

## SAFETY DATA SHEET

Creation Date 19-May-2009

Revision Date 14-Feb-2020

Revision Number 2

### 1. Identification

**Product Name** Propionaldehyde

**Cat No. :** A16146

**CAS-No** 123-38-6  
**Synonyms** Propanal

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.  
**Details of the supplier of the safety data sheet**

**Company**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|  |            |
|--|------------|
| Flammable liquids                                | Category 2 |
| Acute oral toxicity                              | Category 4 |
| Acute Inhalation Toxicity - Vapors               | Category 4 |
| Skin Corrosion/Irritation                        | Category 2 |
| Serious Eye Damage/Eye Irritation                | Category 1 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Target Organs - Respiratory system.              |            |

**Label Elements**

**Signal Word**

Danger

**Hazard Statements**

Highly flammable liquid and vapor  
Causes skin irritation

Causes serious eye damage  
 May cause respiratory irritation  
 Harmful if swallowed or if inhaled



### Precautionary Statements

#### Prevention

Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Avoid breathing dust/fume/gas/mist/vapors/spray  
 Use only outdoors or in a well-ventilated area  
 Wear protective gloves/protective clothing/eye protection/face protection  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Keep container tightly closed  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ventilating/lighting/equipment  
 Use only non-sparking tools  
 Take precautionary measures against static discharge  
 Keep cool

#### Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 Call a POISON CENTER or doctor/physician if you feel unwell

#### Skin

If skin irritation occurs: Get medical advice/attention  
 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower  
 Wash contaminated clothing before reuse

#### Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 Immediately call a POISON CENTER or doctor/physician

#### Ingestion

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell  
 Rinse mouth

#### Fire

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

#### Storage

Store in a well-ventilated place. Keep container tightly closed  
 Store locked up

#### Disposal

Dispose of contents/container to an approved waste disposal plant

#### Hazards not otherwise classified (HNOC)

None identified

#### Other hazards

Stench.

## 3. Composition/Information on Ingredients

| Component       | CAS-No   | Weight % |
|-----------------|----------|----------|
| Propionaldehyde | 123-38-6 | >95      |

#### 4. First-aid measures

|  |  |
|--|--|
| <b>General Advice</b>                      | If symptoms persist, call a physician.   |
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.  |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.  |
| <b>Inhalation</b>                          | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.   |
| <b>Ingestion</b>                           | Clean mouth with water and drink afterwards plenty of water.   |
| <b>Most important symptoms and effects</b> | None reasonably foreseeable. Causes severe eye damage. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting |
| <b>Notes to Physician</b>                  | Treat symptomatically  |

#### 5. Fire-fighting measures

|   |   |
|---|---|
| <b>Suitable Extinguishing Media</b>     | Water spray, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers. |
| <b>Unsuitable Extinguishing Media</b>   | No information available  |
| <b>Flash Point</b>                      | -40 °C / -40 °F   |
| <b>Method -</b>                         | No information available  |
| <b>Autoignition Temperature</b>         | 190 °C / 374 °F   |
| <b>Explosion Limits</b>                 |   |
| <b>Upper</b>                            | 17 vol %  |
| <b>Lower</b>                            | 2.9 vol %   |
| <b>Sensitivity to Mechanical Impact</b> | No information available  |
| <b>Sensitivity to Static Discharge</b>  | No information available  |

#### **Specific Hazards Arising from the Chemical**

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

#### **Hazardous Combustion Products**

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).

#### **Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### **NFPA**

**Health**  
3

**Flammability**  
3

**Instability**  
2

**Physical hazards**  
N/A

#### 6. Accidental release measures

|                                  |  |
|----------------------------------|--|
| <b>Personal Precautions</b>      | Ensure adequate ventilation. Use personal protective equipment as required. Remove all sources of ignition. Take precautionary measures against static discharges. |
| <b>Environmental Precautions</b> | Should not be released into the environment. Do not flush into surface water or sanitary sewer system.   |

**Methods for Containment and Clean Up** Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

## 7. Handling and storage

**Handling** Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Ensure adequate ventilation. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Take precautionary measures against static discharges.

**Storage** Flammables area. Keep away from heat, sparks and flame. Keep refrigerated. Keep container tightly closed in a dry and well-ventilated place. Keep under nitrogen. May form explosive peroxides on prolonged storage. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals.

## 8. Exposure controls / personal protection

### Exposure Guidelines

| Component       | ACGIH TLV   | OSHA PEL | NIOSH IDLH | Mexico OEL (TWA) |
|-----------------|-------------|----------|------------|------------------|
| Propionaldehyde | TWA: 20 ppm |          |            | TWA: 20 ppm      |

### Legend

ACGIH - American Conference of Governmental Industrial Hygienists

**Engineering Measures** Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment.

### Personal Protective Equipment

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** No protective equipment is needed under normal use conditions.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

|                                  |                             |
|----------------------------------|-----------------------------|
| Physical State                   | Liquid                      |
| Appearance                       | Colorless                   |
| Odor                             | Stench                      |
| Odor Threshold                   | No information available    |
| pH                               | Not applicable              |
| Melting Point/Range              | -81 °C / -113.8 °F          |
| Boiling Point/Range              | 48 °C / 118.4 °F @ 760 mmHg |
| Flash Point                      | -40 °C / -40 °F             |
| Evaporation Rate                 | No information available    |
| Flammability (solid,gas)         | Not applicable              |
| Flammability or explosive limits |                             |
| Upper                            | 17 vol %                    |
| Lower                            | 2.9 vol %                   |
| Vapor Pressure                   | 330 hPa @ 20 °C             |

|  |                          |
|--|--------------------------|
| Vapor Density                          | No information available |
| Specific Gravity                       | 0.798                    |
| Solubility                             | Soluble in water         |
| Partition coefficient; n-octanol/water | No data available        |
| Autoignition Temperature               | 190 °C / 374 °F          |
| Decomposition Temperature              | No information available |
| Viscosity                              | 0.6 mPa s at 20 °C       |
| Molecular Formula                      | C3 H6 O                  |
| Molecular Weight                       | 58.08                    |

## 10. Stability and reactivity

|   |  |
|---|--|
| <b>Reactive Hazard</b>                  | None known, based on information available   |
| <b>Stability</b>                        | Air sensitive. May form explosive peroxides on prolonged storage.  |
| <b>Conditions to Avoid</b>              | Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. Exposure to air. |
| <b>Incompatible Materials</b>           | Strong oxidizing agents, Strong bases, Reducing Agent, Strong acids, Amines  |
| <b>Hazardous Decomposition Products</b> | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> )  |
| <b>Hazardous Polymerization</b>         | Polymerization can occur.  |
| <b>Hazardous Reactions</b>              | None under normal processing.  |

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

| Component       | LD50 Oral               | LD50 Dermal         | LC50 Inhalation                 |
|-----------------|-------------------------|---------------------|---------------------------------|
| Propionaldehyde | 1690 mg/kg (female rat) | 2460 mg/kg (Rabbit) | LC50 = 26000 ppm ( Rat ) 30 min |

**Toxicologically Synergistic Products** No information available

#### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                        |  |
|------------------------|--|
| <b>Irritation</b>      | Irritating to respiratory system and skin Risk of serious damage to eyes                 |
| <b>Sensitization</b>   | No information available   |
| <b>Carcinogenicity</b> | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component       | CAS-No   | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-----------------|----------|------------|------------|------------|------------|------------|
| Propionaldehyde | 123-38-6 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** Not mutagenic in AMES Test

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** Respiratory system  
**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants. Do not empty into drains. Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

| Component       | Freshwater Algae   | Freshwater Fish                      | Microtox   | Water Flea            |
|-----------------|--|--------------------------------------|------------|-----------------------|
| Propionaldehyde | 260 mg/L EC50 = 72 h 58 mg/L EC50 = 72 h 40 mg/L EC50 = 96 h | 14 mg/L LC50 96 h 130 mg/L LC50 96 h | Not listed | 88.7 mg/L EC50 = 48 h |

**Persistence and Degradability** Persistence is unlikely based on information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Will likely be mobile in the environment due to its volatility.

| Component       | log Pow |
|-----------------|---------|
| Propionaldehyde | 0.59    |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

### DOT

UN-No UN1275  
 Proper Shipping Name PROPIONALDEHYDE  
 Hazard Class 3  
 Packing Group II

### TDG

UN-No UN1275  
 Proper Shipping Name PROPIONALDEHYDE  
 Hazard Class 3  
 Packing Group II

### IATA

UN-No UN1275  
 Proper Shipping Name PROPIONALDEHYDE  
 Hazard Class 3  
 Packing Group II

### IMDG/IMO

UN-No UN1275  
 Proper Shipping Name PROPIONALDEHYDE  
 Hazard Class 3  
 Packing Group II

## 15. Regulatory information

### United States of America Inventory

| Component | CAS-No | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|-----------|--------|------|---|-----------------------------|
|           |        |      |   |                             |

|                 |          |   |        |   |
|-----------------|----------|---|--------|---|
| Propionaldehyde | 123-38-6 | X | ACTIVE | - |
|-----------------|----------|---|--------|---|

**Legend:**

TSCA - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA 12(b) - Notices of Export Not applicable

**International Inventories**

China, X = listed, Australia, U.S.A. (TSCA), Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Australia (AICS), Korea (ECL), China (IECSC), Japan (ENCS), Philippines (PICCS).

| Component       | CAS-No   | DSL | NDSL | EINECS    | PICCS | ENCS | AICS | IECSC | KECL |
|-----------------|----------|-----|------|-----------|-------|------|------|-------|------|
| Propionaldehyde | 123-38-6 | X   | -    | 204-623-0 | X     | X    | X    | X     | X    |

**U.S. Federal Regulations****SARA 313**

| Component       | CAS-No   | Weight % | SARA 313 - Threshold Values % |
|-----------------|----------|----------|-------------------------------|
| Propionaldehyde | 123-38-6 | >95      | 1.0                           |

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

**Clean Air Act**

| Component       | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|-----------------|-----------|-------------------------|-------------------------|
| Propionaldehyde | X         |                         | -                       |

OSHA - Occupational Safety and Health Administration Not applicable

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component       | Hazardous Substances RQs | CERCLA EHS RQs |
|-----------------|--------------------------|----------------|
| Propionaldehyde | 1000 lb                  | -              |

California Proposition 65 This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Component       | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------------|---------------|------------|--------------|----------|--------------|
| Propionaldehyde | X             | X          | X            | X        | X            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

**Other International Regulations**

Mexico - Grade Serious risk, Grade 3

**16. Other information**

|                         |   |
|-------------------------|---|
| <b>Prepared By</b>      | Health, Safety and Environmental Department<br>Email: tech@alfa.com<br>www.alfa.com |
| <b>Creation Date</b>    | 19-May-2009   |
| <b>Revision Date</b>    | 14-Feb-2020   |
| <b>Print Date</b>       | 14-Feb-2020   |
| <b>Revision Summary</b> | SDS authoring systems update, replaces ChemGes SDS No. 123-38-6/2.                  |

**Disclaimer**

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**End of SDS**