GPS Safety Summary

[2-(methacryloyloxy)ethyl]trimethylammonium chloride

Chemical Identity

Name: [2-(methacryloyloxy)ethyl]trimethylammonium chloride

CAS number: 5039-78-1

Molecular formula: C₉H₁₈NO₂.Cl

IUPAC name: 2-(methacryloyloxy)-N,N,N-trimethylethanaminium chloride

BASF brand names: MADAMQUAT MC

Product Uses

[2-(methacryloyloxy)ethyl]trimethylammonium chloride (MADAMQUAT MC) is mainly used as an intermediate in industrial settings and applied as a monomer for polymerization reactions.

Benefits

[2-(methacryloyloxy)ethyl]trimethylammonium chloride (MADAMQUAT MC) is an essential monomer for the production of polyelectrolites with special properties.

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.
Effect Assessment | Result
--- | ---
Acute Toxicity | Of low toxicity after single ingestion. Virtually nontoxic after a single skin contact.
Irritation | Not irritating to the skin. Irritating to eyes.
Sensitization | May cause sensitization by skin contact.
Mutagenicity | No mutagenic effect was found in various tests with bacteria and mammalian cell culture.
Carcinogenicity | Experimental data on carcinogenicity is not available.
Toxicity after repeated exposure | Repeated oral uptake of the substance did not cause substance-related effects.
Toxicity for reproduction | The results of animal studies gave no indication of a fertility impairing or a developmental toxic / teratogenic effect. The statements have been derived from products 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.*

| Effect Assessment | Result |
--- | ---
Aquatic Toxicity | With high probability acutely not harmful to aquatic organisms. |
Persistence and degradability | Readily biodegradable. |
Bioaccumulation potential | Accumulation in organisms is not to be expected. |

Physical/Chemical Properties

Phys/Chem Safety Assessment

- MADAMQUAT MC is a yellowish liquid with a slight odor. It is non flammable, non explosive and has no oxidising 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>-25 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</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:** MADAMQUAT MC is used as an intermediate in industrial settings under strictly controlled and rigorously contained conditions. It is only stable in a diluted form. Therefore, releases and subsequent worker exposure are unlikely. The substance has no vapor pressure. There are no identified uses which cause aerosols; therefore there is no inhalation exposure. Furthermore, since it may cause eye irritation and skin sensitization, skin and eye contact is prevented by engineering measures, work practices and personal protection equipment as per the internal hygiene standards. Nevertheless, workers should follow the recommended safety measures in the extended Safety Data Sheet (eSDS).

- **Consumer exposure:** There is no intended use of MADAMQUAT MC in consumer products. Therefore, a health hazard due to exposure for the consumer is not relevant.

- **Environmental exposure:** MADAMQUAT MC is with high probability not harmful to aquatic organisms and 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. 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:
H303: May be harmful if swallowed.
H317: May cause an allergic skin reaction.
H320: Causes eye irritation.

Additional information

1. IFA GESTIS-database on hazardous substances
   http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp

2. Information on registered substance (ECHA)

Most commonly used synonyms

» Ethanaminium, N,N,N-trimethyl-2-[[2-methyl-1-oxo-2-propen-1-yl]oxy]-, chloride (1:1)
» Dimethylaminoethylmethacrylate methylchloride.

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.

IMPORTANT: While the data and information contained herein are presented in good faith and believed to be accurate at the date of printing, it is provided for your guidance only and may be revised in the future. No warranties of any kind, either express or implied, of merchantability, fitness for a particular purpose or of any other nature are made regarding the data or information provided. Further, it is expressly understood that the data and information furnished by BASF hereunder are given gratis and BASF assumes no obligation or liability whatsoever resulting from use of or reliance on the data and information given.
Contact

For further information on this substance or GPS safety summaries in general, please contact:
info.gps@basf.com