GPS Safety Summary
Ferric sodium EDTA

Chemical Identity

Name: Ferric sodium EDTA
CAS number: 15708-41-5
Molecular formula: C₁₀H₁₂FeN₂O₈.Na

Structure

IUPAC name:
iron(3+) sodium
2,2',2'',2'''-(ethane-1,2-diyldinitrilo)tetraacetate

BASF brand names:
Librel Fe-LO

For synonyms see end of document

Product Uses

Ferric sodium EDTA is used as micronutrient fertilizer in field, glasshouse and hydroponic cultures.

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Benefits

Ferric sodium EDTA is used to correct iron deficiencies (e.g. iron chlorosis), therefore enhances plant development and maximizes yield by improving plant nutrition and soil fertility. As a chelate it provides a highly stable and bioavailable micronutrient source with rapid crop absorption and good biological performance. Due to its solubility and miscibility ferric sodium EDTA is compatible with solutions containing soluble phosphates such as liquid fertilizers and can be used to adjust the iron content e.g. in potting soil.

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><strong>Acute Toxicity</strong></td>
<td>Not considered to be toxic after single ingestion, single skin contact and short-term inhalation.</td>
</tr>
<tr>
<td><strong>Irritation</strong></td>
<td>Not considered to be irritating to skin and eyes.</td>
</tr>
<tr>
<td><strong>Sensitization</strong></td>
<td>Not considered to be sensitizing after skin contact.</td>
</tr>
<tr>
<td><strong>Mutagenicity</strong></td>
<td>Not considered to be mutagenic.</td>
</tr>
<tr>
<td><strong>Carcinogenicity</strong></td>
<td>Not classified as carcinogen.</td>
</tr>
<tr>
<td><strong>Toxicity after repeated exposure</strong></td>
<td>Not classified as toxic after repeated exposure.</td>
</tr>
<tr>
<td><strong>Toxicity for reproduction</strong></td>
<td>Not classified as toxic for reproduction.</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.
Effect Assessment

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Toxicity</td>
<td>With high probability acutely not harmful to aquatic organisms.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>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 an odorless, yellow-green, crystalline, organometallic solid which does not have flammable or explosive properties. Ferric sodium EDTA is very good soluble in water.

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>Solid</td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>Decomposes at 211 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Decomposes before boiling.</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>207 °C</td>
</tr>
</tbody>
</table>

Exposure Potential

- **Workplace exposure:** Based on the very low toxicity of ferric sodium EDTA exposure is considered to be without risk. Ferric sodium EDTA 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 (M)SDS ((Material) Safety Data Sheet).
- **Consumer exposure**: Based on the very low toxicity of ferric sodium EDTA exposure is considered to be without risk. Ferric sodium EDTA released during handling is of no concern for the health of consumers since consumers will not come into contact with harmful levels of ferric sodium EDTA.

- **Environmental exposure**: Ferric sodium EDTA is not readily biodegradable but it is degraded by microorganisms during exposure under slightly alkaline conditions or during prolonged exposure. Nevertheless, the substance is not considered to pose an unacceptable risk to the environment since it is with high probability not harmful to aquatic organisms and 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

Based on available data, labeling is currently not required.

Additional information


Most commonly used synonyms

» Ferrate(1-), [[N,N'-1,2-ethanediylbis[N-[(carboxy-.kappa.O)methyl]glycinato-.kappa.N,.kappa.O]][(4-)-], sodium, (OC-6-21)-
» sodium feredetate

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