GPS Safety Summary
Valeraldehyde

Chemical Identity

Name: Valeraldehyde

CAS number: 110-62-3

Molecular formula: C₅H₁₀O

Structure

\[
\text{Bu} \quad \text{O}
\]

IUPAC name: valeraldehyde
BASF names: n-Valeraldehyde

For synonyms see end of document

Product Uses

The above mentioned substance is mainly used as fragrance material in a variety of consumer products like cleaning agents, fine fragrances, cosmetics and air fresheners.

Benefits

International Fragrance Association: “Scent is one of the most powerful of senses. Smelling a certain fragrance can signal a season or a treasured memory or simply make a mundane task like cleaning a little more enjoyable... Every day and night of our lives we smell odours, many of them go unnoticed, but they are there. Only when an odour pleases, triggers a warning, irritates or jogs a memory do we pause to take notice...
Fragrance is used in all sorts of everyday products ranging from cosmetics and personal care products to cleaning products, air fresheners and of course fine fragrances. Even though the use of fragrance creates a huge impact for a product and is often considered the element that
completes the sale, only a small proportion of the product is actually made up of fragrance. On average the fragrance only makes up about 2% of the product. However, that 2% is vitally important to the product's identity and functionality”

www.ifraorg.org

Health Information

Human Health Safety Assessment
Note: The information contained in the table below may be useful to someone handling the concentrated substance during transport, production and compounding. 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>Irritation</td>
<td>Skin and eye contact causes irritation. Causes irritation of the respiratory tract.</td>
</tr>
<tr>
<td>Sensitization</td>
<td>Animal studies do not fully exclude a skin sensitizing potential. 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 microorganisms. The substance was mutagenic in various cell culture test systems; however, these results could not be confirmed in tests with mammals. The statement has been derived from products of a similar structure or composition.</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>The results of various animal studies gave no indication of a carcinogenic effect. The statement has been derived from 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>Acutely 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

- Valeraldehyde is a colorless liquid of intense odor. The substance is highly flammable. Valeraldehyde has no pyrophoric properties and does not liberate flammable gases on contact with 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>Liquid</td>
</tr>
<tr>
<td>Melting / freezing point</td>
<td></td>
</tr>
<tr>
<td>Boiling point</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>6.5°C at 1013 hPa</td>
</tr>
<tr>
<td>Flammability</td>
<td>Highly flammable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Non-explosive</td>
</tr>
<tr>
<td>Self-ignition temperature</td>
<td>205°C at 1013 hPa</td>
</tr>
</tbody>
</table>

Exposure Potential

- Workplace exposure: Valeraldehyde is used as an intermediate in industrial settings under strictly controlled and rigorously contained conditions. Therefore, releases and exposure to the workers are unlikely. Nevertheless, workers should follow the recommended safety measures in the extended Safety Data Sheet (eSDS).
Consumer exposure: Valeraldehyde is mainly used as intermediate in the chemical industry. Consumers will likely not come into contact with pure valeraldehyde, since the substance is only used at low concentrations in finished products. Thus, consumer health will not be affected by products containing valeraldehyde. However, carefully read and follow the instructions given on product labels for proper use.

Environmental exposure: Valeraldehyde is readily biodegradable and will therefore be degraded within the wastewater treatment process. Though the substance is classified as acutely harmful to aquatic organisms, a risk for the environment is not identified since exposure of surface waters is expected to be negligible due to the rapid degradation. Further, valeraldehyde 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

Signal word:
Danger

**Hazard statements:**
- H225: Highly flammable liquid and vapor.
- H313: May be harmful in contact with skin
- H316: Causes mild skin irritation
- H317: May cause an allergic skin reaction.
- H319: Causes serious eye irritation.
- H332: Harmful if inhaled.
- H335: May cause respiratory irritation.
- H402: Harmful to aquatic life

**Additional information**

1. IFA GESTIS-database on hazardous substances  

2. OECD SIDS  

3. Information on registered substance (ECHA)  

4. BASF ProductFinder  
   [http://www.basf.com/group/corporate/de/Product-finder/index](http://www.basf.com/group/corporate/de/Product-finder/index)
Most commonly used synonyms

» Amyl aldehyde
» Butyl formal
» n-Pentanal
» Pentanal
» Valeral
» Valerianic aldehyde
» Valeric aldehyde

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