GPS Safety Summary

Fatty acids, C16-18, esters with ethylene glycol

Chemical Identity

Name: Fatty acids, C16-18, esters with ethylene glycol

CAS number: 91031-31-1

Molecular formula: C_{18-38}H_{36-74}O_{3-4}

Product Uses

Fatty acids, C16-18, esters with ethylene glycol is manufactured by esterification of fatty acid with monoethylene glycol. Fatty acids, C16-18, esters with ethylene glycol (CAS No. 91031-31-1) is an UVCB (substance of unknown or variable composition) mixture of mono- and diesters of ethylene glycol with fatty acids, containing 2-hydroxyethyl palmitate (CAS No. 4219-49-2), 2-hydroxyethyl stearate (CAS No. 111-60-4), ethylene dipalmitate (CAS No. 624-03-3), ethylene distearate (CAS No. 672-83-3), and ethylene stearate/palmitate (CAS No. 26158-81-6). The fatty
acid moiety of all components consists of saturated carbon chains with a carbon atom range of C16-18 and the alcohol moiety is ethylene glycol. It is mainly used for cosmetics and personal care products. Further applications include use for textile, leather and fur treatment products, as plastics and polymer additives, for washing and cleaning products, for medical products and devices and for laboratory use.

Benefits

Used as an opacifier and pearliser in shampoos and foam baths. Consistency giving factor in cosmetic and pharmaceutical creams and emulsions.

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><strong>Acute Toxicity</strong></td>
<td>Virtually nontoxic after a single ingestion. Of low toxicity after short-term skin contact. Evaluations are partially based on information derived from substances of a similar structure or composition.</td>
</tr>
<tr>
<td><strong>Irritation</strong></td>
<td>Not irritating to eyes and skin. Evaluations are partially based on information derived from substances of a similar structure or composition.</td>
</tr>
<tr>
<td><strong>Sensitization</strong></td>
<td>Skin sensitizing effects were not observed in animal studies. This evaluation is partially based on information derived from substances of a similar structure or composition.</td>
</tr>
<tr>
<td><strong>Mutagenicity</strong></td>
<td>Results from a number of mutagenicity studies with microorganisms and mammalian cell culture are available. Taking into account all of the information, there is no indication that the substance is mutagenic. Evaluations are partially based on information derived from substances of a similar structure or composition.</td>
</tr>
<tr>
<td><strong>Carcinogenicity</strong></td>
<td>The whole of the information available provides no indication of a carcinogenic effect.</td>
</tr>
</tbody>
</table>

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Toxicity after repeated exposure

No adverse effects were observed after repeated oral exposure in animal studies. Evaluations are partially based on information derived from substances of a similar structure or composition.

Toxicity for reproduction

Based on available data, the substance is not considered to have a potential for reproductive toxicity. Evaluations are partially based on information derived from substances of a similar structure or composition.

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.

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Toxicity</td>
<td>With high probability not harmful in the range of the substances water solubility.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Readily biodegradability</td>
</tr>
<tr>
<td>Bioaccumulation potential</td>
<td>Accumulation potential in organisms is expected to be low.</td>
</tr>
</tbody>
</table>

Physical/Chemical Properties

Phys/Chem Safety Assessment

➢ Fatty acids, C16-18, esters with ethylene glycol is a white to cream colored waxy solid which does not have flammable or explosive properties.

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>Solid</td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>65.5°C</td>
</tr>
</tbody>
</table>
### Boiling point
> 300°C at 1013 hPa, decomposition probable, >190°C at 3 mmHg

### Flash point
260°C (open cup)

### Flammability
Non flammable

### Explosive properties
Non explosive

### Self-ignition temperature
No auto-ignition is expected.

## Exposure Potential

- **Workplace exposure**: Based on the very low toxicity of fatty acids, C16-18, esters with ethylene glycol exposure is considered to be without risk. Fatty acids, C16-18, esters with ethylene glycol released during manufacturing or handling is of no concern for the health of workers since it does not induce any adverse effects at relevant doses. Nevertheless, workers should follow the recommended safety measures in the extended Safety Data Sheet (eSDS).

- **Consumer exposure**: Based on the very low toxicity of fatty acids, C16-18, esters with ethylene glycol exposure is considered to be without risk. Fatty acids, C16-18, esters with ethylene glycol released during handling is of no concern for the health of consumers since consumers will not come into contact with harmful levels of fatty acids, C16-18, esters with ethylene glycol.

- **Environmental exposure**: Fatty acids, C16-18, esters with ethylene glycol is with high probability not harmful to aquatic organisms in the range of the mixtures water solubility and is hence not considered to pose an unacceptable risk for the environment. It will almost entirely be removed by biodegradation during waste water treatment processes. Insignificant amounts that may reach surface waters will not exist in the environment for extended time periods due to degradation by microorganisms. 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.

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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) wastewater 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

The product does not require a hazard warning label in accordance with GHS criteria.

Additional information


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2. Information on registered substance
   (ECHA) http://apps.echa.europa.eu/registered/registered-sub.aspx

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: info.gps@basf.com

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