GPS Safety Summary

Imidazole

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.

Chemical Identity

Name: Imidazole

CAS number: 288-32-4

Molecular formula: C₃H₄N₂

IUPAC name: 1H-imidazole

BASF brand names: Imidazole

For synonyms see end of document

Uses and Applications

Imidazole is a versatile intermediate for chemical synthesis, e.g. for the production of pharmaceuticals. Furthermore, it is used as a catalyst or as a reactive component in the synthesis of polymers, e.g. Polyurethanes or Epoxy resins.
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 does not replace the data given in the (M)SDS. For more information and recommended protective measures please refer to the (M)SDS.

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Toxicity</td>
<td>Of moderate toxicity after single ingestion.</td>
</tr>
<tr>
<td>Irritation</td>
<td>Corrosive! Damages skin and eyes.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Due to the corrosive potential of the substance, a skin sensitization test has not been conducted.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>Not mutagenic in bacterial test systems, cell cultures and animal experiments.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not considered to have carcinogenic properties</td>
</tr>
<tr>
<td>Toxicity after repeated exposure</td>
<td>Not classified for toxicity after repeated exposure. Repeated ingestion of high doses caused liver and kidney damage in animal studies.</td>
</tr>
<tr>
<td>Toxicity for reproduction</td>
<td>Animal studies did not indicate a fertility impairing effect. Malformations and developmental toxicity were observed at high dose levels showing also maternal toxicity.</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 does not replace the data given in the (M)SDS. For more information and recommended protective measures please refer to the (M)SDS.

<table>
<thead>
<tr>
<th>Effect Assessment</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Toxicity</td>
<td>Not harmful to aquatic life.</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

- Imidazole is a crystalline powder with an amine-like odor. It is soluble in water. The substance is non flammable and non explosive.

*Note: The results in the table below refer to testing performed with the concentrated substance. The data does not replace the data given in the (M)SDS. For more information and recommended protective measures please refer to the (M)SDS.*

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>crystalline solid</td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td>89.8°C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>268.1°C at 1013 hPa</td>
</tr>
<tr>
<td>Flash point</td>
<td>not applicable</td>
</tr>
<tr>
<td>Flammability</td>
<td>not easily ignitable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>non explosive</td>
</tr>
<tr>
<td>Self-ignition temperature</td>
<td>480°C</td>
</tr>
</tbody>
</table>

Exposure Potential

- **Workplace exposure:** The Substance is used in industrial and professional applications only. The possible routes of potential exposure of the worker are inhalation and contact with the skin. Workers should follow the recommended safety measures in the (Material) Safety Data Sheet ((M)SDS). Generally a thorough training program for employees and appropriate work processes and safety equipment to limit unnecessary exposure shall be in place. Exposure of the worker has been assessed. The occupational use of this substance is considered to be safe for the worker following the recommended safety measures given in the (M)SDS.

- **Consumer exposure:** The substance is used in industrial and professional applications only. No indirect exposure via the environment is expected. Therefore, no relevant consumer exposure is expected.
Environmental exposure: As described earlier, the substance is used in different products by industry and professionals in several applications. Exposure of the environment has been assessed. The substance is considered to be not dangerous for the environment based on the environmental hazard data presently available. Waste management should be in place. Releases to environment are controlled and minimized by technical means if necessary. Releases into the environment at intended uses therefore are practically of no direct concern for environment nor does it remain in the environment for longer time periods. 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 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.
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

Signal word
Danger

Hazard statements:

- **H302** Harmful if swallowed
- **H314** Causes severe skin burns and eye damage
- **H360** May damage the unborn child

Additional information

1. IFA GESTIS-database on hazardous substances

2. Information on registered substance (ECHA)

Most commonly used synonyms

» 1,3-Diaza-2,4-cyclopentadiene
» 1,3-Diazole
» Glyoxaline
» Imutex
» Miazole
» Methanimidamide, N,N'-1,2-ethenediyl-

Disclaimer

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Contact

For further information on this substance or GPS safety summaries in general, please contact:
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