

Acetaldehyde-d₄

Section 1. Chemical product and company identifications

Product code: D-0163
Chemical formula: C₂D₄O
CAS: 1632-89-9
CAS (unlabelled): 75-07-0
Synonyms: Ethanal

Supplier / Manufacturer:

C/D/N Isotopes Inc.
 88 Leacock Street
 Pointe-Claire (Québec) H9R 1H1
 Phone: 514-697-6254
 Toll-Free (Canada & USA): 1-800-565-4696
 Fax: 514-697-6148
 Website: www.cdnisotopes.com

In case of emergency:

TOXYSKAN HOTLINE: 1-855-780-0599

Section 2. Hazards identifications

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

GHS Classification:

- Flammable liquids (Category 1)
- Acute toxicity, Oral (Category 4)
- Eye irritation (Category 2A)
- Germ Cell Mutagenicity (Category 2)
- Carcinogenicity (Category 2)
- Specific target organ toxicity - single exposure (Category 3), Respiratory system

GHS Label elements:

- Pictograms:   

- Signal word: Danger

Hazards statement:

- H224 Extremely flammable liquid and vapour.
- H302 Harmful if swallowed.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H341 Suspected of causing genetic defects.
- H351 Suspected of causing cancer.

Precautionary statement:

- P201 Obtain special instruction before use
- P202 Do not handle until all safety precautions have been read and understood.
- P210 Keep away from heat/ hot surfaces/ spark/ open flames/ ignition sources. No smoking.
- P233 keep container tightly closed
- P240 Ground and bond container and receiving equipment
- P241 Use explosion – proof electrical / ventilating/ lighting/ equipment
- P242 Use non-sparking tools
- P243 Take action to prevent static discharge
- P264 Wash skin thoroughly after handling
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P301 + P312 IF SWALLOWED: call a POISON CENTER or doctor/physician IF you feel unwell.
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303+ P361+P353 IF SKIN: Take off immediately all contaminated clothing. Rinse skin with water.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308 + P313 IF exposed or concerned: Get medical advice/attention.
- P337 + P313 IF eye irritation persists: Get medical advice/attention.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
- P403 + P235 Store in a well-ventilated place. Keep cool.

- P405 Store locked up
- P501 Dispose of contents / container to an approved waste disposal plant

Section 3. Composition and information on ingredients

<u>Name</u>	<u>CAS</u>	<u>Concentration %</u>
Acetaldehyde-d ₄	1632-89-9	> 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.

Indication of immediate medical attention and special treatment needed, if necessary: No data available

Most important symptoms and effects, both acute and delayed: No data available.

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

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. Remove all sources of ignition.

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. Keep away from sources of ignition - No smoking.

Storage: STORE FROZEN. Adequate ventilation. Protect from heat and ignition sources. Protect from air and moisture.

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. (Recommended gloves material: butyl-rubber)

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: 44.05 g/mol

Physical status: Liquid

Color: Colorless

Odour: Pungent

Density: 0.785 g/cm³

Melting point: -125 °C (-193 °F)

Boiling point: 21 °C (70 °F)

Vapour pressure: 986 hPa (740 mmHg) at 20 °C (68 °F)

Vapour density: 1.52 (Air = 1)

Partition coefficient (octanol/water): log Pow: -0.34

Water solubility: Completely miscible

Lower explosion limit: 4 Vol%
Upper explosion limit: 60 Vol%
Auto-ignition temperature: 140 °C (284 °F)
Flash point: -39 °C (-38 °F)

Section 10. Stability and reactivity

Stability and reactivity: Stable under recommended storage conditions. Vapors may form explosive with air

Incompatibility: Strong oxidizing/reducing agents.

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

Reactivity conditions: Heat, flames and sparks.

Section 11. Toxicological information (unlabelled)

Toxicological data: Acetaldehyde

Information on ingredients:

<u>Name</u>	<u>CAS</u>	<u>LD₅₀</u>	<u>LC₅₀</u>
Acetaldehyde	75-07-0	Oral - Rat - 661 mg/kg Oral - Mouse - 900 mg/kg Dermal - Rabbit - 3,540 mg/kg	Inhalation - Rat - 4 h - 13,300 ppm

Potential acute effects

- **Eyes:** Causes serious irritation.
- **Skin:** No data available.
- **Inhalation:** No data available.
- **Ingestion:** Harmful if swallowed.

Potential chronic effects

- **Carcinogenic effects:** This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification. Limited evidence of carcinogenicity in animal studies. IARC: 2B - Group 2B: Possibly carcinogenic to humans (Acetaldehyde).
- **Mutagenic effects:** Laboratory experiments have shown mutagenic effects.
- **Teratogenic effects:** No data available.
- **Medical conditions aggravated by overexposure:** No data available.

Section 12. Ecological information

Ecological data:

<u>Name</u>	<u>Results</u>	<u>Species</u>	<u>Period</u>
Acetaldehyde	31 mg/l LC50	Pimephales promelas	96 h
	57.4 mg/l EC50	Daphnia magna	48 h
	>100 mg/l EC50	Pseudokirchneriella subcapitata	24 h

Effects on environment: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Mobility: No data available.

Environmental precautions: No data available.

Persistence and degradability: No data available.

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: Acetaldehyde

UN number: UN1089

Class: 3

Packaging group: I

Additional information: None

Section 15. Regulatory information

UNITED STATES: NFPA classification



Health: 2
Flammable: 4
Reactivity: 2
Special conditions: None

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

U.S. Federal regulations:

California proposition 65 requirements : Listed
SARA section 313 (specific toxic chemical listings) : Listed
CERCLA reportable quantity : Not listed
Sections 302-304 reportable quantity : Not listed
Community Right-to-Know (Sections 311 and 312) : Not Listed

Section 16. Additional information

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

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This safety data sheet has been prepared in accordance with the OSHA (USA), WHMIS (Canada) / GHS classification rules in effect at the time of writing.