GPS Safety Summary

1-Octanol

Chemical Identity

Name: 1-Octanol
CAS number: 111-87-5
Molecular formula: C₈H₁₈O

Structure

IUPAC name:
Octan-1-ol
BASF brand names:
Lorol C8
Agnique FOH 898

Product Uses

1-Octanol belongs to the group of primary aliphatic alcohols within a carbon chain length range of C₆-2₄. 1-Octanol is mainly used in industrial settings as a synthetic intermediate in the manufacture, formulation and packaging of long chain alcohols and mixtures. Additionally, it is used as a process chemical in paper and textile industries. Further end uses include metalworking fluids/rolling oils, cleaning agents, road and construction applications (binders and release agents), polymer processing (plastics and rubbers), agrochemicals (solvent and adjuvants) and mining chemicals.

Benefits

Long chain aliphatic alcohols (LCAAs) are amphiphilic molecules with a polar end group. 1-Octanol is derived from natural fats and oils. It is an useful medium polar solvent as well as raw material for natural based wetting agents.

Date of Issue: March 2012
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>Virtually nontoxic after a single ingestion.</td>
</tr>
<tr>
<td></td>
<td>Of low toxicity after single skin contact.</td>
</tr>
<tr>
<td></td>
<td>Inhalation is not a primary route of exposure.</td>
</tr>
<tr>
<td>Irritation</td>
<td>Not irritating to skin.</td>
</tr>
<tr>
<td></td>
<td>Risk of serious damage to eyes.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Skin sensitizing effects were not observed in animal studies. The statement has been derived from products of a similar structure or composition.</td>
</tr>
<tr>
<td>Mutagenicity</td>
<td>The substance was not mutagenic in bacteria, mammalian cell culture and in a test with mammals. The statements have been derived in parts from products of a similar structure or composition.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>The whole of the information available provides no indication of a carcinogenic effect. The statements have been derived in parts from products of a similar structure or composition.</td>
</tr>
<tr>
<td>Toxicity after repeated exposure</td>
<td>The information available on the product provides no indication of toxicity on target organs after repeated exposure. The statements have been derived in parts from products of a similar structure or composition.</td>
</tr>
<tr>
<td>Toxicity for reproduction</td>
<td>No effects have been reported in reproductive organs in long term animal studies. The statement has been derived from products of a similar structure or composition. No indications of a developmental toxic / teratogenic effect were seen in animal studies.</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>Acutely harmful to aquatic organisms.</td>
</tr>
<tr>
<td></td>
<td>Harmful to aquatic life with long lasting effects.</td>
</tr>
<tr>
<td>Persistence and degradability</td>
<td>Readily 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

- 1-Octanol is a colorless liquid substance which does not have flammable or explosive properties.

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>-13.5 °C</td>
</tr>
<tr>
<td>Boiling point</td>
<td>194 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>86.5 °C</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>294 °C</td>
</tr>
</tbody>
</table>

Date of Issue: March 2012
Exposure Potential

- **Workplace exposure**: Dermal exposure is the most likely route of exposure to 1-Octanol in industrial settings. Exposure might occur during transfer and charging of storage, feed, or reaction vessels, especially where closed liquid handling (pumps etc.) is not in place, or through accidental spillage, or during clean-out. For non-routine operations involving a break in a closed system, a higher level of protection is usually applied with extra measures being taken to prevent contact with liquids. The leading health effect is local (eye irritation) and risks from handling and using high-concentration or pure products are managed by good practice and use of eye protection where necessary. 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**: 1-Octanol is used in cleaning agents and coatings. However, the concentration of 1-Octanol in consumer products is generally low (<5%); therefore 1-Octanol does not pose an irritant potential to consumers. However, carefully read and follow the instructions given on product labels for proper use.

- **Environmental exposure**: 1-Octanol is readily biodegradable and will therefore be degraded within the wastewater treatment process and the environment. Though the substance is considered to be acutely and chronically harmful to aquatic organisms, 1-Octanol 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

![Warning Symbol]

**Signal word:**

**Warning**

**Hazard statements:**

H319: Causes serious eye irritation.
H402: Harmful to aquatic life.
H412: Harmful to aquatic life with long lasting effects.
Additional information


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](mailto:info.gps@basf.com)