

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006 Version 2 Revision Date 21.12.2018

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifiers

Product name : Propionaldehyde

Product Number : 5454

Brand : Better Equipped

Index-No. : 605-018-00-8

REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration or the annual tonnage does not require a registration.

CAS-No. : 123-38-6

### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

Uses advised against : Not for sale to the general public

### 1.3 Details of the supplier of the safety data sheet

Company : Better Equipped,  
Wrenbury Business Park,  
Wrenbury Road,  
Wrenbury,  
Nantwich, Cheshire,  
CW5 8EB, UK

Telephone +44 (0) 800 9707142

Fax +44 (0) 800 066 4443

E-mail address [sales@betterequipped.co.uk](mailto:sales@betterequipped.co.uk)

### 1.4 Emergency telephone number

Emergency Phone # +44 (0)1270 781238

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

### 2.2 Label elements

#### Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word Danger

Hazard statement(s)  
H225 Highly flammable liquid and vapour.

H302 + H332	Harmful if swallowed or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P261	Avoid breathing vapours.
P280	Wear protective gloves/ eye protection/ face protection.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Supplemental Hazard Statements	none

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.  
Stench.

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## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms	:	PropanalAldehyde C-3
Formula	:	C <sub>3</sub> H <sub>6</sub> O
Molecular weight	:	58.08 g/mol
CAS-No.	:	123-38-6
EC-No.	:	204-623-0
Index-No.	:	605-018-00-8

#### Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
<b>Propanal</b>		
CAS-No.	123-38-6	<= 100 %
EC-No.	204-623-0	
Index-No.	605-018-00-8	
		Flam. Liq. 2; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 1; STOT SE 3; H225, H302, H332, H315, H318, H335

For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

#### If inhaled

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

#### In case of skin contact

Remove contaminated clothing. Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

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

#### If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

##### Suitable extinguishing media

Alcohol-resistant foam, dry chemical or carbon dioxide.

##### Unsuitable extinguishing media

Do not use water jet.

#### 5.2 Special hazards arising from the substance or mixture

Vapour-air mixtures are explosive.

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Use water spray to cool unopened containers.

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### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

##### - 6.1.1 For non-emergency personnel

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

##### - 6.1.2 For emergency responders

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

For personal protection see section 8.

#### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

#### 6.3 Methods and materials for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

#### 6.4 Reference to other sections

For disposal see section 13.

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### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

##### 7.1.2 Advice on general occupational hygiene:

- No smoking.
- Do not eat or drink.

- Wash hands after use.
- Remove contaminated clothing.

For precautions see section 2.2.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Recommended storage temperature 2 - 8 °C

Handle and open container with care. Handle and store under inert gas. Air and moisture sensitive.

**7.3 Specific end use(s)**

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

**8.1.3 The relevant DNELs and PNECs for the substance/s for the exposure scenarios:**

DNEL's. The derived no- or minimum effect level (DN(M)EL) is the level of exposure above which a human should not be exposed to a substance. Please note that when more than one summary is provided, DN(M)EL values may refer to constituents of the substance and not to the substance as a whole.

**Data for WORKERS**

INHALATION Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	(DNEL) 6.1 mg/m <sup>3</sup>	repeated dose toxicity
Acute /short term:	-	-
Local Effects		
Long-term:	(DNEL) 12.1 mg/m <sup>3</sup>	repeated dose toxicity
Acute /short term:	-	-
DERMAL Exposure	Threshold	Most sensitive study
Systemic Effects		
Long-term:	-	-
Acute /short term:	-	-
Local Effects		
Long-term:	-	-
Acute /short term:	-	-
EYE Exposure		
-		

PNEC's. The Predicted No-Effect Concentration (PNEC) value is the concentration of a substance below which adverse effects in the environment are not expected to occur. Please note that when more than one summary is provided, PNEC values may refer to constituents of the substance and not to the substance as a whole.

Hazard for Aquatic Organisms	
Freshwater	14 µg/L (1)
Intermittent releases (freshwater)	140 µg/L (1)
Marine water	1.4 µg/L (1)
Intermittent releases (marine water)	-
Sewage treatment plant (STP)	12.4 mg/L (1)
Sediment (freshwater)	30.7 µg/kg sediment dw (1)
Sediment (marine water)	3.07 µg/kg sediment dw (1)
Hazard for Air	
Air	-
Hazard for Terrestrial Organism	
Soil	2.63 µg/kg soil dw (1)
Hazard for Predators	
Secondary poisoning	

## 8.2 Exposure controls

### Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Use Local exhaust ventilation (LEV).

### Personal protective equipment

#### Eye/face protection

Tightly fitting safety goggles. Faceshield (8-inch minimum). Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Splash contact

Material: butyl-rubber

Minimum layer thickness: 0.3 mm

Break through time: 343 min

Material tested: Butoject® (KCL 897 / Aldrich Z677647, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Body Protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type AXBEK (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) or CEN (EU).

### Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

a)	Appearance	Form: clear, liquid Colour: colourless
b)	Odour	Stench.
c)	Odour Threshold	No data available
d)	pH	No data available
e)	Melting point/freezing point	Melting point/range: -81 °C - lit.
f)	Initial boiling point and boiling range	46 - 50 °C - lit.
g)	Flash point	-40 °C - closed cup
h)	Evaporation rate	No data available
i)	Flammability (solid, gas)	No data available
j)	Upper/lower flammability or explosive limits	Upper explosion limit: 16.1 % Lower explosion limit: 2.6 %
k)	Vapour pressure	343 hPa at 20 °C
l)	Vapour density	2.01 - (Air = 1.0)
m)	Relative density	0.805 g/cm <sup>3</sup> at 25 °C
n)	Water solubility	completely soluble
o)	Partition coefficient: n- octanol/water	log Pow: 0.83
p)	Auto-ignition temperature	No data available
q)	Decomposition temperature	No data available
r)	Viscosity	No data available
s)	Explosive properties	No data available
t)	Oxidizing properties	No data available

### 9.2 Other safety information

Surface tension	23.4 mN/m at 20 °C
Relative vapour density	2.01 - (Air = 1.0)

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None based on the data available

**10.2 Chemical stability**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

None under normal processing

**10.4 Conditions to avoid**

Heat, flames and sparks. Extremes of temperature and direct sunlight.

**10.5 Incompatible materials**

Oxidizing agents, Strong bases, Strong reducing agents

**10.6 Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

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**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

LD50 Oral - Rat - 1,690 mg/kg  
(OECD Test Guideline 401)

LC50 Inhalation - Rat - 4 h - > 4.6 mg/l  
(OECD Test Guideline 403)

LD50 Dermal - Rabbit - 2,460 mg/kg

Remarks: Behavioral:Somnolence (general depressed activity). Behavioral:Convulsions or effect on seizure threshold. Lungs, Thorax, or Respiration:Dyspnea.

**Skin corrosion/irritation**

Irritating to skin.

**Serious eye damage/eye irritation**

Eyes - Rabbit

Result: Risk of serious damage to eyes.  
(OECD Test Guideline 405)

**Respiratory or skin sensitisation**

No data available

**Germ cell mutagenicity**

in vitro assay

Other cell types

Result: positive

DNA damage

Ames test

Result: Not mutagenic in Ames Test

Mutagenicity (micronucleus test)

Mouse

Result: In vivo tests did not show any chromosomal changes.

**Carcinogenicity**

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.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

May cause respiratory irritation.

**Specific target organ toxicity - repeated exposure**

No data available





No data available

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

N/A

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### SECTION 15: Regulatory information

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

#### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

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### SECTION 16: Other information

#### Full text of H-Statements referred to under sections 2 and 3.

H225	Highly flammable liquid and vapour.
H302	Harmful if swallowed.
H302 + H332	Harmful if swallowed or if inhaled.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

#### Revisions made since previous version of data sheet:

The following sections of this data sheet have been updated:

1.1, 1.2, 4.1, 5.1, 6.1, 7.1, 8.1, 8.2, 11, 12, 13, 14.7, 16

We strongly recommend reading the entire data sheet for this chemical in preparation ahead of use.

#### Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Better Equipped and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.