GPS Safety Summary
2-ethylhexyl-S-lactate

Chemical Identity

Name: 2-ethylhexyl-S-lactate
CAS number: 186817-80-1
Molecular formula: C_{11}H_{22}O_{3}

Structure

![Chemical structure of 2-ethylhexyl-S-lactate](image)

IUPAC name: Propanoic acid, 2-hydroxy-, 2-ethylhexyl ester, (2S)-
BASF brand names: Agnique AE 3-2EH

Product Uses

2-ethylhexyl-S-lactate is mainly used as a solvent.

Benefits

2-ethylhexyl-S-lactate is the ester of 2-ethyl hexanol and natural lactic acid. It demonstrates excellent properties as a green solvent or co-solvent in a wide range of applications, particularly in agricultural formulations. 2-ethylhexyl-S-lactate is readily biodegradable, and in addition exhibits excellent properties at low temperatures, remaining liquid at temperatures below -20°C. 2-ethylhexyl-S-lactate is immiscible with water.
Health Information

Human Health Safety Assessment
Note: The information contained in the table below may be useful to someone handling the concentrated substance such as a manufacturer or transporter. Consumers are not likely to come in contact with the concentrated substance. The data, while verifiable, are not intended to be comprehensive nor replace the data found in the (M)SDS.

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity</td>
<td>Virtually nontoxic after a single ingestion and by inhalation.</td>
</tr>
<tr>
<td>Irritation</td>
<td>Irritating to skin and eyes.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Caused skin sensitization in animal studies.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>No mutagenic effect was found in various tests with bacteria and mammalian cell culture.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>The whole of the information assessable provides no indication of a carcinogenic effect.</td>
</tr>
<tr>
<td>Toxicity after repeated exposure</td>
<td>After repeated exposure the prominent effect is local irritation.</td>
</tr>
<tr>
<td>Toxicity for reproduction</td>
<td>The information available on the product provides no indication of reproductive toxicity. The statement has been derived from substances/products of a similar structure or composition. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals. The substance was not teratogenic in animal tests.</td>
</tr>
</tbody>
</table>

Environmental Information

Environment Safety Assessment
Note: The information in this chapter is intended to provide brief and general information of this substance’s environmental impact. The results in the table below refer to testing performed with the concentrated substance. The data contained in this section explain the relative effect of the concentrated substance on the environment, as defined by certain tests.

Date of Issue: November 2012
Effect Assessment

<table>
<thead>
<tr>
<th>Property</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Toxicity</td>
<td>Acutely harmful to aquatic life.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Readily biodegradable.</td>
</tr>
<tr>
<td>Bioaccumulation potential</td>
<td>Accumulation in organisms is not expected.</td>
</tr>
</tbody>
</table>

Physical/Chemical Properties

Phys/Chem Safety Assessment

- 2-ethylhexyl-S-lactate is a colorless organic liquid with a mild ester-like odor which is not flammable. 2-ethylhexyl lactate does not contain any of the group recognized as associated with explosive risk.

Note: The results in the table below refer to testing performed with the concentrated substance. It is not intended to be comprehensive or to replace information found in the (M)SDS.

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>&lt; -20°C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>246°C at 1013 hPa</td>
</tr>
<tr>
<td>Flash point</td>
<td>113°C at 1013 hPa</td>
</tr>
<tr>
<td>Flammability</td>
<td>Non flammable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Non explosive</td>
</tr>
<tr>
<td>Self-ignition temperature</td>
<td>270°C at 1023 hPa</td>
</tr>
</tbody>
</table>

Exposure Potential

- Workplace exposure: Exposure can occur either in a 2-ethylhexyl-S-lactate manufacturing facility or in the various industrial or manufacturing facilities that use 2-ethylhexyl-S-lactate. Those working with 2-ethylhexyl-S-lactate in manufacturing operations could be exposed during maintenance, sampling, testing, or other procedures. Each manufacturing facility should have a thorough training program for employees and appropriate work processes, as well as safety equipment in place to limit unnecessary
exposure. Safety showers and eye-wash stations should be accessible nearby. Workers should follow the recommended safety measures in the extended Safety Data Sheet (eSDS).

- **Consumer exposure:** 2-ethylhexyl-S-lactate is used as co-formulant in plant protection products. The concentration of 2-ethylhexyl-S-lactate in consumer products is generally low; therefore 2-ethylhexyl-S-lactate does not pose any hazard to the consumer. However, carefully read and follow the instructions given on product labels for proper use.

- **Environmental exposure:** 2-Ethylhexyl-S-lactate is readily biodegradable and will therefore be degraded within the wastewater treatment process. Though the substance is classified as acutely harmful to aquatic organisms, a risk for the environment is not identified since exposure of surface waters is expected to be negligible due to the rapid degradation. Further, 2-ethylhexyl-S-lactate does not accumulate in the food chain. Conclusively, all identified uses are safe for the environment based on the scientific facts summarized above and when carried out in compliance with recommended risk management measures and applicable regulations.

### Recommended Handling Measures

*The recommended safety measures generally apply in contact with the concentrated substance. It is NOT intended to replace the comprehensive guidance found in the (M)SDS, only supplement it. Please refer to the (M)SDS for specific safety and first aid measures.*

When using concentrated chemicals always make sure that there is adequate ventilation. Always use appropriate chemical resistant gloves to protect your hands and skin and always wear eye protection such as chemical goggles. Do not eat, drink, or smoke where chemicals are handled, processed, or stored. Wash hands and skin following contact. If the substance gets into your eyes, rinse eyes thoroughly for at least 15 minutes with tap water and seek medical attention. For specific advice please consult the corresponding (Material) Safety Data Sheet of the substance.

All effluent releases that may include the substance must be directed to a (municipal) waste water treatment plant that removes the substance from the final releases to the receiving water.
Regulatory Information / Classification and Labeling

Under GHS substances are classified according to their physical, health, and environmental hazards. The hazards are communicated via specific labels and the (M)SDS. 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.

*Note: The hazard statements and symbols presented here refer to the hazard properties of the concentrated substance and are meant to provide a brief overview of the substance’s labeling. It is not intended to be comprehensive or to replace information found in the (M)SDS.*

Labeling according to UN GHS

UN GHS is the basis for country specific GHS labeling

Signal word: Warning

Hazard statements:
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H402: Harmful to aquatic life.

Additional information


Disclaimer

This Product Safety Summary is intended to provide a general overview of the chemical substance. It contains basic information and is not intended to provide emergency response information, medical information or treatment information. The summary cannot be relied on to provide in-depth safety and health information. In-depth safety and health information must be obtained from the Material Safety Data Sheet ((M)SDS) for the chemical substance.
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Contact

For further information on this substance or GPS safety summaries in general, please contact:
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