GPS Safety Summary
N-Ethylpyrrolidone

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: N-Ethylpyrrolidone
CAS number: 2687-91-4
Molecular formula: C₆H₁₁NO

Structure

![Structure of N-Ethylpyrrolidone]

IUPAC name: 1-ethylpyrrolidin-2-one
BASF brand names: N-Ethylpyrrolidone

For synonyms see end of document

Uses and Applications

N-Ethylpyrrolidone is used as a solvent in a variety of industrial applications such as colorants and coatings, life science and agricultural chemicals, metals, petrochemicals and energy, textile and leather auxiliaries.
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>Of low acute toxicity after short-term inhalation, single ingestion or single skin contact.</td>
</tr>
<tr>
<td>Irritation</td>
<td>Not irritating to the skin. The substance may cause severe damage to the eyes.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>A skin sensitizing effect was not observed in animal studies.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>No mutagenic effect was found in bacterial test systems, mammalian cell cultures and animal experiments.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>Not considered to be carcinogenic.</td>
</tr>
<tr>
<td>Toxicity after repeated exposure</td>
<td>Not classified for toxicity after repeated exposure. After repeated oral administration of high doses, adaptive liver changes and kidney damage in male rats were observed. The kidney findings were considered to be species specific and do not have a relevance for humans.</td>
</tr>
<tr>
<td>Toxicity for reproduction</td>
<td>The substance was found to cause malformations and developmental toxicity in laboratory animals in the presence of maternal toxicity. Available data are not sufficient for classification of a fertility impairing effect.</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 | Result
---|---
**Aquatic Toxicity** | With high probability acutely not harmful to aquatic organisms.
**Persistence and degradability** | Readily biodegradable (according to OECD criteria).
**Bioaccumulation potential** | Significant accumulation in organisms is not to be expected.

### Physical/Chemical Properties

**Phys/Chem Safety Assessment**

- The pure substance is a colorless liquid. 1-ethylpyrrolidin-2-one is miscible with water at all proportions. The substance is combustible 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>&lt; -120 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>212.5 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>90.8 °C</td>
</tr>
<tr>
<td>Flammability</td>
<td>Combustible liquid</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>non explosive</td>
</tr>
<tr>
<td>Self-ignition temperature</td>
<td>245 °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:

H303: May be harmful if swallowed.
H318: Causes serious eye damage.
H360: May damage the unborn child.
H227: Combustible liquid

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

» N-Ethylpyrrolidinone
Disclaimer

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