GPS Safety Summary

Acetic Acid

Chemical Identity

Name: Acetic acid
CAS number: 64-19-7
Molecular formula: C₂H₄O₂

IUPAC name: Acetic acid
BASF brand names: Acetic acid

For synonyms see end of document

Product Uses

In industrial settings acetic acid is mainly used as a process chemical and as chemical intermediate for manufacture, distribution and formulation processes. Acetic acid is furthermore used as a water treatment chemical, in laboratories and in oilfield drilling and production operations. Additionally, acetic acid is used in cleaning agents and in agrochemical uses by industrial workers/professionals as well as consumers.

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** | The toxicity of the product is based on its corrosivity.
**Irritation** | Highly corrosive! Damages skin and eyes.
**Sensitization** | Not considered to be sensitizing after skin contact.
**Mutagenicity** | Not considered to be mutagenic.
**Carcinogenicity** | Not considered to be carcinogenic.
**Toxicity after repeated exposure** | After repeated administration the prominent effect is the induction of corrosion.
**Toxicity for reproduction** | Not classified to be toxic for reproduction.

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><strong>Aquatic Toxicity</strong></td>
<td>With high probability acutely not harmful to aquatic life.</td>
</tr>
<tr>
<td><strong>Persistence and degradability</strong></td>
<td>Readily biodegradable</td>
</tr>
<tr>
<td><strong>Bioaccumulation potential</strong></td>
<td>Not bioaccumulative</td>
</tr>
</tbody>
</table>

Physical/Chemical Properties

Phys/Chem Safety Assessment

- Acetic acid is a colorless liquid of characteristic pungent odor. It is 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>16.64 °C</td>
</tr>
<tr>
<td>Property</td>
<td>Value</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---------------</td>
</tr>
<tr>
<td>Boiling point</td>
<td>117.9 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>39 °C</td>
</tr>
<tr>
<td>Flammability</td>
<td>Flammable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Non-explosive</td>
</tr>
<tr>
<td>Self-ignition temperature</td>
<td>463 °C</td>
</tr>
</tbody>
</table>

### Exposure Potential

- **Workplace exposure:** For industrial uses of acetic acid, the relevant routes of exposure are inhalation and dermal contact. For concentrations above 10% the material is labeled as irritant to skin and eyes and risk management measures and occupational controls are employed to avoid dermal contact. Acetic acid can be detected by the human chemosensory system at rather low concentrations that allows for early detection of any potential release. Acetic acid odor usually will be detected well before it reaches the level of the current standard. Each manufacturing facility should have a thorough training program for employees and appropriate work processes, as well as safety equipment in place to limit unnecessary exposure. Safety showers and eye-wash stations should be accessible nearby. Workers should follow the recommended safety measures in the extended Safety Data Sheet (eSDS).

- **Consumer exposure:** Acetic acid is used in cleaning agents and agrochemicals. The concentration of acetic acid in consumer products is generally low; therefore acetic acid should not pose a hazard to the consumer. However, carefully read and follow the instructions given on product labels for proper use.

- **Environmental exposure:** Acetic acid 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 water 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:
Danger

Hazard statements:
H226: Flammable liquid and vapor
H314: Causes severe skin burns and eye damage

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

» Acetic acid (7CI, 8CI, 9CI)
» Aci-Jel
» Ethanoic acid
» Ethanoic acid monomer
» Ethylic acid
» Glacial acetic acid
» Methanecarboxylic acid
» Vinegar acid

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