



**The Chemical Company**  
19 Narragansett Avenue  
Jamestown, RI 02835  
Phone: (401) 423- 3100

# Epoxidized Soybean Oil

## MSDS

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Company Name** The Chemical Company  
**Customer Service Number** (401) 423-3100  
**Phone Number**  
**Product Name** **Epoxidized Soybean Oil**  
**Product Synonym(s)** ESO, EPO  
**Chemical Family** NA  
**Chemical Formula** NA  
**Chemical Name** **Epoxidized Soybean Oil**  
**EPA Reg Num** NA  
**Product Use** Epoxide Source

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

**Ingredient Name** Soybean oil, epoxidized  
**CAS Registry Number** 8013-07-8  
**Typical %** 100  
**OSHA** N

The substance(s) marked with a "Y" in the OSHA column, are identified as hazardous chemicals according to the criteria of the OSHA Hazard Communication Standard (29 CFR 1910.1200)

While this material is not classified as hazardous under Federal OSHA regulations, this MSDS contains valuable information critical to the safe handling and proper use of this product. This MSDS should be retained and available for employees and other users of this product.

The components of this product are all on the TSCA Inventory list.

### 3. HAZARDS IDENTIFICATION

#### Emergency Overview

Light yellow viscous liquid, slight vegetable odor.

HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICES.

#### Potential Health Effects

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. On the basis of available information, exposure to this material is not expected to produce significant adverse human health effects; however, use of appropriate good industrial hygiene and safety precautions to control exposure is recommended when handling or using this material.

Inhalation and skin contact are expected to be the primary routes of occupational exposure to this material. Based on single exposure animal tests, it is considered to be practically non-toxic if swallowed or absorbed through skin, no more than slightly toxic if inhaled, and slightly irritating to eyes and skin. Repeated exposure may cause an allergic skin reaction. Precautions should be taken to limit aerosolization or misting of this material, as aerosols may be irritating to the eyes and upper respiratory tract.

### 4. FIRST AID MEASURES

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IN CASE OF CONTACT, flush the area with plenty of water. Remove material from clothing. Wash clothing before reuse.

IF SWALLOWED, induce vomiting as directed by medical personnel. Get medical attention. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

IF INHALED, remove to fresh air.

## 5. FIRE FIGHTING MEASURES

### Fire and Explosive Properties

<b>Auto-Ignition Temperature</b>	NA
<b>Flash Point</b>	590 F (COC) Flash Point Method
<b>Flammable Limits- Upper</b>	NA
<b>Lower</b>	NA

### Extinguishing Media

Use water spray. A solid stream of water can cause frothing and spattering. Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

### Fire Fighting Instructions

Fire fighters and others who may be exposed to products of combustion should wear full fire fighting turn out gear (full Bunker Gear) and self-contained breathing apparatus (pressure demand NIOSH approved or equivalent). Fire fighting equipment should be thoroughly decontaminated after use.

### Fire and Explosion Hazards

When burned, hazardous products of combustion including carbon monoxide and carbon dioxide can be formed. Acrolein can be generated at 550 F.

## 6. ACCIDENTAL RELEASE MEASURES

### In Case of Spill or Leak

Isolate hazard area and deny entry to unnecessary or unprotected personnel. Contain spilled liquid with sand or earth. Clean up spill immediately, observing precautions in the Personal Protection section of MSDS. Avoid runoff into storm sewers and ditches which lead to waterways.

## 7. HANDLING AND STORAGE

### Handling

Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin and clothing.

### Storage

This material is not hazardous under normal storage conditions; however, material should be stored in closed containers, in a secure area to prevent container damage and subsequent spillage. It is recommended that containers be raised above floor or ground during extended storage periods to prevent container corrosion due to standing water.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### Engineering Controls

Investigate engineering techniques to reduce exposures. Provide ventilation if necessary to minimize exposures. If practical, use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.



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### **Eye / Face Protection**

Use good industrial practice to avoid eye contact.

### **Skin Protection**

Minimize skin contamination by following good industrial hygiene practice. Wearing rubber gloves is recommended. Wash hands and contaminated skin thoroughly after handling.

### **Respiratory Protection**

Where airborne exposure is likely, use NIOSH approved respiratory protection equipment appropriate to the material and/or its components. If exposures cannot be kept at a minimum with engineering controls, consult the respirator manufacturer to determine appropriate type equipment for a given application. Observe respirator use limitations specified by NIOSH or the manufacturer. For emergency and other conditions where there may be a potential for significant exposure, use an approved full face positive-pressure, self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. Respiratory protection programs must comply with 29 CFR § 1910.134.

### **Airborne Exposure Guidelines for Ingredients**

The components of this product have no established Airborne Exposure Guidelines

- Only those components with exposure limits are printed in this section.
- Skin contact limits designated with a "Y" above have skin contact effect. Air sampling alone is insufficient to accurately quantify exposure. Measures to prevent significant cutaneous absorption may be required.
- ACGIH Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic reactions.
- WEEL-AIHA Sensitizer designator with a value of "Y" above means that exposure to this material may cause allergic skin reactions.

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

<b>Appearance/Odor</b>	Light yellow viscous liquid, slight vegetable odor.
<b>pH</b>	NE
<b>Specific Gravity</b>	0.994
<b>Vapor Pressure</b>	very low
<b>Vapor Density</b>	Nonvolatile
<b>Melting Point</b>	NE
<b>Freezing Point</b>	0 (32 F)
<b>Boiling Point</b>	Decomposes
<b>Solubility In Water</b>	Insoluble
<b>Evaporation Rate</b>	very low
<b>Percent Volatile</b>	0.07
<b>Other Physical Data</b>	White solid suspended in clear liquid, characteristic odor.

## **10. STABILITY AND REACTIVITY**

### **Stability**

This material is chemically stable under specified conditions or storage, shipment and/or use. See HANDLING AND STORAGE section of this MSDS for specified conditions.

### **Hazardous Polymerization**

Hazardous polymerization may occur if contaminated with strong mineral acid.

### **Incompatibility**

Contact with strong acid may result in volume expansion. Do not expose to temperatures greater than 400° F.

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### **Hazardous Decomposition Products**

None known .

## **11. TOXICOLOGICAL INFORMATION**

### **Toxicological Information**

Single exposure (acute) studies indicate:

Oral - Practically Non-toxic to Rats (LD50 22,400 mg/kg)

Dermal - Practically Non-toxic to Rabbits (LD50 19,900 mg/kg)

Inhalation - Exposure to concentrated vapors for 8 hrs produced no deaths in rats

Eye Irritation - Slightly Irritating to Rabbits

Skin Irritation - Slightly Irritating to Rabbits

Soybean oil, epoxidized

Single exposure (acute) studies indicate that this material is practically non-toxic if swallowed (rat LD50 22,400 mg/kg) or absorbed through skin (rat LD50 19,900 mg/kg) and slightly irritating to rabbit eyes and skin.

Exposure to concentrated vapors for 8 hrs produced no deaths in rats.

No skin allergy was observed in guinea pigs following repeated exposure. Long-term dietary administration to rats produced increased mortality, reduced body weight gains, kidney and liver changes (enlarged, fatty infiltration of the liver), degeneration of the testes, and slight changes in the uterus. Life-time application to the skin of mice or life-time administration in the diet to rats did not increase the incidence of tumors. No effects were seen on the ability of male or female rats to reproduce or on the development of the offspring when exposed orally prior to mating. No genetic changes were observed in tests using bacteria and human or animal cells.

## **12. ECOLOGICAL INFORMATION**

### **Ecotoxicological Information**

#### **Soybean oil, epoxidized**

This material is practically non-toxic to brine shrimp (24-hr LC50 240 mg/l).

### **Chemical Fate Information**

#### **Soybean oil, epoxidized**

The non-acclimated and acclimated extent of bio-oxidation were 0% and 24%, respectively, after 20 days in fresh water. The measured chemical oxygen demand (COD) was determined to be 2.24 mg/mg. This material is not considered readily biodegradable in fresh water based on these data

## **13. DISPOSAL CONSIDERATIONS**

### **Waste Disposal**

Recover, reclaim or recycle when practical.

Disposal via incineration is recommended. Appropriate pretreatment and disposal in an authorized landfill is acceptable. In all cases, dispose of material in accordance with all applicable federal, state and local laws and regulations. Consult appropriate regulatory officials or your attorney for information on such disposal.

**Note:** Chemical additions to, processing of, or otherwise altering this material may make this waste management information incomplete, inaccurate, or otherwise inappropriate. Furthermore, state and local waste disposal requirements may be more restrictive or otherwise different from federal laws and regulations.

## **14. TRANSPORT INFORMATION**

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**DOT Name** Not regulated

**DOT Technical Name**

**DOT Hazard Class**

**UN Number**

**DOT Packing Group** PG

**RQ** NA

### 15. REGULATORY INFORMATION

Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370)

**Immediate (Acute)** Health N Fire N

**Delayed (Chronic)** Health N Reactive N

Sudden Release of Pressure N

The components of this product are all on the TSCA Inventory list.

Ingredient Related Regulatory Information:

SARA Reportable Quantities CERCLA RQ SARA TPQ

Soybean oil, epoxidized NE

### 16. OTHER INFORMATION

#### Revision Information

**Revision Date** 02 JAN 2007 Revision Number 8

**Supersedes Revision Dated** 02-JAN-2007

#### Revision Summary

This product has been moved to the Functional Additives business unit.

#### Key

NE= Not Established NA= Not Applicable (R) = Registered Trademark