GPS Safety Summary
Magnesium Nitrate

Chemical Identity

Name: Magnesium Nitrate
CAS number: 10377-60-3
Molecular formula: HNO₃.1/2Mg

IUPAC name: magnesium dinitrate
BASF brand names: Magnesium nitrate

For synonyms see end of document

Product Uses

Magnesium nitrate is prepared by dissolving magnesium oxide in nitric acid and water under ambient pressure and temperature. The resulting liquid is stored in closed vessels and is used as an intermediate in industrial settings under strictly controlled and rigorously contained conditions.

Benefits

At elevated temperatures above 400 °C Magnesium nitrate is decomposed and is transformed to Magnesium oxide. Therefore Magnesium nitrate is a precursor of Magnesium oxide which is an important component of many chemical catalysts.
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>Virtually nontoxic after a single ingestion. Virtually nontoxic after a single skin contact. The statement has been derived from substances/products of a similar structure or composition.</td>
</tr>
<tr>
<td><strong>Irritation</strong></td>
<td>Not irritating to the skin. Eye contact causes irritation.</td>
</tr>
<tr>
<td><strong>Sensitization</strong></td>
<td>There is no evidence of a skin-sensitizing potential.</td>
</tr>
<tr>
<td><strong>Mutagenicity</strong></td>
<td>The substance was not mutagenic in bacteria, in mammalian cell culture and in studies with mammals. The statement has been derived from substances/products of a similar structure or composition.</td>
</tr>
<tr>
<td><strong>Carcinogenicity</strong></td>
<td>Under certain conditions the substance can form nitrosamines. Nitrosamines are carcinogenic in animal studies.</td>
</tr>
<tr>
<td><strong>Toxicity after repeated exposure</strong></td>
<td>No adverse effects were observed after repeated oral exposure in animal studies. The statement has been derived from substances/products of a similar structure or composition.</td>
</tr>
<tr>
<td><strong>Toxicity for reproduction</strong></td>
<td>Animal studies gave no indication of a fertility impairing effect at doses which were not toxic to the parental animals. No indications of a developmental toxic / teratogenic effect were seen in animal studies. The statements have been derived from substances/products of a similar structure or composition.</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>With high probability acutely not harmful for aquatic life.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Not applicable for inorganic substances.</td>
</tr>
<tr>
<td>Bioaccumulation potential</td>
<td>Not applicable for inorganic salts.</td>
</tr>
</tbody>
</table>

Physical/Chemical Properties

Phys/Chem Safety Assessment

➤ Magnesium nitrate is a solid in form of white cubic crystals and it does not have flammable or explosive properties. However, it is an oxidizer and may intensify fire.

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 330 °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>&gt; 400 °C</td>
</tr>
</tbody>
</table>
Exposure Potential

- **Workplace exposure:** Magnesium nitrate is used as an intermediate in industrial settings under strictly controlled and rigorously contained conditions. Therefore, releases and subsequent worker exposure are unlikely. Nevertheless, workers should follow the recommended safety measures in the extended Safety Data Sheet (eSDS).

- **Consumer exposure:** There is no intended use of magnesium nitrate in consumer products. Therefore, a health hazard due to exposure for the consumer is negligible.

- **Environmental exposure:** As described earlier, magnesium nitrate is used as an intermediate in chemical syntheses. It is exclusively used in industrial settings and hence releases to the environment are strictly controlled. Additionally, the substance is not harmful to aquatic life and hence a risk for the environment is considered to be negligible. No significant releases into the environment are expected. 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.

Date of Issue: June 2013
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:
- H272: May intensify fire; oxidizer.
- H320: Causes eye irritation.

Additional information


Most commonly used synonyms

» Nitric acid, magnesium salt (8CI, 9CI)
» Magnesium dinitrate
» Magnesium nitrate
» Magniosan

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

Date of Issue: June 2013