

## GPS Safety Summary

**Substance Name:**

**Soybean oil, epoxidized**

### 1. General Statement

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Soybean oil, epoxidized is a UVCB\* substance.

### 2. Chemical Identity

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<b>Name:</b>	Soybean oil, epoxidized
<b>Brand name:</b>	ESBO
<b>Chemical name (IUPAC):</b>	Soybean oil, epoxidized
<b>CAS number(s):</b>	8013-07-8
<b>EC number:</b>	232-391-0
<b>Molecular formula:</b>	not applicable (UVCB substance)
<b>Structure:</b>	not applicable (UVCB substance)

### 3. Use and applications

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ESBO is used as a plasticiser and stabiliser in polyvinyl chloride (PVC).

### 4. Physical / Chemical properties

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Soybean oil, epoxidized is a viscous liquid substance with the following physico-chemical properties:

Property	Value
Physical state	Liquid
Form	Viscous
Particle size	Not applicable
Colour	yellow
Odour	Mild, vegetable oils
Molecular weight	Not applicable
Density	1,01 at 20°C
Vapour pressure	<0,1 hPa at 25 °C
Freezing / boiling points	Not applicable (decomposes on heating)
Flammability	Not applicable

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\* *Unknown or Variable composition, Complex reaction products and Biological materials*

Flash point	231°C
Self-ignition temperature	Not data available
Explosive / oxidizing properties	Not relevant (due to the chemical structure)
Water solubility	<0,02 µg/L at 20°C
Octanol-water partition coefficient (Log K <sub>ow</sub> )	>6,2

## 5. Health Effects

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	The substance has low acute oral and dermal toxicity. No data is available for acute inhalation toxicity.
Irritation / corrosion Skin / eye/ respiratory tract	The substance is slightly irritating to skin and eyes.
Sensitisation	The substance has no skin sensitizing properties.
Toxicity after repeated exposure Oral / inhalation / dermal	No adverse effect was reported after prolonged repeated exposure with the test substance.
Genotoxicity / Mutagenicity	In vitro experiment showed no mutagenic potential of the test substance.
Carcinogenicity	Animal experiments showed no carcinogenic properties with the test substance.
Reproductive / Developmental Toxicology	The substance has no effect on fertility or foetal development.

## 6. Environmental Effects

Effect Assessment	Result
Aquatic Toxicity	No effect up to the limit of solubility

Fate and behaviour	Result
Biodegradation	Readily biodegradable
Bioaccumulation potential	Low potential to bioaccumulate
PBT / vPvB conclusion	Not considered to be PBT* or vPvB**

\*: Persistent, Bioaccumulative and Toxic (PBT)

\*\* : very Persistent and very Bioaccumulative (vPvB)

## 7. Exposure

### 7.1 Human health

Considering the life cycle of the substance, industrial workers and professional users may come into contact with ESBO.

Worker exposure may occur in facilities manufacturing or using the substance.

When workers are exposed during handling, loading, sampling or maintenance operations, they should follow the recommended measures given in the extended Data Sheet (SDS).

Given the mild irritating properties of the substance, special attention should be paid to avoid eye and skin contact.

## 7.2 Environment

Emissions of ESBO to the environment may occur during production and use of the substance.

Procedures, controls and risk management measures should be implemented on industrial manufacturing and application sites, effluents that may contain the substance must be treated to avoid any exposure to the environment.

ESBO is readily biodegradable and will not be persistent. This substance will present no risk to the environment.

## 8. Risk Management recommendations

Human health measures		
<b>Organizational</b>	Implement a good basic standard of occupational hygiene. Ensure operatives are well informed of the hazards and trained to minimize exposures. Hygiene measures must be respected and incompatible materials must be clearly identified.	
<b>Engineering controls</b>	Ensure sufficient air exchange and/or exhaust in work areas. Ensure that eye- and handwash stations and safety showers are close to workstation locations.	
<b>Protection</b>	<b>Eye/Face protection:</b>	Safety glasses
	<b>Skin protection:</b>	Protective clothing (cotton), non-skid boots.
	<b>Hand protection:</b>	Protective gloves
	<b>Respiratory protection:</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
Environment protective measures		
Use techniques to minimize emissions (incineration or any treatment to minimize level of release).		

## 9. Regulatory Information / Classification and Labelling

### 9.1 Regulatory Information

This substance has been registered under:

- EU Regulation EC 1907/2006 (REACH)

### 9.2 Classification and labelling

Under GHS, substances are classified according to their physical, health, and environmental hazards. Hazards are communicated via specific labels and safety data sheets. GHS attempts to standardize hazard communication so that the intended audience (workers, consumers, transport workers, and emergency responders) can better understand the hazards of the chemicals in use. Substances registered for REACH are classified according to CLP (EC) 1272/2008, implementation of the GHS in the European Union.

Classification
According to REGULATION (EC) no 1272/2008: – This substance is not classified as dangerous.
Pictogram
This substance does not require a label
Hazard statement
– Not classified
Alternative classification according to Globally Harmonized System (GHS)
– Skin irritation, category 3, H316 : Causes mild skin irritation

## 10. Contact Information within Company

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For further information on this substance or product safety summary in general, please contact:

- [arkema-additives-reach-uses@arkema.com](mailto:arkema-additives-reach-uses@arkema.com)
- **ICCA portal where the GPS Safety Summary is posted:**  
<http://www.icca-chem.org/en/Home/ICCA-initiatives/global-product-strategy/>

## 11. Date of Issues / Revision

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- Date of issue: 2014/11/30
- Date of revision:

## 12. Disclaimer

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The information contained in this paper is intended as advice only and whilst the information is provided in utmost good faith and has been based on the best information currently available, is to be relied upon at the user's own risk.

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