Global Product Safety Summary
2-Hydroxyethyl acrylate

Chemical Identity

Name: 2-hydroxyethyl acrylate
CAS number: 818-61-1
Molecular formula: C₅H₈O₃

IUPAC name: 2-hydroxyethyl acrylate
BASF brand names: 2-hydroxyethyl acrylate
HEA

For synonyms see end of document

Product Uses

Acrylate esters, the family of chemicals to which 2-Hydroxyethyl acrylate belongs, are used primarily as reactive building blocks to produce coatings and inks, adhesives, sealants, textiles, and plastics. Acrylate esters are present only in trace amounts (as residual monomer) in the finished product. Specifically, Hydroxyethyl acrylate is used for paints and coatings.

Hydroxyethyl acrylate is not sold for direct consumer use, but is used as a raw material to make a variety of products listed above used by professional or construction personnel. Hydroxyethyl acrylate can be present in trace amounts as residual monomer in consumer products like paints.
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>In animal studies 2-Hydroxyethyl acrylate was moderately toxic when swallowed or at skin contact. It may result in gastrointestinal irritation or ulceration. Swallowing may result in burns of the mouth and throat. Prolonged or widespread skin contact may result in skin irritation/burns or absorption of harmful amounts. Vapor concentrations attainable at room temperature are not hazardous on single exposure.</td>
</tr>
<tr>
<td>Irritation</td>
<td>Corrosive! Damages skin and eyes. Excessive exposure to hydroxyethyl acrylate vapors may cause severe irritation to the upper respiratory tract (nose and throat).</td>
</tr>
<tr>
<td>Sensitization</td>
<td>May cause an allergic skin reaction.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Results of a number of mutagenicity studies with microorganisms, mammalian cell cultures and mammals are available. Taking into account all of the information, the substance is not considered to be mutagenic.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>2-Hydroxyethyl acrylate was tested in a long-term animal studies in which the substance was given by inhalation, a carcinogenic effect was not observed.</td>
</tr>
<tr>
<td>Toxicity after repeated exposure</td>
<td>After repeated exposure the predominant effect is local irritation.</td>
</tr>
<tr>
<td>Toxicity for reproduction</td>
<td>2-Hydroxyethyl acrylate did not cause birth defects in laboratory animals; similar materials did not cause reproductive effects in laboratory animals. In addition, no effects were seen on reproductive organs in long-term animal studies.</td>
</tr>
</tbody>
</table>
Environmental Information

Environmental Safety Assessment

For detailed information refer to the respective (M)SDS.

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Toxicity</td>
<td>Acutely toxic for aquatic organisms and harmful to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Readily biodegradable.</td>
</tr>
<tr>
<td>Bioaccumulation potential</td>
<td>Not bioaccumulative.</td>
</tr>
</tbody>
</table>

Physical/Chemical Properties

Phys/Chem Safety Assessment

- 2-hydroxyethyl acrylate is a colorless liquid which is miscible in water. It is non flammable and possesses no 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>&lt;-60 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>200.32 °C at 1013.25 hPa</td>
</tr>
<tr>
<td>Flash point</td>
<td>101 °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>370 °C</td>
</tr>
</tbody>
</table>
Exposure Potential

2-Hydroxyethyl acrylate is used in the production of industrial and consumer products.

Workplace exposure
Exposure can occur either in a 2-Hydroxyethyl acrylate manufacturing facility or in the various industrial or manufacturing facilities that 2-Hydroxyethyl acrylate. It is produced, distributed, stored and reacted in closed systems. Those working with 2-Hydroxyethyl acrylate in manufacturing operations could be exposed during maintenance, sampling, testing, manual transfer, or other procedures. Workplace exposure is controlled by the use of proper industrial handling procedures and safety equipment.

Consumer exposure to products containing 2-Hydroxyethyl acrylate
2-Hydroxyethyl acrylate is not sold for direct consumer use, but it is used as a raw material to make a variety of goods used by consumers and could be present in trace amounts as residual monomer.

Environment
Potential releases into the environment are limited. If accidentally released to surface water, it rapidly biodegrades and will not persist in the environment and will not accumulate in the food chain.

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.

In industrial manufacturing and processing applications, it is always important to obtain a current Safety Data Sheet from your supplier (leave), follow the guidance provided and comply with applicable regulations. Acrylates and products containing them should always be handled in well ventilated areas. Each manufacturing facility should have a thorough training program for employees, appropriate work processes, and safety equipment in place to limit unnecessary exposure. In the event of a spill, the focus is on containing the spill to prevent contamination of soil, ditches, sewers, or surface or ground water. Only trained and properly protected personnel should be involved in clean-up operations.

Professional Applications
Before using any chemical product, the user should be properly trained in safe handling procedures for that product. This means that they should always contact the supplier of the product being used to obtain the most current safe handling advice and follow all instructions and warnings.
Consumer Applications

2-Hydroxyethyl acrylate is not sold for direct consumer use, but it is used as a raw material to make a variety of goods used by consumers and could be present in trace amounts as residual monomer. It is important to read and follow all warnings and instructions on the product label or packaging.

Regulatory Information / Classification and Labelling

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. Nevertheless these regulations may vary by state or country.

*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

GHS05: corrosion  GHS07: exclamation mark

<table>
<thead>
<tr>
<th>Signal word: Danger</th>
</tr>
</thead>
</table>

Hazard Statements:

- H302: Harmful if swallowed
- H312: Harmful in contact with skin
- H314: Causes severe skin burns and eye damage
- H317: May cause an allergic skin reaction
- H401: Toxic to aquatic life
- H412: Harmful to aquatic life with long lasting effects

*based on available toxicological and ecotoxicological data, different the current EU CLP Annex VI classification*
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)  

3. BASF Product Finder  
   http://www.basf.com/group/corporate/de/Product-finder/index

4. OECD SIDS (April 2005)  

Most commonly used synonyms

» Ethylene glycol monoacrylate  
» Bisomer 2HEA  
» 2-(Acryloyloxy)ethanol

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