

SAFETY DATA SHEET

2-BUTANOL

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Compilation date: 11/05/2015

Revision No: 1

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: 2-BUTANOL

CAS number: 78-92-2

EINECS number: 201-158-5

Index number: 603-127-00-5

Product code: GPS9005

Synonyms: BUTYL ALCOHOL

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

Use of substance / mixture: Manufacture of substances. Laboratory chemicals.

1.3. Details of the supplier of the safety data sheet

Select School Supplies
The Old Granary
Berghill House
Oswestry
SY11 4PD
01691 770366
sales@selectschoolsupplies.co.uk



Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Flam. Liq. 3: H226; Eye Irrit. 2: H319; STOT SE 3: H335; STOT SE 3: H336

Most important adverse effects: Flammable liquid and vapour. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

2.2. Label elements

Label elements under CLP:

Hazard statements: H226: Flammable liquid and vapour.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

H336: May cause drowsiness or dizziness.

[cont...]

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Signal words: Warning

Hazard pictograms: GHS02: Flame

GHS07: Exclamation mark



Precautionary statements: P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P261: Avoid breathing vapours.

P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.1. Substances

Chemical identity: 2-BUTANOL

CAS number: 78-92-2

EINECS number: 201-158-5

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Wash immediately with plenty of soap and water. Consult a doctor.

Eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a doctor.

Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a doctor.

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

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

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be soreness and redness of the mouth and throat.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. May cause drowsiness and dizziness.

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

Immediate / special treatment: Consult a doctor. Show this safety data sheet to the doctor in attendance.

Section 5: Fire-fighting measures

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5.1. Extinguishing media

Extinguishing media: Water spray. Alcohol resistant foam. Dry chemical powder. Carbon dioxide.

5.2. Special hazards arising from the substance or mixture

Exposure hazards: Carbon oxides.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Use water spray to cool unopened containers.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: 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

Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: 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.

6.4. Reference to other sections

Reference to other sections: For waste disposal, see section 13.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: 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 build up of electrostatic charge. For precautions see section 2.2.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: 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.

7.3. Specific end use(s)

Specific end use(s): No other specific uses stipulated other than the uses mentioned in section 1.2.

Section 8: Exposure controls/personal protection

8.1. Control parameters

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Workplace exposure limits:

Respirable dust

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL
UK	100 ppm (308 mg/m ³)	150 ppm (462 mg/m ³)	-	-

8.1. DNEL/PNEC Values

DNEL / PNEC No data available.

8.2. Exposure controls

Engineering measures: Handle in accordance with good industrial hygiene and safety practise. Wash hands before breaks and at the end of the workday.

Respiratory protection: 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) or CEN (EU).

Hand 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 application laws and good laboratory practises. 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. For full contact use Nitrile rubber gloves with a minimum thickness layer of 0.4mm, and a break through time of 480 mins. For splash contact use Nature latex gloves / Chloroprene, with a minimum thickness of 0.6mm and a break through time of 30 mins.

Eye protection: Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Impervious clothing. 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.

Environmental: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Colourless

Solubility in water: Soluble

Boiling point/range °C: 98

Melting point/range °C: -115

Flammability limits %: lower: 1.7

upper: 9.8

Flash point °C: 27

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Part.coeff. n-octanol/water: log Pow: 0.146

Vapour pressure: 15.3 hPa at 20C

Relative density: 0.808

9.2. Other information

Other information: Vapour density - 2.56 (Air = 1.0) Surface tension - 23mN/m at 20C

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: No data available.

10.2. Chemical stability

Chemical stability: Stable under recommended storage conditions. Test for peroxide formation before distillation or evaporation. Test for peroxide formation or discard after 1 year.

10.3. Possibility of hazardous reactions

Hazardous reactions: No data available.

10.4. Conditions to avoid

Conditions to avoid: Heat, flames and sparks

10.5. Incompatible materials

Materials to avoid: Acids. Acid chlorides. Acid anhydrides. Oxidising agents. Halogens. Peroxides.

10.6. Hazardous decomposition products

Haz. decomp. products: No data available. In the event of fire: see section 5

Section 11: Toxicological information

11.1. Information on toxicological effects

Relevant hazards for substance:

Hazard	Route	Basis
Serious eye damage/irritation	OPT	Based on test data
STOT-single exposure	INH	Based on test data

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be soreness and redness of the mouth and throat.

Inhalation: There may be irritation of the throat with a feeling of tightness in the chest. May cause drowsiness and dizziness.

Other information: RTECS: EO1750000 Symptoms can include nausea, dizziness and headaches. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

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Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values:

Species	Test	Value	Units
FISH	96H LC50	3,670	mg/l
Daphnia magna	48H EC50	4,227	mg/l

12.2. Persistence and degradability

Persistence and degradability: No data available.

12.3. Bioaccumulative potential

Bioaccumulative potential: No data available.

12.4. Mobility in soil

Mobility: Soluble in water.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: No data available.

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Disposal of packaging: Dispose of as unused product.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

14.1. UN number

UN number: UN1120

14.2. UN proper shipping name

Shipping name: BUTANOLS

14.3. Transport hazard class(es)

Transport class: 3

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14.4. Packing group

Packing group: III

14.5. Environmental hazards

Environmentally hazardous: No

Marine pollutant: No

14.6. Special precautions for user

Tunnel code: D/E

Transport category: 3

Section 15: Regulatory information

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

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

15.2. Chemical Safety Assessment

Chemical safety assessment: For this product a chemical safety assessment was not carried out.

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

* indicates text in the SDS which has changed since the last revision.

Phrases used in s.2 and 3: H226: Flammable liquid and vapour.

H319: Causes serious eye irritation.

H335: May cause respiratory irritation.

H336: May cause drowsiness or dizziness.

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.