub>2</sub> .
Considerations on the Use of the Product:	Gelling may occurs at temperatures lower than 20 °C.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

Oral:	LD50, 36700 mg/kg.
Inhalation:	LC50, > 5.1 mg/L.
Dermal:	LD50, > 3000 mg/kg.
Skin:	corrosion/irritation Mild irritation

Serious Eye Damage/ Eye Irritation:	Draize eye irritation score was an 5.3 out of a possible 110.
Respiratory or skin Sensitization:	Not sensitizing to humans.
Germ Cell Mutagenicity:	Negative for: In vitro: Ames test, mammalian chromosome aberration test (peripheral human lymphocytes), mammalian cell gene mutation assay
Carcinogenicity:	Oral studies showed no evidence for carcinogenicity by this route.
Reproductive Toxicity:	The maternal LOAEL was 5000 mg/kg/day (based upon a 14% decrease in weight gain) and the maternal NOAEL was 500 mg/kg/day. The developmental NOAEL was greater than 5000 mg/kg/day.

Specific Target Organ Toxicity – Single Exposure: Not available.  
Specific Target Organ Toxicity – Repeated Exposure: Not available.

Aspiration Hazard: Not expected to be an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity:	Fish LC50, 96h, Oncorhynchus mykiss: 383 mg/L.
	Invertebrates NOEL, 21 days, Daphnia magna: 10 mg/L.

	Algae NOEL, 72h, Pseudokirchnerella subcapitata: 3.16 mg/L.
Persistence and Degradability:	Readily biodegradable. 60% after 28 days.
Bioaccumulative Potential:	It is not expected to bioaccumulate in the environment. BCF = 7.07 L/kg.
Mobility in Soil:	It is expected to have high mobility in soil. Koc = 1.73.
Other Adverse Effects:	Water hazard class 1: Slightly hazardous to water.

### 13. DISPOSAL CONSIDERATION

#### Recommended Methods of Disposal

Product:	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.
Product Remains:	Same method as indicated for product.
Packaging:	Do not cut or pierce the packaging, nor do hot work near them. Do not remove labels until the product has been fully removed and the packaging cleaned. The preferred options for disposal include reuse, recycling or reclamation at licensed facilities. All procedures must follow specific operation standards in order to reduce health, safety and environmental risks. The disposal must comply with local legislation and in accordance with standards from local environmental agencies.

### 14. TRANSPORT INFORMATION

Land Transport ANTT:	Product not classified as hazardous in accordance with Resolution 420/2004 - Transport Ministry.
UN Number:	N/A
Proper Shipping Name:	Not classified.
Hazard Class:	Not classified.
Hazard Number:	Not classified.
Packaging Group:	Not classified.
Maritime Transport IMDG:	Product not classified as hazardous in accordance with IMDG Code - 2012 Edition - IMO (International Maritime Organization).
UN Number:	N/A
Proper Shipping Name:	Not classified.
MDG Class:	Not classified.

Packaging Group: Not classified.  
EmS: Not classified.

Air Transport ICAO-TI  
and IATA-DGR: Product not classified as hazardous in accordance with  
Dangerous Goods Regulations - 55th Edition IATA  
(International Air Transport Association).

UN Number: N/A  
Proper Shipping Name: Not classified.  
ICAO/IATA Class: Not classified.  
Label: Not classified.  
Packaging Group: Not classified.

Land Transportation  
ADR/RID (crossborder): Product not classified as hazardous in accordance with  
Dangerous Goods by Road - Applicable from 1st January 2011 -  
Unece (United Nations Economic Commission for Europe).

UN Number: N/A  
Proper Shipping Name: Not classified.  
ADR/RID class: Not classified.  
Packaging Group: Not classified.  
Danger Code (Kemler): Not classified.  
Restriction Code: Not classified.

## 15. REGULATORY INFORMATION

Applicable standards: Resolution 420 / 2004 – Transport Ministry.  
IMDG Code - 2012 Edition - IMO (International Maritime  
Organization). Dangerous Goods Regulations - 55th Edition -  
IATA (International Air Transport Association).  
Dangerous Goods by Road (ADR) – Available from January 1st,  
2011 – Unece (United Nations  
Economic Commission for Europe).  
Brazilian Technical Standards Association (ABNT) – NBR 14725 -  
Part 1 to 4.

## 16. OTHER INFORMATION

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