

Benzaldehyde

This document provides a brief description of benzaldehyde, its uses, and the potential hazards associated with short and long term exposure. Environmental impact information for accidental releases is included. This information is general in nature and is not intended as a replacement for the safety data sheet (SDS), product label and other safe handling literature. For additional information consult the LANXESS safety data sheet.

Identification

Product Name:	Benzaldehyde
Chemical Name:	Benzaldehyde
Synonym(s):	Almond artificial essential oil Benzene-carbonyl Benzoic aldehyde Phenylmethanal
CAS Number:	100-52-7

Description

Overview:	Benzaldehyde is a colorless to yellow liquid at ambient temperatures. The chemical has an almond-like odor.								
Uses:	Benzaldehyde is sold by LANXESS primarily for use as a precursor to other organic compounds (e.g. pharmaceuticals and plastic additives). The chemical compound is also used as an intermediate in the production of aromatic alcohols, photographic chemicals, dyes, pigments, benzoic and cinnamic acids and other products, and as a food and fragrance additive.								
Properties:	<table><tr><td>Boiling Point:</td><td>179°C (354.2°F)</td></tr><tr><td>Melting Point:</td><td>-26°C (-14,8°F)</td></tr><tr><td>Flash Point:</td><td>62°C (143.6°F) closed cup</td></tr><tr><td>Solubility in Water:</td><td>Soluble</td></tr></table>	Boiling Point:	179°C (354.2°F)	Melting Point:	-26°C (-14,8°F)	Flash Point:	62°C (143.6°F) closed cup	Solubility in Water:	Soluble
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Potential Human Health Effects

Occupational Exposure

Potential for occupational exposure exists during manufacture and at bulk unloading, storage and staging areas in facilities where the chemical is used as an additive or ingredient in the manufacture of other products. A much lower potential for exposure exists in facilities using benzaldehyde in closed manufacturing processes by trained personnel.

Employee Training

Workers handling benzaldehyde should be trained to implement proper handling procedures and to understand the potential health and physical hazards of this product. A NIOSH approved air-purifying organic vapor and acid gas respirator is recommended for workers handling benzaldehyde with adequate ventilation. A NIOSH approved positive pressure air-supplied respirator is required when airborne concentrations are not known or exceed the recommended exposure limit. In addition, LANXESS recommends that tightly fitting safety goggles, chemical resistant gloves, long-sleeved shirts, work pants and suitable protective footwear be worn when handling benzaldehyde. Persons with a history of skin sensitization susceptibility should not be employed in any process in which this product is used.

Consumer Exposure

LANXESS Corporation does not sell benzaldehyde to the general public. Consumers may be exposed to the chemical through natural occurrences in hyacinth, citronella, cinnamon oils and certain plants, through ingestion of natural and processed foods, and through dermal contact with fragrances and other consumer products that include the chemical as an additive. The chemical is also present in the atmosphere due to wood burning and other combustion processes.

Short-Term Health Effects

Skin contact with benzaldehyde may cause an allergic skin reaction with symptoms of redness, swelling and rash. Sensitization is possible. Eye contact may be severely irritating, with symptoms of redness, watering and pain. Inhalation of concentrated benzaldehyde vapors may be irritating to the respiratory tract with symptoms of coughing, nausea, vomiting, headache, drowsiness/fatigue, dizziness/vertigo and unconsciousness. Ingestion of benzaldehyde may cause abdominal pain, nausea, vomiting and diarrhea.

Ingestion in sufficient quantities may also cause nervous system effects with symptoms of dizziness, lack of coordination, headache, numbness and/or confusion. Pre-existing skin disorders and/or eye disorders may be aggravated by over-exposure to this product.

Long-Term Health Effects

Long-term or repeated exposure to benzaldehyde may cause damage to the skin, eye, lens or cornea. Once sensitized, an allergic reaction may occur at very low levels of exposure. Symptoms may include redness, swelling and rash.

Physical Hazards

Benzaldehyde is stable under normal conditions of use. Avoid contact with oxidizing agents, aluminum, bases, iron and phenol. Benzaldehyde is highly flammable in liquid and vapor form. Vapors may form explosive mixtures with air. Heating to decomposition may release carbon monoxide, carbon dioxide and other potentially toxic fumes or gases. Avoid heat, open flames and other potential sources of ignition.

Potential Environmental Impact

Benzaldehyde is readily biodegradable. An accidental release to the atmosphere will degrade rapidly in the presence of oxygen. An accidental release to water may pose a danger to fish (high toxicity), invertebrates (high toxicity) and aquatic plants (low toxicity) prior to degradation. The chemical is not expected to adsorb to suspended soils and sediments or accumulate in the tissues of aquatic organisms.

Conclusion

Under normal conditions of anticipated use as described in this Product Safety Assessment, and if the recommended safe use and handling procedures are followed, benzaldehyde is not expected to pose a significant risk to human health or the environment.

References

Integrated Risk Information System - Benzaldehyde, Environmental Protection Agency (EPA)

International Chemical Safety Card, BENZALDEHYDE, International Programme on Chemical Safety (IPCS)

Safety Data Sheet (SDS), BENZALDEHYDE, LANXESS Corporation

MedlinePlus Medical Encyclopedia, U.S. National Library of Medicine and the National Institutes of Health

SIDS Initial Assessment Report – Benzaldehyde, Organization for Economic Cooperation and Development (OECD)

ToxNet Hazardous Substance Data Bank, U.S. National Library of Medicine, National Institutes of Health and the U.S. Department of Health and Human Services

Contact Information

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Notices

Use and Application Information

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