

Benzaldehyde

SECTION 1. IDENTIFICATION

Product Identifier	Benzaldehyde
Other Means of Identification	Benzoic aldehyde, Phenyl formaldehyde
Product Code(s)	BE2230
Product Family	Organic liquid
Recommended Use	Laboratory and industrial use.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	1129

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Flammable liquid - Category 4; Acute toxicity (Oral) - Category 4; Acute toxicity (Dermal) - Category 4; Skin irritation - Category 2; Eye irritation - Category 2; Specific target organ toxicity (single exposure) - Category 3

Label Elements



Signal Word:
Warning

Hazard Statement(s):

Combustible liquid.
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.
May cause respiratory irritation.

Precautionary Statement(s):

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Wear protective gloves/protective clothing/eye protection/face protection.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Use only outdoors or in a well-ventilated area.
Wash hands and skin thoroughly after handling.

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Response:

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice or attention.

IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN: Wash with plenty of water.

If skin irritation occurs: Get medical advice or attention.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

Storage:

Store in a well-ventilated place. Keep cool.

Store contents under inert gas.

Disposal:

Dispose of contents and container in accordance with local, regional, national and international regulations.

Other Hazards

Hazardous to the aquatic environment.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers	Other Names
Benzaldehyde	100-52-7	90 - 100	Benzoic aldehyde, Phenyl formaldehyde	

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Remove source of exposure or move to fresh air. Get medical advice or attention if you feel unwell or are concerned.

Skin Contact

Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. Immediately call a Poison Centre or doctor.

Eye Contact

Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Contact physician immediately.

Ingestion

Rinse mouth with water. Do not induce vomiting. Immediately call a Poison Centre or doctor.

First-aid Comments

All first aid procedures should be periodically reviewed by a doctor familiar with the material and its condition of use in the workplace. Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

If on skin: repeated or prolonged exposure can irritate the skin. If in eyes: causes moderate to severe irritation. Symptoms include sore, red eyes, and tearing.

Immediate Medical Attention and Special Treatment

Special Instructions

General advice, consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

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Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Special "alcohol resistant fire-fighting foams".

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

Combustible liquid. Can ignite if heated. Releases vapour that can form explosive mixture with air at or above the flash point. Heating increases the release of toxic vapour. Closed containers may rupture violently when heated releasing contents.

In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Approach fire from upwind to avoid hazardous vapours or gases. Move containers from fire area if it can be done without risk. Otherwise, use water in flooding quantities as a spray or fog to keep fire-exposed containers cool and absorb heat. Use water spray to flush spills away from ignition sources. Knock down vapours or gases with water fog or fine water spray. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Dike and recover contaminated water for appropriate disposal.

Chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Use the personal protective equipment recommended in Section 8 of this safety data sheet. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Remove or isolate incompatible materials as well as other hazardous materials. Increase ventilation to area or move leaking container to a well-ventilated and secure area.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Contain spill with earth, sand, or absorbent material which does not react with spilled material. Place used absorbent into suitable, covered, labelled containers for disposal. Flush spill area.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Avoid breathing in this product. Only use where there is adequate ventilation. Eliminate heat and ignition sources such as sparks, open flames, hot surfaces and static discharge. Post "No Smoking" signs. Prevent accidental contact with incompatible chemicals. Keep away from clothing and other combustible materials. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity), clear of combustible and flammable materials (e.g. old rags, cardboard). Store product under an inert gas such as nitrogen. Store in a closed container.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
Benzaldehyde	Not established		Not established		2 ppm	4 ppm

Appropriate Engineering Controls

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Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Use a corrosion-resistant exhaust ventilation system separate from other ventilation systems. Exhaust directly to the outside, taking any necessary precautions for environmental protection.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: butyl rubber, Viton®, Viton®/butyl rubber, Barrier® (PE/PA/PE), Silver Shield®.

The following materials should NOT be used: natural rubber, neoprene rubber, nitrile rubber, polyvinyl chloride.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Colourless colourless - yellow liquid.
Odour	Almond
Odour Threshold	Not available
pH	5.9
Melting Point/Freezing Point	-26 °C (-15 °F) (melting); -26 °C (-15 °F) (freezing)
Initial Boiling Point/Range	178 - 179 °C (352 - 354 °F)
Flash Point	64 °C (147 °F) (closed cup)
Evaporation Rate	~ 85 (diethyl ether = 1)
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	8.5% (upper); 1.4% (lower)
Vapour Pressure	0.161 - 0.169 kPa (1.208 - 1.268 mm Hg) at 25 °C
Vapour Density (air = 1)	3.66
Relative Density (water = 1)	1.044 at 20 °C
Solubility	Slightly soluble in water; Not available (in other liquids)
Partition Coefficient, n-Octanol/Water (Log Kow)	1.5
Auto-ignition Temperature	192 °C (378 °F)
Decomposition Temperature	Not available
Viscosity	Not available (kinematic); Not available (dynamic)
Other Information	
Physical State	Liquid
Molecular Weight	106.13

SECTION 10. STABILITY AND REACTIVITY

Reactivity

None known.

Chemical Stability

Normally stable. Unstable under certain conditions - see Conditions to Avoid.

Possibility of Hazardous Reactions

Reacts in the presence of air, light.

Conditions to Avoid

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Open flames, sparks, static discharge, heat and other ignition sources. Light. Exposure to air.

Incompatible Materials

Strong reducing agents (e.g. hydrides), strong bases (e.g. sodium hydroxide), strong oxidizing agents (e.g. perchloric acid), oxygen.

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide.
Peroxybenzoic acid and benzoic acid.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure

Inhalation; skin contact; eye contact.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
Benzaldehyde	Not available	1300 mg/kg (rat)	1250 mg/kg (rabbit)

Skin Corrosion/Irritation

Causes severe irritation.

Serious Eye Damage/Irritation

Causes serious eye irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Causes severe nose and throat irritation, depression of the central nervous system. Symptoms may include headache, nausea, dizziness, drowsiness and confusion.

Ingestion

Harmful.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

No information was located.

Respiratory and/or Skin Sensitization

There is insufficient information available to conclude that benzaldehyde is an occupational skin sensitizer. No information was located for respiratory sensitization.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
Benzaldehyde	Not Listed	Not designated	Not Listed	Not Listed

Reproductive Toxicity

Development of Offspring

Not known to harm the unborn child.

Sexual Function and Fertility

Not known to cause effects on sexual function or fertility.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Not known to be a mutagen.

Interactive Effects

No information was located.

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SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Dispose of contents and container in accordance with local, regional, national and international regulations.

SECTION 14. TRANSPORT INFORMATION

Regulation	UN No.	Proper Shipping Name	Transport Hazard Class(es)	Packing Group
US DOT	UN1990	BENZALDEHYDE	9	III
Canadian TDG	UN1990	BENZALDEHYDE	9	III

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

NFPA Rating Health - 1 Flammability - 2 Instability - 0

SDS Prepared By Alphachem Limited

Phone No. (905)-821-2995

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References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).

Disclaimer This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or reliance on any information herein.

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