



SAFETY DATA SHEET

According to 1907/2006/EC, Article 31

2-Chlorobutane

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

1.1 Product Identifier

Product Name	2-Chlorobutane
Other Names	Sec-Butyl Chloride
CAS No.	78-86-4
Index No.	Not listed
EC No.	201-151-7
Product Code	S3201554

1.2 Relevant identified uses of the substances or mixture and uses advised against

Product Use	Laboratory chemicals, manufacture of substances, Scientific R&D
-------------	---

1.3 Details of the supplier of the safety data sheet

Company	Breckland Scientific Supplies Ltd
Address	Antom Court, Tollgate Drive, Stafford, ST16 3AF
Web	www.brecklandscientific.co.uk
Telephone	01785 227 227
Fax	01785 227 444
Email	msds@brecklandscientific.co.uk
Emergency Telephone	09:00-17:00: 01785 227227 24hrs: 112

Section 2: Hazard Identification

2.1 Classification of the substance mixture

Classification - (EC) No 1272/2008	H225 H290 H412
---------------------------------------	----------------

2.2 Label Elements

Hazard Pictograms	
Signal Word	Danger
Hazard Statement	H225 Highly flammable liquid and vapour H290 May be corrosive to metals H412 Harmful to aquatic life with long-lasting effects
Precautionary Statement	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P240 Ground/bond container and receiving equipment. P280 Wear protective gloves/protective clothing/eye protection/face protection. P303+P361+P353 IF ON SKIN (or hair) Take off immediately all contaminated clothing. Rinse skin with water/shower. P403+P235 Store in a well ventilated place. Keep cool.

Section 3: Composition/information on ingredients

3.1 Substances - 67/548/EEC/1999/45/EC

Chemical Name & Code	CAS No.	Classification	Concentration

All percentages are by weight.

If above table is empty - no components need to be disclosed according to the applicable regulations

Section 4: First Aid Measures

4.1 Description of first aid measures

Inhalation	Move the exposed person to fresh air. If breathing stops, provide artificial respiration.
Eye Contact	Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention.
Skin Contact	Remove all contaminated clothes and footwear immediately unless stuck to skin. Wash off immediately with plenty of soap and water. Seek medical attention if irritation or symptoms persist.
Ingestion	DO NOT INDUCE VOMITING. Never give anything by mouth to an unconscious person. Rinse mouth thoroughly. Seek medical attention.
General Information	If you feel unwell, seek medical advice (show the label where possible).

Section 5: Firefighting Measures

5.1 Extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment
5.2 Special hazards arising from substances or mixture	No data available
5.3 Advice for firefighters	Wear suitable respiratory equipment when necessary

Section 6: Accidental Release Measures

6.1 Personal precaution, protective equipment and emergency procedures	Wear suitable protective clothing. Avoid breathing vapours, mist or gas. Avoid formation of dust. Ensure adequate ventilation of the working area. Evacuate personnel to a safe area.
6.2 Environmental precautions	If safe to do so, prevent further leakage or spillage. Do not let product enter drains.
6.3 Methods and materials for containments and cleaning up	Avoid raising dust. Sweep up. Transfer to suitable, labelled containers for disposal.

Section 7: Handling and Storage

7.1 Precautions for safe handling	Handle in accordance with good industrial hygiene and safety practice. Never carry a bottle by its top. Avoid formation of dust. Ensure adequate ventilation of the working area.
-----------------------------------	---

7.2 Conditions for safe storage including any incompatibilities.	Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a specific flammables area such as a specialist fire-resistant cabinet. Do not store more than 50L in a laboratory. Keep away from heat and sources of ignition. Never store flammable chemicals in the same room as gas cylinders. Keep away from oxidising agents. Keep in properly labeled containers. General principles of chemical storage: Store the minimum stock levels of hazardous chemicals, always disposing of chemicals that are no longer required. Store large breakable containers, particularly of liquids, below shoulder height. Ensure containers and bottle tops are sealed properly to avoid unnecessary leakage of vapours. Ensure hazard labels are clear and never store in direct sunlight.
--	---

Section 8: Exposure controls/ personal protection

8.1 Control parameters

8.1.1 Exposure limit values

2-Chlorobutane CAS No: 78-86-4	Long Term (8hr TWA)	Short Term (15 min period STEL)
ppm	N/A	N/A
mg/m ³	N/A	N/A

Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used.

Figures are based upon UK EH40 WEL (Workplace Exposure Limits)

8.2 Exposure Controls

Engineering Measures	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the working day. Ensure adequate ventilation of the working area. Ensure quickly accessible eye-wash stations are available.
Eye / face protection	Wear appropriate well-fitting protective eyeglasses or chemical safety goggles as described by EN166 (EU Standard)
Skin / hand protection	Wear appropriate protective gloves and clothing to prevent skin exposure. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact.
Respiratory protection	Use a EN149 (EU Standard) approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9: Physical and chemical properties

State:	Liquid
Colour:	Colourless
Melting point:	-140
Boiling point:	68-70
Relative density: (g/cm ³)	0.873
Chemical formula:	CH ₃ CH ₂ CHClCH ₃
Molecular weight: (g/mol)	92.5700

Section 10: Stability & Reactivity

10.1 Reactivity	No data available
10.2 Chemical stability	Stable under normal conditions
10.3 Possibility of hazardous reactions	No data available

10.4 Conditions to avoid	No data available
10.5 Incompatible materials	No data available
10.6 Hazardous decomposition products	No data available

Section 11: Toxicological information

11.1 Information on toxicological effects:	
Acute toxicity	No data available
Germ cell mutagenicity	No data available
Carcinogenicity	No data available
Reproductive toxicity	No data available
11.4 Toxicological information	
2-Chlorobutane	Oral Rat LD50 (mg/kg): 17440

Section 12: Ecological information

12.1 Toxicity: Toxicity to daphnia and other aquatic vertebrates	
2-Chlorobutane	EC50 Daphnia magna (Water flea) (mg/l - 48hr): No data available

Section 13: Disposal considerations

General information	Dispose of in compliance with all local and national regulations.
Disposal methods	Contact a licensed waste disposal company. Dispose of this material and its container to hazardous or special waste collection point

Section 14: Transport information

14.1 UN Number		
ADR/RID: 1127	IMDG: 1127	IATA: 1127
14.2 UN Proper shipping name:	2-Chlorobutane	
14.3 Transport hazard class(es):	3	
14.4 Packing group:	II	
14.5 Environmental Hazards		
ADR/RID: Yes	IMDG Marine Pollutant: No	IATA: Yes

Section 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture	
Regulations	Labelling according to Regulation (EC) No 1272/2008.

Section 16: Other information

16.1 Other information: Text of hazard statements in Section 3	

If above table is empty - no components need to be disclosed according to the applicable regulations

16.2 Further information	
Further information	The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials. Breckland Scientific Supplies Limited will not be held liable for any damage or injury caused by this product and does not obviate the requirement for end users to carry out their own workplace and specific use risk assessment.