

## GPS Safety Summary

**Substance Name:**

**2-ethylhexyl mercaptoacetate**

### 1. General Statement

---

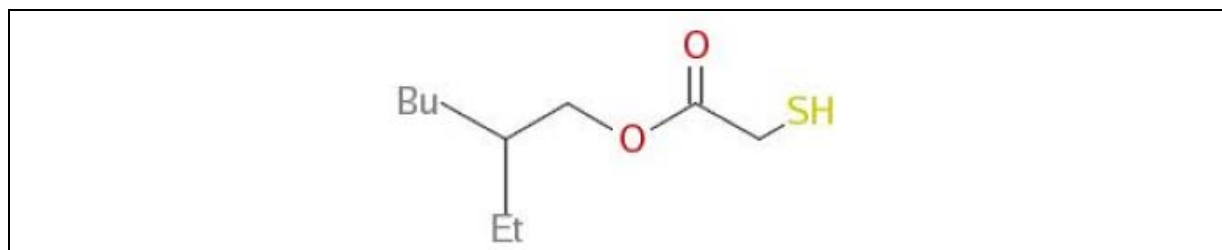
2-ethylhexyl mercaptoacetate is a colourless liquid. It is mainly used as an intermediate in manufacture of bulk, large scale substances and fine chemicals. Products containing 2-ethylhexyl mercaptoacetate are not sold to general public.

Harmful if swallowed, skin sensitiser and very toxic to aquatic life with long lasting effects, this substance must be carefully handled and stored to preserve human health and environment.

### 2. Chemical Identity

---

<b>Name:</b>	2-ethylhexyl mercaptoacetate
<b>Brand name:</b>	2-ethylhexyl thioglycolate
<b>Chemical name (IUPAC):</b>	2-ethylhexyl sulfanylacetate
<b>CAS number(s):</b>	7659-86-1
<b>EC number:</b>	231-626-4
<b>Molecular formula:</b>	C <sub>10</sub> H <sub>20</sub> O <sub>2</sub> S
<b>Structure:</b>	



### 3. Use and applications

---

The 2-ethyl hexyl ester of thioglycolic acid is a primary mercaptan and displays all the standard reactions of mercaptans.

- Formation of mercaptides: mercaptides are obtained by reaction with metallic and organometallic chlorides and oxides. Alkyltin thioglycolates have long been known as very good heat stabilizers for polyvinyl chloride. These products offer the advantages of being liquid and hence easy to handle.
- Free Radical reaction: in the presence of free radical initiators, mercaptans give transfer reaction and addition reactions on double bonds. 2-EHTG is used as a modifier in emulsion polymerization reactions, especially for polyvinyl chloride.

## 4. Physical / Chemical properties

Property	Value
Physical state	Liquid at 20°C and 1013 hPa
Colour	Colourless
Molecular weight	204.33 g/mol
Density	0.97 at 20°C
Vapour pressure	0.036 hPa at 25°C 0.024 hPa at 20°C
Freezing / boiling points	<-50°C / 227.4°C (calculated) at 1013 hPa
Flammability	Not flammable
Flash point	117.5°C (closed cup)
Self-ignition temperature	250°C at 1008 hPa
Explosive / oxidizing properties	Not relevant due to the chemical structure
Water solubility	0.00473 g/L at 20°C
Octanol-water partition coefficient (Log K <sub>ow</sub> )	4.7 at 20°C

## 5. Health Effects

Effect Assessment	Result
Acute Toxicity Oral / inhalation / dermal	Harmful by oral route. Low toxicity by dermal and inhalation routes.
Irritation / corrosion Skin / eye/ respiratory tract	Slightly irritating for the skin, not irritating for the eyes.
Sensitisation	Skin sensitizer.
Toxicity after repeated exposure Oral / inhalation / dermal	No relevant systemic toxicity following repeated oral exposure.
Genotoxicity / Mutagenicity	No evidence of genetic toxicity.
Carcinogenicity	Not suspected to have a carcinogenic potential.
Reproductive / Developmental Toxicology	No evidence of toxicity for reproduction.

## 6. Environmental Effects

2-ethylhexyl mercaptoacetate is very toxic to aquatic organisms and is potentially bioaccumulable. This product will not persist in the environment as it is readily biodegradable.

Effect Assessment	Result
Aquatic Toxicity	Very toxic to aquatic organisms

Fate and behaviour	Result
Biodegradation	Ready biodegradable
Bioaccumulation potential	Potentially bioaccumulable
PBT / vPvB conclusion	Not considered to be PBT* or vPvB**

\*: Persistent, Bioaccumulative and Toxic (PBT)

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

### GPS Safety Summary

Arkema – Thiochemicals – 2EHTG – 2-ethylhexyl mercaptoacetate – GPS – 2014-11-30 – V0

## 7. Exposure

### 7.1 Human health

The most likely route of human exposure (workers) to 2-ethylhexyl mercaptoacetate is through inhalation and/or to a much lesser extent dermal contact. In industrial settings, ingestion is not an anticipated route of exposures.

2-ethylhexyl mercaptoacetate is harmful if swallowed and is a skin sensitizer.

The substance is industrially manufactured and used almost entirely in closed systems, under strictly controlled conditions, thus minimizing the occupational exposure potential.

Procedures, controls, collective and personal risk management measures are in place, which limit the occupational exposure. Workers who might accidentally come into contact with the undiluted substance should follow the safety measures recommended in the Safety Data Sheet.

When used under strictly controlled conditions as recommended in the Safety Data Sheet, exposure is negligible and thus risks acceptable

### 7.2 Environment

Based on its physico-chemical properties, 2-ethylhexyl mercaptoacetate is hydrolytically unstable and practically insoluble in water. It is considered to be non volatile. It has a low mobility in soil and a potential for bioaccumulation. Moreover, it is readily biodegradable.

2-ethylhexyl mercaptoacetate is industrially manufactured and used in closed systems in a continuous or batch process and consumed when used as an intermediate, minimizing release to the environment.

The substance is industrially manufactured and used within closed systems, under strictly controlled conditions, thus minimizing environmental release potential. Procedures, controls and risk management measures are in place, which limit the environmental exposure.

When used under strictly controlled conditions as recommended in the Safety Data sheet, environmental releases are negligible and thus risks are acceptable.

## 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>Protection</b>	<b>Eye/Face protection:</b> Safety glasses
	<b>Skin protection:</b> Combination with delayed penetration
	<b>Hand protection:</b> Splash contact, intermittent and prolonged: gloves nitrile rubber (thickness: 1.2 mm)
	<b>Respiratory protection:</b> Low concentration or short activity: wear suitable respiratory equipment. High concentrations or prolonged activity: self contained breathing apparatus.

<b>Engineering controls</b>	<p>Ensure sufficient air exchange and/or exhaust in work area.</p> <p>Use material of high integrity for loading and unloading.</p> <p>Ensure that eyewash stations and safety showers are close to workstation locations.</p> <p>Investigate engineering techniques to reduce exposures.</p> <p>Routine monitoring and inspections for leaks to reduce fugitive emissions.</p>
<b>Environmental protective measures</b>	
<p>Do not release into the environment.</p> <p>Use techniques to minimize emissions (incineration or any treatment to minimize level of release).</p> <p>Eliminate by incineration in accordance with local and national regulations.</p>	

## 9. Regulatory Information / Classification and Labelling

### 9.1 Regulatory Information



This substance has been registered under:

- EU Regulation EC 1907/2006 (REACH)

This substance is on the inventories of USA, Australia, Canada, Japan, Korea, Philippines and China.

### 9.2 Classification and labelling

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the safety data sheet. 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.

<b>Classification</b>	
<p>According to REGULATION (EC) no 1272/2008:</p> <ul style="list-style-type: none"> <li>— Oral: Acute toxicity cat. 4</li> <li>— Skin sensitization cat. 1B</li> <li>— Acute aquatic toxicity cat. 1</li> <li>— Chronic aquatic toxicity cat. 1 M factor = 1</li> </ul>	
<b>Signal Word</b>	
Warning	
<b>Pictogram</b>	
— GHS07: exclamation mark	
— GHS09: environment	

Hazard statement
<ul style="list-style-type: none"> <li>– H302: Harmful if swallowed</li> <li>– H317: May cause an allergic skin reaction</li> <li>– H410: Very toxic to aquatic life with long lasting effects</li> </ul>
Additional classification according to Globally Harmonized System (GHS)
<ul style="list-style-type: none"> <li>– Dermal: Acute toxicity cat. 5 (H313: May be harmful in contact with skin)</li> </ul>

## 10. Contact Information within Company

---

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

- Arkema web site : on the product page, an actualised contact name is provided  
<http://www.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

---

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

## 12. Disclaimer

---

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.

**NO WARRANTY OF FITNESS FOR ANY PARTICULAR PURPOSE, WARRANTY OF MERCHANTABILITY, OR ANY OTHER WARRANTY, EXPRESSED OR IMPLIED, IS MADE CONCERNING THE INFORMATION PROVIDED HEREIN.**

No liability will be accepted by ARKEMA for damages of any nature whatsoever resulting from the use of or reliance on the information.