

**1 - Product and Company Identification**

**Product name:** Mulsifan 400 MO  
**Product type/usage/industry:** Polyethylene Glycol 400 Monooleate  
**Manufacturer/Supplier Information:** Zschimmer and Schwarz, Inc.  
70 GA Hwy. 22 W  
Milledgeville, GA 31061  
Phone: (478) 454-1942  
**Emergency contact:** **Company:** (478) 454-1942  
**CHEMTREC (24HR):** (800) 424-9300

**2 – Hazards Identification**

**Classification of the substance or mixture:** Classification of this substance/mixture is based on  
**29 CFR 1910.1200/HazCom 2012 (GHS-US)**

Acute Aquatic Toxicity	Category 2	H401	Toxic to aquatic life
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**Labelling:**

**Signal Word:**

None

**Hazard Symbols:**

None

**Precautionary Statements:**

P262: Do not get in eyes, on skin, or on clothing.  
P273: Avoid release to the environment.  
P302+352: IF ON SKIN: Wash with plenty of soap and water.  
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes.  
Remove contact lenses if present and easy to do – continue rinsing.  
P314: Get medical advice/attention if you feel unwell.

**Key to Hazard Categories:**

1=Severe Hazard      2=Serious Hazard      3=Moderate Hazard      4=Slight Hazard      5=Minimal Hazard

**3 – Composition/Information on Ingredients**

<u>CAS Number</u>	<u>Material or component</u>	<u>Avg % weight</u>
9004-96-0	Poly(oxy-1,2-ethanediyl), $\alpha$ -(1-oxo-octadecenyl)- $\omega$ -hydroxy-,(Z)-	~ 100%

This is not intended to be a complete compositional disclosure. Information provided pursuant to the OSHA Hazard Communication Standard (29 CFR 1910.1200/ HazCom 2012). See Section 8 for Exposure Limits, if any.

#### 4 - First Aid Measures

<b>Eyes:</b>	Immediately flush with gentle but large stream of water for 15 min, lifting upper and lower eyelids occasionally. Get medical attention if irritation develops.
<b>Skin:</b>	Wash affected area with soap and water. If itching or redness develops, seek medical attention. Contaminated clothing should be removed immediately and washed before reuse. Contaminated shoes should be discarded.
<b>Inhalation:</b>	Move the person to fresh air. If breathing becomes difficult, contact a physician.
<b>Ingestion:</b>	Do not induce vomiting. If large amounts were swallowed, give water to drink and get medical attention if you feel unwell.

#### 5 - Firefighting Measures

<b>Extinguishing Media:</b>	Water spray, dry chemical, alcohol foam, or carbon dioxide.
<b>Unsuitable Extinguishing Media:</b>	None known.
<b>Special Protective Equipment for Firefighters:</b>	Self-contained breathing apparatus and protective clothing when fighting any chemical fire.
<b>Unusual Fire &amp; Explosion Hazards:</b>	In case of fire, containers may explode from internal pressure. Cool with water. May emit toxic fumes of CO and CO <sub>2</sub> under fire conditions.

#### 6 - Accidental Release Measures

<b>Personal precautions:</b>	Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.
<b>Environmental precautions:</b>	P273: Avoid release to the environment Limit leakage with earth or sand. Do not discharge into the drains/surface water/groundwater. Dispose of absorbed material in accordance with local, state and federal regulations.
<b>Methods for Containment/Cleaning Up:</b>	Take up with absorbent material (e.g. vermiculite, general purpose binder). Dispose of absorbed material in accordance with local, state, and federal regulations.

#### 7 - Handling and Storage

<b>Handling:</b>	P261: Avoid breathing mists of product P262: Do not get in eyes, on skin, or on clothing P264: Wash thoroughly after handling P280: Wear protective gloves/eye protection
<b>Storage:</b>	P402+404: Store in a dry place. Store in a closed container P403+233: Store in a well ventilated place. Keep container tightly closed Protect from moisture. Store in cool dry places between 32°F (0°C) and 95°F (35°C).
<b>Special Packaging Requirements:</b>	None known.
<b>Incompatible Materials or Fire/Explosion Protection:</b>	Strong oxidizers, strong acids, and strong bases at high temperatures.

#### 8 - Exposure Controls/Personal Protection

**Personal Protective Equipment (PPE):**

**Hand Protection:** Use impervious gloves.  
**Eye Protection:** Wear safety glasses with side shields.  
**Skin Protection:** Wear protective clothing.  
**Respiratory Protection:** Recommended if ventilation is limited.

**Engineering Measures/Controls:**

**Ventilation:** Ensure adequate ventilation to maintain product at acceptable airborne levels.  
**Other measures:** Eye-wash station.

**Exposure Limits/Guidelines:**

Material	CAS #	BASIS	TYPE	VALUE
None				

**9 - Physical and Chemical Properties**

<b>Form and Appearance:</b>	Clear to slightly hazy, yellow to amber liquid	<b>Odor:</b>	Fatty
<b>pH:</b>	~ 6.5 @ 5%	<b>Odor Threshold:</b>	N/D
<b>Boiling Point:</b>	> 347°F (175°C)	<b>Melting/Freezing point:</b>	< 42°F (5.6°C)
<b>Vapor Pressure:</b>	< 0.01 mmHg @ 20°C	<b>Vapor Density (Air=1):</b>	N/A
<b>Flash Point:</b>	> 302°F (150°C) (COC)	<b>Evaporation Rate:</b>	< 0.01
<b>UEL:</b>	N/A	<b>LEL:</b>	N/A
<b>Viscosity:</b>	N/D	<b>Solubility in Water:</b>	Dispersible
<b>Octanol/Water Partition Coefficient:</b>	~5.94 (lit.)	<b>Specific Gravity/ Bulk Density:</b>	~ 1.01
<b>Auto-ignition temperature:</b>	N/D	<b>Decomposition Temperature:</b>	N/D
<b>Volatile content:</b>	< 1.0%	<b>VOC Data:</b>	N/D

**10 - Stability and Reactivity**

**Chemical Stability:** Product is stable under ordinary conditions of use and storage.  
**Hazardous Polymerization:** Will not occur.  
**Conditions to Avoid:** Exposure to moist air or water.  
**Incompatible Materials:** Strong oxidizers, strong acids, and strong bases at high temperatures.  
**Hazardous Decomposition Products:** Extremely high temperatures may produce CO<sub>x</sub>; thermal decomposition may produce irritating aldehydes.

**11 - Toxicological Information**

**Acute Data:**

**Principle Routes of Exposure:** Eye contact, skin contact, ingestion, inhalation (mist).

**Acute Toxicity**

Route of exposure:	Test type:	Species:	Results:	Comments:
Oral	LD50	Rat	>2000 mg/kg	H303: May be harmful if swallowed

**Irritation and Corrosion**

Target organ:	Species:	Results:	Comments:
Eyes	Rabbit	Non-irritating	-
Skin	Rabbit	Non-irritating	-

**Sensitization**

Target organ:	Species:	Results:	Comments:
Skin	Human	No effects known	-

**Specific Target Organ Toxicity – Single Exposure**

Target organ:	Species:	Results:	Comments:
None			-

**Chronic Data:**

**Carcinogenicity**

IARC	NTP	ACGIH	OSHA
No	No	No	No

**Mutagenicity:** NDA

**Reproductive Effects:** NDA

**Target Organ Effects:** NDA

**12 - Ecological Information**

**Acute Aquatic Toxicity**

Species:	Test type:	Exposure time:	Results:	Comments:
Fish	LC50	96h	1 – 10 mg/l	H401: Toxic aquatic life
Daphnia magna	EC50	48h	1 – 10 mg/l	H401: Toxic aquatic life

**Environmental Fate**

**Persistence/Degradability:** Product is readily biodegradable.  
>60% in 28d

**COD/BOD5:** NDA

**Bioaccumulation Potential:** No bioconcentration is expected because of the relatively high water solubility.

**Mobility in Soil:** NDA

**Other Adverse Effects:** NDA

**13 - Disposal Considerations**

**Product:** Dispose of absorbed material/content and/or container in accordance with local, state, federal and/or international regulations.

**Packaging:** NDA

**14 - Transport Regulations**

**US DOT Regulations (Land Transport):**

<b>Proper Shipping Name:</b>	Not regulated.	<b>UN Number:</b>	Not regulated.
<b>Hazard Class:</b>	Not regulated.	<b>Label Required:</b>	Not regulated.
<b>Packing Group:</b>	Not regulated.		
<b>Other Information:</b>	Not regulated.		

**IATA/ICAO Regulations (Air Transport):**

<b>Proper Shipping Name:</b>	Not regulated.	<b>UN Number:</b>	Not regulated.
<b>Hazard Class:</b>	Not regulated.	<b>Label Required:</b>	Not regulated.
<b>Packing Group:</b>	Not regulated.		
<b>Other Information:</b>	Not regulated.		

**IMDG/IMO Regulations (Maritime Transport):**

<b>Proper Shipping Name:</b>	Not regulated.	<b>UN Number:</b>	Not regulated.
<b>Hazard Class:</b>	Not regulated.	<b>Label Required:</b>	Not regulated.
<b>Packing Group:</b>	Not regulated.	<b>Segregation Groups:</b>	Not regulated.
<b>EMS Number:</b>	Not regulated.		
<b>Marine Pollutant (Y/N):</b>	Not regulated.		
<b>Other Information:</b>	Not regulated.		

**15 - Regulatory Information**

**Domestic Regulations**

**Components requiring notification**

SARA 302 (TPQ)	SARA 304 (RQ)	SARA 313	CERCLA (RQ)	CAA 112(b) HAPS	CAA 112(r)
None	None	None	None	None	None

**SARA 311/312 Hazard Categorization:** None

**State Information**

**California Proposition 65:**

The materials used to manufacture this product are guaranteed to contain less than the stated amount of the below items. However, based upon our further processing we expect the final product to not contain detectable quantities of any of these items.

**Chemicals which are known to the State of California to cause cancer, birth defects, or other reproductive harm.**

Ethylene Oxide	(75-21-8)	(<10 ppm)
1,4-Dioxane	(123-91-1)	(<10 ppm)
Ethylene glycol	(107-21-1)	(< 0.25%)

**State Right to Know/  
Hazardous Substance List  
Information:**

The following chemicals are present on one or more Right to Know/Hazardous Substance Lists for the states of MA, MN, NJ, PA and RI.

Ethylene Oxide	(75-21-8)
1,4-Dioxane	(123-91-1)
Polyethylene glycols	(25322-68-3)
Ethylene glycol	(107-21-1)

This is not an exhaustive list. For information on listings in other states, please consult that state's RTK/HSL.

**Chemical Inventories**

United States (TSCA)	EUROPE (EINECS/ELINCS/NLP)	Australia (AICS)	Philippines (PICCS)	Canada		Korea (ECL)	Japan (ENCS/ISHL)	China (IECSC)	New Zealand (NZIoC)
				DSL	NDSL				
Yes	Polymer	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes

**16 - Additional Information**

**Key to Abbreviations:**

NDA - No data available    N/D - Not determined    N/A - Not applicable    N/E - Not established

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