

## Benzaldehyde- $\alpha$ -d<sub>1</sub>

### Section 1. Chemical product and company identifications

**Product code:** D-0167

**Chemical formula:** C<sub>7</sub>H<sub>5</sub>DO

**CAS:** 3592-47-0

**CAS (unlabelled):** 100-52-7

**Synonyms:** Benzoic Aldehyde, Oil of Almonds

**Supplier / Manufacturer:**

**C/D/N Isotopes Inc.**

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**In case of emergency:**

**TOXYSKAN HOTLINE: 1-855-780-0599**



### Section 2. Hazards identifications



**Physical state:** Liquid

**Warning:** Combustible liquid. Harmful if swallowed or in contact with skin. Causes skin irritation. Causes serious eye irritation.

**Routes of entry:** Inhalation, ingestion, skin and eyes

**GHS (Globally Harmonized System of Classification and Labelling of Chemicals):**

- GHS Classification:**
- Flammable liquids (Category 4)
  - Acute toxicity, Oral (Category 4)
  - Acute toxicity, Dermal (Category 4)
  - Skin irritation (Category 2)
  - Eye irritation (Category 2A)
  - Respiratory sensitisation (Category 1)
  - Skin sensitisation (Category 1)

- GHS Label elements:**
- Pictograms:  
  - Signal word: Danger

- Hazards statement:**
- H227 Combustible liquid.
  - H302 + H312 Harmful if swallowed or in contact with skin.
  - H315 Causes skin irritation.
  - H317 May cause an allergic skin reaction.
  - H319 Causes serious eye irritation.
  - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

- Precautionary statement:**
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
  - P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
  - P302 + P350 IF ON SKIN: Wash with plenty of soap and water.
  - P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
  - P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
  - P342 + P316 If experiencing respiratory symptoms: Get emergency medical help immediately.
  - P317 Get medical help.

### Section 3. Composition and information on ingredients

<u>Name</u>	<u>CAS</u>	<u>Concentration %</u>
Benzaldehyde- $\alpha$ -d <sub>1</sub>	3592-47-0	> 96

## **Section 4. First aid measures**

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

**Skin contact:** Wash off with soap and plenty of water. Consult a physician.

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

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

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

## **Section 5. Firefighting measures**

**Flammability of the product:** Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

**Lower explosion limit:** 1.4 Vol%

**Upper explosion limit:** 8.5 Vol%

**Auto-ignition temperature:** 190 °C (374 °F)

**Flash point:** 64 °C (147 °F)

**Products of combustion:** Hazardous decomposition products formed under fire conditions: Carbon oxides.

**Firefighting media and instructions:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for firefighters:** Wear self-contained breathing apparatus for firefighting if necessary.

## **Section 6. Accidental release measures**

**Personal precautions:** Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation.

**Environmental precautions:** Do not let product enter drains. Discharge into the environment must be avoided.

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

## **Section 7. Handling and storage**

**Handling:** Avoid contact with skin and eyes. Avoid inhalation of vapour or mist. Provide appropriate exhaust ventilation.

**Storage:** Store at room temperature. Adequate ventilation. Protect from air. Protect from heat and ignition sources.

## **Section 8. Exposure Controls, Personal Protections**

**Engineering controls:** Use mechanical exhaust or laboratory fumehood to avoid exposure.

**Eyes:** Safety glasses with side-shields conforming to NIOSH (US) or EN 166 (EU).

**Respiratory:** 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).

**Hands:** Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

**Skin/body:** Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

## **Section 9. Physical and chemical properties (unlabelled)**

**Molecular weight:** 106.12 g/mol

**Physical status:** Liquid

**Color:** Colorless to yellowish

**Odour:** No data available

**Density:** 1.045 g/cm<sup>3</sup>

**Melting point:** -26 °C (-15 °F)

**Boiling point:** 178 - 179 °C (352 - 354 °F)

**Vapour pressure:** 1.3 hPa (1 mm Hg) at 20 °C (68 °F)

**Vapour density:** 3.66 (Air = 1)

**Partition coefficient (octanol/water):** log Pow: 1.48

**Water solubility:** 6.57 g/L

## **Section 10. Stability and reactivity**

**Stability and reactivity:** Stable under recommended storage conditions.

**Incompatibility:** Strong oxidizing agents, strong reducing agents, strong bases, alkali metals, aluminium, iron, phenols, oxygen.

**Products of combustion:** Hazardous decomposition products formed under fire conditions: Carbon oxides.

**Reactivity conditions:** Air, exposure to moisture, light, heat, flames and sparks.

## **Section 11. Toxicological information (unlabelled)**

**Toxicological data:** Benzaldehyde

### **Information on ingredients:**

<u>Name</u>	<u>CAS</u>	<u>LD<sub>50</sub></u>	<u>LC<sub>50</sub></u>
Benzaldehyde	100-52-7	Oral - Rat - 1,300 mg/kg Dermal - Rabbit - > 1,250 mg/kg	No data available

### **Potential acute effects**

- **Eyes:** Causes serious eye irritation.
- **Skin:** Harmful if absorbed through skin. Causes skin irritation. May cause an allergic skin reaction.
- **Inhalation:** May be harmful if inhaled. May cause respiratory tract irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- **Ingestion:** Harmful if swallowed.

### **Potential chronic effects**

- **Carcinogenic effects:** 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.
- **Mutagenic effects:** Laboratory experiments have shown mutagenic effects.
- **Teratogenic effects:** No data available.
- **Medical conditions aggravated by overexposure:** Central nervous system depression. Prolonged or repeated exposure to skin causes defatting and dermatitis.

## **Section 12. Ecological information**

### **Ecological data:**

<u>Name</u>	<u>Results</u>	<u>Species</u>	<u>Period</u>
Benzaldehyde	1.07 mg/l LC50	Lepomis macrochirus	96 h
	19.7 mg/l EC50	Daphnia magna	48 h
	33.1 mg/l EC50	Pseudokirchneriella subcapitata	72 h

**Effects on environment:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Toxic to aquatic life.

**Mobility:** No data available.

**Environmental precautions:** No data available.

**Persistence and degradability:** Aerobic. Result: 95 % - Readily biodegradable. Method: OECD Test guideline 301B.

**Bioaccumulative potential:** No data available.

## **Section 13. Disposal considerations**

**Waste disposal:** Contact a licensed professional waste disposal service to dispose of this material.

## **Section 14. Transportation information**

### **Classification DOT/IMDG/IATA label:**

**Shipping name:** Benzaldehyde

**UN number:** UN1990

**Class:** 9

**Packaging group:** III

**Additional information:** None

## **Section 15. Regulatory information**

### **UNITED STATES: NFPA classification**



Health: 2  
Flammable: 2  
Reactivity: 0  
Special conditions: None

**Legend: 4: Severe, 3: High, 2: Moderate, 1: Slightly, 0: Not hazardous**

### **U.S. Federal regulations:**

**TSCA 8(b) inventory:** Benzaldehyde

**SARA 302/304/311/312 extremely hazardous substances:** Not Listed

**SARA 302/304 emergency planning and notification:** Not Listed

**SARA 302/304/311/312 hazardous chemicals:** Not Listed

**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:** Fire hazard, Immediate (acute) health hazard, Delayed (chronic) health hazard: Not Listed

**CWA (Clean Water Act) 307:** Not Listed

**CWA (Clean Water Act) 311:** Not Listed

**CAA (Clean Air Act) 112 accidental release prevention:** Not Listed

**CAA (Clean Air Act) 112 regulated flammable substances:** Not Listed

**CAA (Clean Air Act) 112 regulated toxic substances:** Not Listed

### **State regulations:**

**DEA List I Chemicals (Precursor Chemicals):** Not Listed

**DEA List II Chemicals (Essential Chemicals):** Not Listed

**Substances in Massachusetts:** Listed

**Dangerous substances in New Jersey:** Listed

**New York – Dangerous substances with acute effects:** Not Listed

**Dangerous substances in Pennsylvania – right to know:** Listed

### **WHMIS (Canada):**



B3 - Combustible liquid



D2A - Very toxic material causing other toxic effects  
D2B - Toxic material causing other toxic effects

## **Section 16. Additional information**

### **References:**

- ANSI Z400.1, MSDS Standard, 2001.
- Manufacturer's Material Safety Data Sheet.
- 29CFR Part1910.1200 OSHA MSDS Requirements.
- 49CFR Table List of Hazardous Materials, UN#, Proper Shipping Names, PG. -Canada
- Gazette Part II, Vol. 122, No. 2 Registration SOR/88-64 31 December, 1987 Hazardous Products Act "Ingredient Disclosure List".
- Federal act on the controlled products
- Canadian Transport of Dangerous Goods, Regulations and Schedules, Clear Language version 2002.
- Toxicological repertory, HSC.
- Material safety data sheet from the components.

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**Elaborated by:** Toxyscan Inc., 1-866-780-0599

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