

SIGMA-ALDRICH

Material Safety Data Sheet

Version 3.2
Revision Date 01/11/2008
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1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Benzaldehyde

Product Number : 418099

Brand : Aldrich

Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA

Telephone : +1 800-325-5832

Fax : +1 800-325-5052

Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Artificial essential oil of almond

Formula : C7H6O

Molecular Weight : 106.12 g/mol

CAS No.	EC No.	Index No.	Concentration
Benzaldehyde			
100-52-7	202-860-4	605-012-00-5	-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Combustible Liquid

Target Organ Effect

Harmful by ingestion.

Harmful by skin absorption.

Skin and respiratory sensitizer

Irritant

Target Organs

Central nervous system, Liver, Kidney

HMIS Classification

Health Hazard: 3

Chronic Health Hazard: *

Flammability: 2

Physical hazards: 1

NFPA Rating

Health Hazard: 3

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Fire : 2

Reactivity Hazard: 1

Potential Health Effects

Inhalation

Skin

Eyes

Ingestion

May be harmful if inhaled. May cause respiratory tract irritation.

Harmful if absorbed through skin. May cause skin irritation.

May cause eye irritation.

Harmful if swallowed.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point

64 °C (147 °F) - closed cup

Ignition temperature

190 °C (374 °F)

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Under fire conditions, material may decompose to form flammable and/or explosive mixtures in air.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

Environmental precautions

Do not let product enter drains.

Methods for cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

7. HANDLING AND STORAGE

Handling

Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

Keep container tightly closed in a dry and well-ventilated place. Store under nitrogen.

Air, light, and moisture sensitive.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION Contains no substances with occupational exposure limit values. Personal protective equipment Respiratory protection Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Hand protection Handle with gloves. Eye protection Safety glasses Skin and body protection Choose body protection according to the amount and concentration of the dangerous substance at the work place. Hygiene measures Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.	9. PHYSICAL AND CHEMICAL PROPERTIES Appearance Form liquid Colour colourless Safety data pH 5.9 at 20 °C (68 °F) Melting point -26 °C (-15 °F) Boiling point 177 - 179 °C (351 - 354 °F) Flash point 64 °C (147 °F) - closed cup Ignition temperature 190 °C (374 °F) Lower explosion limit 1.4 % (V) Upper explosion limit 8.5 % (V) Vapour pressure 5 hPa (4 mmHg) at 45 °C (113 °F) Density 1.050 g/cm³ Water solubility slightly soluble Partition coefficient: log Pow: 1.5 n-octanol/water Relative vapour density 3.66 - (Air = 1.0)	10. STABILITY AND REACTIVITY Storage stability Stable under recommended storage conditions. Conditions to avoid Air Exposure to moisture. Light. Heat. Aldrich - 418099 Delivery 0829478217-000010 Purchase Order P0103942 Sigma-Aldrich Corporation www.sigma-aldrich.com Page 3 of 6
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Materials to avoid Strong oxidizing agents, Strong reducing agents, Strong bases, Alkali metals, Aluminium, Iron, phenols, Oxygen Hazardous decomposition products Hazardous decomposition products formed under fire conditions. - Carbon oxides	11. TOXICOLOGICAL INFORMATION Acute toxicity LD50 Oral - rat - 1,300 mg/kg Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Coma. LD50 Dermal - rabbit - 1,250 mg/kg Irritation and corrosion Skin - rabbit - Skin irritation - 24 h Eyes - rabbit - Mild eye irritation Sensitisation May cause allergic respiratory and skin reactions Chronic exposure This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Laboratory experiments have shown mutagenic effects. Signs and Symptoms of Exposure Central nervous system depression, Prolonged or repeated exposure to skin causes defatting and dermatitis. Potential Health Effects Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Skin Harmful if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation. Ingestion Harmful if swallowed. Target Organs Central nervous system, Liver, Kidney,	12. ECOLOGICAL INFORMATION Elimination information (persistence and degradability) Biodegradability Biotic/Aerobic Ecotoxicity effects Toxicity to fish LC50 - Lepomis macrochirus - 1.07 mg/l - 96 h Aldrich - 418099 Delivery 0829478217-000010 Purchase Order P0103942 Sigma-Aldrich Corporation www.sigma-aldrich.com Page 4 of 6
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mortality LOEC - Pinephales promelas (fathead minnow) - 0.45 mg/l - 7 d mortality NOEC - Pinephales promelas (fathead minnow) - 0.22 mg/l - 7 d LC50 - Leuciscus idus (Golden orfe) - 62 mg/l - 48 h EC50 - Daphnia magna (Water flea) - 50 mg/l - 24 h Toxicity to daphnia and other aquatic invertebrates. Further information on ecology no data available	
13. DISPOSAL CONSIDERATIONS Product This combustible material may be burned in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material. Contaminated packaging Dispose of as unused product.	
14. TRANSPORT INFORMATION DOT (US) UN-Number: 1990 Class: 9 Proper shipping name: Benzaldehyde Packing group: III IMDG UN-Number: 1990 Class: 9 Proper shipping name: BENZALDEHYDE Marine pollutant: No Packing group: III EMS-No: F-A, S-A IATA UN-Number: 1990 Class: 9 Proper shipping name: Benzaldehyde Packing group: III	
15. REGULATORY INFORMATION OSHA Hazards Combustible Liquid, Target Organ Effect, Harmful by ingestion., Harmful by skin absorption., Skin and respiratory sensitizer, Irritant TSCA Status On TSCA Inventory DSL Status All components of this product are on the Canadian DSL list. SARA 302 Components SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. SARA 313 Components SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. SARA 311/312 Hazards Fire Hazard, Acute Health Hazard, Chronic Health Hazard Massachusetts Right To Know Components	Benzaldehyde CAS-No. 100-52-7 Revision Date 1989-12-01

Pennsylvania Right To Know Components Benzaldehyde New Jersey Right To Know Components Benzaldehyde California Prop. 65 Components This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.	CAS-No. 100-52-7 Revision Date 1989-12-01 CAS-No. 100-52-7 Revision Date 1989-12-01
16. OTHER INFORMATION Further information Copyright 2008 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Co., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.	
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