GPS Safety Summary
Glycerol, propoxylated, esters with acrylic acid (> 1 < 6.5 mol PO)

Chemical Identity

Name: Glycerol, propoxylated, esters with acrylic acid
CAS number: 52408-84-1
Molecular formula: \((C_3H_6O)_m(C_3H_6O)_n(C_3H_6O)_oC_{12}H_{14}O_6\)

IUPAC name:
Poly[ oxy( methyl-1,2-ethanediyl) ], .alpha..alpha.,.alpha.',.alpha.',.alpha.'-1,2,3-propanetriyltris[omega.-[(1-oxo-2-propenyl)oxy]-]

BASF brand names:
Laromer®
GPTAPHOTOMER® 4094

Product Uses

GPTA is used as Reactive Diluent in radiation curable systems. Main applications are coatings for furniture & flooring and industrial applications as well as printing inks and overprint varnishes.

Benefits

GPTA contains three polymerizable acrylic groups per molecule, which enable it to form copolymers of, for example, acrylic or methacrylic acids and their salts, amides, esters, vinyl acetate and styrene. Readily entering into addition reactions, it is also an important feedstock for chemical syntheses. The polymerizable groups allow the product to be used as a crosslinking component, e. g., in radiation-curable coatings, where it also acts as a reactive thinner. During curing GPTA becomes part of the polymer structure.
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.</td>
</tr>
<tr>
<td></td>
<td>Virtually nontoxic after a single skin contact.</td>
</tr>
<tr>
<td>Irritation</td>
<td>Not irritating to the skin.</td>
</tr>
<tr>
<td></td>
<td>Eye contact causes irritation.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Sensitization after skin contact possible.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>In the majority of test performed (bacteria/ cell cultures) no mutagenic effect was found. Studies in mammals with substances of similar structure do not indicate a mutagenic potential of this substance group.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Repeated dermal exposure did not show a carcinogenic potential.</td>
</tr>
<tr>
<td>Toxicity after repeated exposure</td>
<td>A substance of similar structure did not lead to substance-specific organ toxicity after repeated exposure in animal studies.</td>
</tr>
<tr>
<td>Toxicity for reproduction</td>
<td>The substance did not cause malformations in animal studies. A substance of similar structure did not indicate a fertility impairing effect.</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.**

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Toxicity</td>
<td>Acutely toxic for aquatic organisms.</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**

Glycerine propoxylate triacrylate, is a UVCB (substance of unknown or variable composition) appearing as a clear liquid. It is non-flammable and non-explosive.

*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>347 °C at 1009 mbar</td>
</tr>
<tr>
<td>Flash point</td>
<td>257.5 °C at 1013 mbar</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>Not applicable</td>
</tr>
</tbody>
</table>

**Exposure Potential**

- **Workplace exposure:** Glycerine propoxylate triacrylate is classified as eye irritating and as skin sensitizing. Working with this substance requires a stringent use of appropriate chemical resistant gloves, protective clothing and suitable eye protection if any skin/eye contact is foreseen. Workers should receive a task specific training on how to use the protective equipment and the correct use of it needs to be supervised. Besides that, workers should be warned to avoid skin and eye contact, to wash off any skin contamination immediately and to report skin/eye problems that may develop. Taking these measures into account, the intensity of exposure is considered to be very low.
Additionally, workers should follow the recommended safety measures in the extended Safety Data Sheet (eSDS).

- **Consumer exposure**: There is no intended use of glycerine propoxylate triacrylate in consumer products. Therefore, an exposure for the consumer is negligible.

- **Environmental exposure** Glycerine propoxylate triacrylate is readily biodegradable and will therefore be degraded within the wastewater treatment process. Though the substance is considered to be acutely toxic 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, glycerine propoxylate triacrylate 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:**
H317: May cause an allergic skin reaction.
H319: Causes serious eye irritation.
H401: Toxic to aquatic life

**Additional information**

1. IFA GESTIS-database on hazardous substances  

2. Cognis Product Page  

3. Information on registered substance (ECHA)  

**Most commonly used synonyms**

» Glycerine propoxylate triacrylate
» 3,8-PO

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