



SAFETY DATA SHEET (SDS)

Prepared in accordance with the Globally Harmonized System (GHS) and Regulation (EC) No. 1907/2006 (REACH, as amended)

SECTION 1: IDENTIFICATION OF THE SUBSTANCE AND COMPANY

1.1 Product Identifier

Parameter	Details
Product Name	Natural Propionaldehyde
Chemical Name	Propionaldehyde
Synonyms	Propanal, Propionic Aldehyde, Methylacetaldehyde
INCI Name	Propanal
CAS Number	123-38-6
EC Number	204-623-0
Index Number	605-018-00-8
Molecular Formula	C_3H_6O
Molecular Weight	58.08 g/mol
Product Type	Natural Aroma Chemical

Natural Propionaldehyde (Propanal) is a naturally occurring aldehyde used in flavour and fragrance applications for its fresh, fruity, cranberry-like character.

1.2 Recommended Uses

- Fine fragrance
- Cosmetic ingredient
- Soap manufacture
- Candles
- Home fragrance
- Air care
- Professional perfumery

1.3 Uses Advised Against

- Internal consumption
- Pharmaceutical use
- Direct undiluted skin application
- Food use unless specifically approved

1.4 Supplier



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SECTION 2: HAZARD IDENTIFICATION

2.1 Classification According to Regulation (EC) No. 1272/2008

Hazard Class	Category
Flammable Liquid	Category 2
Acute Toxicity (Oral)	Category 4
Skin Irritation	Category 2
Eye Irritation	Category 2
STOT Single Exposure (Respiratory Irritation)	Category 3
Aquatic Hazard (Acute)	Category 3

Representative supplier SDSs classify natural propionaldehyde as a highly flammable liquid, harmful if swallowed, irritating to skin and eyes, capable of causing respiratory irritation, and harmful to aquatic life.

Signal Word

DANGER

Hazard Statements

- H225 Highly flammable liquid and vapour.
- H302 Harmful if swallowed.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H402 Harmful to aquatic life.

Precautionary Statements

- P210 Keep away from heat, sparks, hot surfaces and open flames.
- P233 Keep container tightly closed.
- P240 Ground and bond container and receiving equipment.



- P261 Avoid breathing vapours.
- P271 Use only outdoors or in a well-ventilated area.
- P273 Avoid release to the environment.
- P280 Wear protective gloves, protective clothing and eye protection.
- P370+P378 In case of fire: Use dry chemical, carbon dioxide or alcohol-resistant foam.

2.3 Other Hazards

- Vapours may form explosive mixtures with air.
- Vapours are heavier than air and may travel to ignition sources.
- Not identified as PBT or vPvB based on available data.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS	EC	Concentration
Natural Propionaldehyde	123-38-6	204-623-0	≥98%

SECTION 4: FIRST AID MEASURES

Inhalation

Move the exposed person to fresh air immediately.

Keep warm and at rest.

Seek medical attention if symptoms persist.

Skin Contact

Remove contaminated clothing.

Wash thoroughly with soap and water.

Seek medical advice if irritation develops.

Eye Contact

Immediately flush eyes with water for at least 15 minutes.

Remove contact lenses if present.



Seek medical attention.

Ingestion

Rinse mouth.

Do not induce vomiting unless directed by medical personnel.

Seek immediate medical advice.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable extinguishing media:

- Alcohol-resistant foam
- Dry chemical powder
- Carbon dioxide
- Water fog

Unsuitable media:

- Direct water jet

Hazardous combustion products:

- Carbon monoxide
- Carbon dioxide
- Irritating aldehyde vapours

Firefighters should wear self-contained breathing apparatus.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- Eliminate all ignition sources.
- Ensure adequate ventilation.
- Avoid inhalation of vapours.
- Wear suitable PPE.
- Prevent release into drains and waterways.
- Absorb with inert absorbent material.
- Dispose of according to local regulations.



SECTION 7: HANDLING AND STORAGE

Handle only in well-ventilated areas.

Avoid:

- Heat
- Sparks
- Static discharge
- Open flames
- Inhalation of vapours

Store:

- Between 2–8°C for optimum stability.
- In tightly closed containers.
- Under inert gas where possible.
- Away from oxidising agents, acids and alkalis.

Natural aldehydes are susceptible to oxidation and polymerisation if improperly stored.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls

Explosion-proof local exhaust ventilation.

Personal Protective Equipment

- Nitrile gloves
- Chemical splash goggles
- Protective clothing

Respiratory Protection

Organic vapour respirator where adequate ventilation cannot be maintained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES



Property	Typical Value
Appearance	Clear, colourless liquid
Odour	Fresh, fruity, cranberry-like, pungent aldehydic
Relative Density (20 °C)	0.803–0.807
Refractive Index (20 °C)	1.362–1.366
Boiling Point	Approximately 49 °C
Flash Point	Approximately -9 °C (closed cup)
Melting Point	Approximately -81 °C
Vapour Pressure (20 °C)	High
Water Solubility	Miscible
Solubility in Alcohol	Miscible

These values are consistent with published safety and chemical reference data for propanal.

SECTION 10: STABILITY AND REACTIVITY

Stable only under recommended storage conditions.

Avoid:

- Heat
- Air
- Strong oxidising agents
- Strong acids
- Strong alkalis

Hazardous decomposition products:

- Carbon monoxide
- Carbon dioxide

Polymerisation may occur under unsuitable storage conditions.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of exposure:



- Inhalation
- Skin contact
- Eye contact
- Ingestion

Potential effects:

- Harmful if swallowed.
- Causes skin irritation.
- Causes serious eye irritation.
- Respiratory tract irritation.
- High vapour concentrations may cause headache, dizziness and central nervous system depression.

SECTION 12: ECOLOGICAL INFORMATION

- Harmful to aquatic organisms.
- Prevent release into the environment.
- Avoid discharge into drains and waterways.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of contents and contaminated packaging through an authorised hazardous waste contractor.

Do not discharge into drains.

SECTION 14: TRANSPORT INFORMATION

Item	Details
UN Number	UN 1275
Proper Shipping Name	Propionaldehyde
Transport Hazard Class	3 (Flammable Liquid)
Subsidiary Risk	6.1 (where applicable by transport regulation)
Packing Group	II



Transport information for propionaldehyde identifies it as UN 1275, Class 3 flammable liquid.

SECTION 15: REGULATORY INFORMATION

Prepared in accordance with:

- Regulation (EC) No. 1907/2006 (REACH)
 - Regulation (EU) 2020/878
 - Regulation (EC) No. 1272/2008 (CLP)
 - Regulation (EC) No. 1223/2009 (Cosmetic Products)
 - Current IFRA Standards
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SECTION 16: OTHER INFORMATION

Storage Recommendation

Store:

- Between 2–8°C
- In tightly sealed original containers
- Under inert atmosphere where practical
- Away from sunlight, heat and ignition sources

Shelf Life

12 months under recommended storage conditions.

Disclaimer

The information contained in this Safety Data Sheet is based on representative supplier safety information and current regulatory knowledge. It is intended solely for guidance on the safe handling, storage, transport and use of the product and does not constitute a warranty of specific product characteristics.

AUTHORISED BY

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