



SIGMA-ALDRICH

Material Safety Data Sheet

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Version 1.0

Section 1 - Product and Company Information

Product Name	PROPIONALDEHYDE		
Product Number	P6889		
Brand	Sigma Chemical		
Company	Sigma-Aldrich		
Street Address	3050 Spruce Street		
City, State, Zip, Country	St. Louis, MO, 63103, US		
Technical Phone:	314 771 5765	Emergency Phone:	414 273 3850 Ext.5996
Fax	800 325 5052		

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313
PROPIONALDEHYDE	123-38-6	Yes
Formula	C3H6O	
Synonyms	Aldehyde propionique (French), Methylacetaldehyde, NCI-C61029, Propaldehyde, Propanal, Propionic aldehyde, Propyl aldehyde, Propylic aldehyde	

Section 3 - Hazards Identification

Emergency Overview

Flammable (USA) Highly Flammable (EU). Corrosive.
Causes burns. Harmful by inhalation, in contact with skin and if swallowed.
Stench May develop pressure.

HMIS Rating

Health: 3 Flammability: 3 Reactivity: 2

NFPA Ratings

Flammability: 3 Reactivity: 2

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure

If swallowed, wash out mouth with water provided person is conscious. Call a physician immediately.

Inhalation Exposure

If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure

In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Explosion Hazards

Vapor may travel considerable distance to source of ignition and flash back.
Container explosion may occur under fire conditions.
Forms explosive mixtures in air.

Flash Point: -104 °F -40 °C

Explosion Limits: Lower: 2.6 %

Autoignition Temp: 207 °C **Flammability:** N/A

Extinguishing Media

Suitable

Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting

Protective Equipment

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

Specific Hazard(s)

Emits toxic fumes under fire conditions.

Exposure Hazard(s)

Material

Corrosive.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill

Evacuate area. Shut off all sources of ignition.

Procedure(s) of Personal Precaution(s)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up

Cover with dry lime or soda ash, pick up, keep in a closed container, and hold for waste disposal. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling

User Exposure

Do not breathe vapor. Avoid contact with eyes, skin, and clothing. Open carefully.

Storage

Suitable

Keep tightly closed. Keep away from heat, sparks, and open flame. Store in a cool dry place.

Section 8 - Exposure Controls / PPE

Engineering Controls

Safety shower and eye bath. Use nonsparking tools.

Personal Protective Equipment

Other

Wear appropriate NIOSH/MSHA-approved respirator, chemical-resistant gloves, safety goggles, other protective clothing.

General Hygiene Measures

Wash thoroughly after handling. Remove and wash contaminated clothing promptly.

Section 9 - Physical/Chemical Properties**Appearance**

Color
Colorless

Form
Clear liquid

Molecular Weight: 58.08 AMU

<u>Property</u>	<u>Value</u>	<u>At Temperature or Pressure</u>
pH	N/A	
BP/BP Range	47 - 49 °C	
MP/MP Range	-81 °C	
Freezing Point	N/A	
Vapor Pressure	258 mmHg	20 °C
Vapor Density	2 g/l	
Saturated Vapor Conc.	N/A	
SG/Density	0.798 g/cm ³	
Bulk Density	N/A	
Odor Threshold	N/A	
Volatile%	N/A	
VOC Content	N/A	
Water Content	N/A	
Solvent Content	N/A	
Evaporation Rate	N/A	
Viscosity	N/A	
Partition Coefficient	N/A	
Decomposition Temp.	N/A	
Flash Point °F	-104 °F	
Flash Point °C	-40 °C	
Explosion Limits	Lower: 2.6 %	31 °C
Autoignition Temp	207 °C	
Refractive Index	1.362	
Solubility	N/A	

Section 10 - Stability and Reactivity**Stability**

Stable

Stable.

Materials to Avoid

Oxidizing agents, Strong bases, Strong reducing agents.

Hazardous Decomposition Products**Hazardous Decomposition Products**

Carbon monoxide, Carbon dioxide.

Hazardous Polymerization**Hazardous Polymerization**

Will not occur.

Section 11 - Toxicological Information

Route of Exposure

Skin Contact

Causes burns.

Eye Contact

Causes burns.

Multiple Routes

Harmful if swallowed, inhaled, or absorbed through skin.

Signs and Symptoms of Exposure

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Inhalation may result in spasm, inflammation and edema of the larynx and bronchi, chemical pneumonitis, and pulmonary edema. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and vomiting. Exposure can cause: Nausea, dizziness, and headache.

RTECS Number: UE0350000

Toxicity Data

Oral - Rat: 1,410 mg/kg (LD50)

Intraperitoneal - Rat: 200 MG/KG (LD50)

Remarks: Behavioral:General anesthetic.

Behavioral:Muscle weakness.

Subcutaneous - Rat: 820 MG/KG (LD50)

Remarks: Behavioral:General anesthetic.

Behavioral:Convulsions or effect on seizure threshold.

Inhalation - Mouse: 21,800 mg/m³ (LC50)

Intraperitoneal - Mouse: 200 MG/KG (LD50)

Remarks: Behavioral:General anesthetic.

Behavioral:Somnolence (general depressed activity).

Lungs, Thorax, or Respiration:Respiratory depression.

Subcutaneous - Mouse: 680 MG/KG (LD50)

Remarks: Behavioral:General anesthetic.

Behavioral:Convulsions or effect on seizure threshold.

Skin - Rabbit: 2,460 mg/kg (LD50)

Remarks: Behavioral:Somnolence (general depressed activity).

Behavioral:Convulsions or effect on seizure threshold.

Lungs, Thorax, or Respiration:Dyspnea.

Skin - Guinea pig: 10 ML/KG (LD50)

Remarks: Skin and Appendages:Skin: After systemic exposure: Dermatitis, other

Oral - Mammal: 1,400 mg/kg (LD50)

Inhalation - Mammal: 21,800 mg/m³ (LC50)

Irritation Data

Skin - Rabbit: 500 mg

Remarks: Open irritation test

Eyes - Rabbit: 41 mg

Remarks: severe irritation effect

Eyes - Rabbit: 20 mg 24H

Remarks: Moderate irritation effect

Chronic Exposure - Mutagen

<u>Species</u>	<u>Dose</u>
Rat	30 UMOL/L
Hamster	10 MMOL/L
Mammal	100 MMOL/L

Cell Type

liver
lung
lymphocyte

Mutation test

Unscheduled DNA synthesis
Mutation in mammalian somatic cells.
DNA damage

Section 12 - Ecological Information

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation

Contact a licensed professional waste disposal service to dispose of this material.
Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT

Proper Shipping Name: Propionaldehyde
UN#: 1275
Class: 3
Packing Group: Packing Group II
PIH: Not PIH

IATA

Proper Shipping Name: Propionaldehyde
IATA Number: 1275
Hazard Class: 3
Packing Group: II

Section 15 - Regulatory Information

EU Directives Classification

Symbol of Danger: F Xi

Indication of Danger

Highly Flammable. Irritant.

Risk Statements R: 11 36/37/38

Highly flammable. Irritating to eyes, respiratory system, and skin.

Safety Statements S: 9 16 29

Keep container in a well-ventilated place. Keep away from sources of ignition - no smoking. Do not empty into drains.

US Classification and Label Text**Indication of Danger**

Flammable (USA) Highly Flammable (EU). Corrosive.

Risk Statements

Causes burns. Harmful by inhalation, in contact with skin and if swallowed.

Safety Statements

Keep away from sources of ignition - no smoking. Keep container tightly closed in a cool well-ventilated place. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

US Statements

Stench May develop pressure.

Handling and Storage

Open carefully. Store under nitrogen. Refrigerate.

United States Regulatory Information

SARA 313 Listed: Yes

Deminimis: 1 %

Notes: This product is subject to SARA section 313 reporting requirements.

TSCA Inventory Item: Yes

Section 16 - Other Information

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Sigma-Aldrich Inc., 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. Copyright 1999 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.