GPS Safety Summary

**Fatty acids, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester**

### Chemical Identity

**Name:** Fatty acids, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester  
**CAS number:** 67762-38-3  
**Molecular formula:** UVCB substance, no univocal molecular formula available

**IUPAC name:** UVCB substance, no IUPAC name available

### Product Uses

Fatty acids, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester is synthetized by transesterification of natural oils with methanol to produce methylesters and glycerin or esterification of fatty acids with methanol to produce methyl esters and water. It is manufactured in industrial settings, used as isolated on-site intermediate and found in a variety of downstream industrial as well as consumer/public applications. Industrial uses include: metalworking fluids, lubricants and greases, coatings and inks, fuel additives and blends. Consumer/public uses are: Crop protection agents, fuel additives and fuel blends, metalworking fluids, lubricants and greases, coatings and inks.

### Benefits

Fatty acids, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester is based on natural renewable raw materials, is readily biodegradable, not persistent in the environment and has low toxicity. Therefore, it is especially suited for applications that may result in release to the environment. It serves as a solvent and carrier in emulsions and dispersions especially in crop protection formulations. It acts as a stabilizing agent (adjuvant) in formulations for various technical applications, has

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lubricating properties and serves as siccative in lacquer systems. Fatty acids, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester serve as intermediate in the production of long-chain fatty alcohols, an important raw material for the production of surfactants used in all kinds of cleaning and personal care products.

**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>
</table>
| **Acute Toxicity**            | Virtually nontoxic after single ingestion.  
Virtually nontoxic after single skin contact.  
The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.  
Inhalation study not necessary due to exposure considerations. |
| **Irritation**                | Not irritating to eyes and skin.                                                                                                                                                                 |
| **Sensitization**             | There is no evidence of a skin-sensitizing potential.                                                                                                                                          |
| **Mutagenicity**              | Results from a number of mutagenicity studies with microorganisms, mammalian cell culture and mammals are available. Taking into account all of the information, there is no indication that the substance is mutagenic.  
The statement has been derived in parts from products of similar structure or composition. |
| **Carcinogenicity**           | Based on available data not considered to be carcinogenic. The product has not been tested. The statement has been derived from products of a similar structure or composition.                           |
| **Toxicity after repeated exposure** | No adverse effects were observed after repeated exposure in animal studies.                                             |
| **Toxicity for reproduction**  | The results of animal studies gave no indication of a fertility impairing effect. No adverse effects were seen on dams or offspring. |
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>No adverse effects to aquatic life in the range of the substances water solubility.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Readily biodegradable.</td>
</tr>
<tr>
<td>Bioaccumulation potential</td>
<td>Accumulation in organisms is not to be expected.</td>
</tr>
</tbody>
</table>

Physical/Chemical Properties

Phys/Chem Safety Assessment

- The substance is a green/yellow oily liquid with a mild odor. It has a high boiling temperature and 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>Liquid</td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>6.29 °C at 1 atm</td>
</tr>
<tr>
<td>Boiling point</td>
<td>354.3 °C at 1 atm</td>
</tr>
<tr>
<td>Flash point</td>
<td>173 °C +/- 1 °C</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>261 °C +/- 5 °C</td>
</tr>
</tbody>
</table>
Exposure Potential

- **Workplace exposure:** Based on the very low toxicity of fatty acids, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester exposure is considered to be without risk. Fatty acids, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester 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, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester exposure is considered to be without risk. Fatty acids, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester 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, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester. Nevertheless consumers should always read product information before use and follow the label/use instructions.

- **Environmental exposure:** In the range of its water solubility fatty acids, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester is with high probability not harmful to aquatic organisms. Hence the substance is 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. Further, fatty acids, C\textsubscript{16-18} and C\textsubscript{18:1-unsatd.}, methyl ester 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 treatment immediately.
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 labelling. 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**


**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

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to provide in-depth safety and health information. In-depth safety and health information must be obtained from the Material Safety Data Sheet (MSDS) for the chemical substance.

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Contact

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