

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH)
according to Regulation (EU) No. 2020/878



Trade name : 103590 - 1-Chlorobutane

Revision date : 04/11/2022

Print date : 13/11/2022

Version (Revision) : 2.0.0 (1.0.0)

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

1.1 Product identifier

1-Chlorobutane (103590)

1-Chlorobutane ; CAS No. : 109-69-3 ; EC No. : 203-696-6 ; Index No. : 602-059-00-3 ; REACH No. : 01-2119491193-37-XXXX

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

Relevant identified uses

For manufacturing, processing, laboratory or repacking use only.

Uses advised against

Uses other than those recommended.

1.3 Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor)

DC Fine Chemicals Ltd

Street : 88 Hill Top

Postal code/City : NW11 6DY London United Kingdom

Telephone : +44 (0)20 7586 6800

Telefax : +44 (0)20 7504 1701

Information contact : info@dcfinechemicals.com

1.4 Emergency telephone number

(Only available during office hours; Monday-Friday; 08:00-18:00)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP]

Flam. Liq. 2 ; H225 - Flammable liquids : Category 2 ; Highly flammable liquid and vapour.

2.2 Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms



Flame (GHS02)

Signal word

DANGER

Hazard statements

H225 Highly flammable liquid and vapour.

Precautionary statements

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| | |
|----------------|--|
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P233 | Keep container tightly closed. |
| P240 | Ground and bond container and receiving equipment. |
| P241 | Use explosion-proof [electrical/ventilating/lighting] equipment. |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. |
| P370+P378 | In case of fire: Use ... to extinguish. |
| P403+P235 | Store in a well-ventilated place. Keep cool. |

2.3 Other hazards

None

SECTION 3: Composition/information on ingredients

3.1 Substances

Substance name : 1-Chlorobutane

Index No. : 602-059-00-3

EC No. : 203-696-6

REACH No. : 01-2119491193-37-XXXX

CAS No. : 109-69-3

Purity : 100 % [mass]

SECTION 4: First aid measures

4.1 Description of first aid measures

Remove contaminated, saturated clothing immediately. After contact with skin, wash immediately with plenty of water and soap. After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Remove victim out of the danger area. When in doubt or if symptoms are observed, get medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person or a person with cramps.

4.3 Indication of any immediate medical attention and special treatment needed

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

SECTION 5: Firefighting measures

The product is Highly inflammable, it can cause or considerably worsen a fire, the necessary prevention measures should be taken and risks avoided. In case of fire, the following measures are recommended:

5.1 Extinguishing media

Suitable extinguishing media

Extinguisher powder or CO₂. In case of more serious fires, also alcohol-resistant foam and water spray.

Unsuitable extinguishing media

Do not use a direct stream of water to extinguish. In the presence of electrical voltage, you cannot use water or foam

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as extinguishing media.

5.2 Special hazards arising from the substance or mixture

In case of fire may be liberated: Pyrolysis products, toxic

5.3 Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Do not inhale explosion and combustion gases. In case of fire: Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Wear a self-contained breathing apparatus and chemical protective clothing.

For emergency responders

Eliminate possible ignition points and ventilate the area. No smoking. Avoid breathing fumes. For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Retain contaminated washing water and dispose it.

6.3 Methods and material for containment and cleaning up

For containment

Collect in closed and suitable containers for disposal.

For cleaning up

The contaminated area should be cleaned up immediately with: Water Soak up inert absorbent and dispose as waste requiring special attention. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Avoid dust formation. Clear spills immediately.

6.4 Reference to other sections

Reference to other sections Disposal: see section 13 Personal protection equipment: see section 8

SECTION 7: Handling and storage

7.1 Precautions for safe handling

In case of insufficient ventilation and/or through use, explosive/highly flammable mixtures may develop.

Protective measures



When using do not eat, drink, smoke, sniff.
protection equipment (refer to section 8).

Wear personal

Measures to prevent aerosol and dust generation

Vapours can form explosive mixtures with air. Take precautionary measures against static discharges. Use only in well-ventilated areas. Do not breathe the gas/fumes/vapour/spray. Do not breathe dust.

Environmental precautions

Use appropriate container to avoid environmental contamination.

Specific requirements or handling rules

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Handle and open container with care.

Advices on general occupational hygiene

Take care for general good hygiene and housekeeping.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Storage temperature :

Keep in a cool, well-ventilated place. Keep away from sources of ignition - No smoking.

Requirements for storage rooms and vessels

Only use containers specifically approved for the substance/product.

Hints on joint storage

Store at least 3 metres apart from: Chemicals/products that react together readily Protect against Humidity. UV-radiation/sunlight

Storage class (TRGS 510) : 3

7.3 Specific end use(s)

None

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limit values

1-Chlorobutane ; CAS No. : 109-69-3

Limit value type (country of origin) : TWA (EC)

Limit value : 25 ppm / 8 hour(s)

Version :

Limit value type (country of origin) : TWA (EC)

Limit value : 96 mg/m³ / 8 hour(s)

Version :

Limit value type (country of origin) : TWA (EC)

Limit value : 50 ppm / 15 min

Version :

Limit value type (country of origin) : TWA (EC)

Limit value : 191 mg/m³ / 15 min

Version :

8.2 Exposure controls

Only wear fitting, comfortable and clean protective clothing.

Personal protection equipment

Eye/face protection



Eye glasses with side protection Face protection shield EN 166

Skin protection

Hand protection

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Tested protective gloves must be worn EN ISO 374

Body protection

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes). Wear anti-static footwear and clothing Wash contaminated clothing prior to re-use.



Respiratory protection

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.



Particle filter device (EN 143).

Thermal hazards

No special measures are necessary.

Environmental exposure controls

No information available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance : Liquid

Safety characteristics

| | | | |
|--|--------------|--------------------|-------------------|
| Melting point/freezing point : | (1013 hPa) | -123 | °C |
| Initial boiling point and boiling range : | (1013 hPa) | 79 | °C |
| Decomposition temperature : | (1013 hPa) | No data available | |
| Flash point : | | -17 | °C |
| Auto-ignition temperature : | | 280 | °C |
| Lower explosion limit : | | 1.8 | Vol-% |
| Upper explosion limit : | | 10.1 | Vol-% |
| Vapour pressure : | (20 °C) | 75 | mm Hg |
| Density : | (20 °C) | 0.886 | g/cm ³ |
| Solvent separation test : | (20 °C) | not applicable | |
| Water solubility : | (20 °C) | No data available | |
| Fat solubility : | (20 °C) | No data available. | |
| pH : | | No data available | |
| log P O/W : | | 2.66 | |
| Flow time : | (20 °C) | No data available | DIN-cup 4 mm |
| Viscosity : | (20 °C) | No data available | |
| Relative vapour density : | (20 °C) | 3.2 | (air = 1) |

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Evaporation rate : No data available
Flammable solids : No data available.
Flammable gases : No data available.
Explosive properties : No data available.

9.2 Other information

None

SECTION 10: Stability and reactivity

10.1 Reactivity

The product does not present hazards by their reactivity.

10.2 Chemical stability

The product is chemically stable under recommended conditions of storage, use and temperature. Safe handling: see section 7

10.3 Possibility of hazardous reactions

The product does not present possibility of hazardous reactions.

10.4 Conditions to avoid

Avoid any improper handling.

10.5 Incompatible materials

Keep away from oxidising agents and from highly alkaline or acidic materials in order to prevent exothermic reactions.

10.6 Hazardous decomposition products

In case of fire may be liberated: Hazardous combustion products

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Acute oral toxicity

Parameter : LD50 (1-Chlorobutane ; CAS No. : 109-69-3)
Exposure route : Oral
Species : Rat
Effective dose : 2200 mg/kg

Acute dermal toxicity

Parameter : LD50 (1-Chlorobutane ; CAS No. : 109-69-3)
Exposure route : Dermal
Species : Rabbit
Effective dose : 20000 mg/kg

Acute inhalation toxicity

Parameter : LC50 (1-Chlorobutane ; CAS No. : 109-69-3)
Exposure route : Inhalation
Species : Rat
Effective dose : 30.8 mg/l
Exposure time : 4 hour(s)

Corrosion

Skin corrosion/irritation

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No information available.

Serious eye damage/eye irritation

No information available.

Respiratory or skin sensitisation

No information available.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Carcinogenicity

No information available.

Germ cell mutagenicity

No information available.

Reproductive toxicity

No information available.

STOT-single exposure

No information available.

STOT-repeated exposure

No information available.

Aspiration hazard

No information available.

11.2 Information on other hazards

No information available.

SECTION 12: Ecological information

12.1 Toxicity

Aquatic toxicity

Acute (short-term) fish toxicity

Parameter : LC50 (1-Chlorobutane ; CAS No. : 109-69-3)
Species : Leuciscus idus (golden orfe)
Evaluation parameter : Acute (short-term) fish toxicity
Effective dose : 600 mg/l
Exposure time : 48 hour(s)

Acute (short-term) toxicity to crustacea

Parameter : EC50 (1-Chlorobutane ; CAS No. : 109-69-3)
Species : Daphnia magna (Big water flea)
Evaluation parameter : Acute (short-term) toxicity to crustacea
Effective dose : 452 mg/l
Exposure time : 48 hour(s)

Acute (short-term) toxicity to algae and cyanobacteria

Parameter : IC50 (1-Chlorobutane ; CAS No. : 109-69-3)
Species : Desmodesmus subspicatus
Evaluation parameter : Acute (short-term) toxicity to algae and cyanobacteria
Effective dose : 450 mg/l
Exposure time : 72 hour(s)

12.2 Persistence and degradability

No information available.

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12.3 Bioaccumulative potential

Parameter : Log KOW (1-Chlorobutane ; CAS No. : 109-69-3)
Partition coefficient n-octanol/water (log value)
Value : 2.66

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

12.6 Endocrine disrupting properties

No information available.

12.7 Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process. Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation. Follow the provisions of Directive 2008/98/EC regarding waste management.

Product/Packaging disposal

Waste treatment options

Recycle according to official regulations. Evidence for disposal must be provided.

Appropriate disposal / Product

Dispose of waste according to applicable legislation.

Appropriate disposal / Package

Non-contaminated packages must be recycled or disposed of. Contaminated packages must be completely emptied and can be re-used following proper cleaning. Packing which cannot be properly cleaned must be disposed of. Handle contaminated packages in the same way as the substance itself.

SECTION 14: Transport information

14.1 UN number

UN 1127

14.2 UN proper shipping name

Land transport (ADR/RID)

CHLOROBUTANES

Sea transport (IMDG)

CHLOROBUTANES

Air transport (ICAO-TI / IATA-DGR)

CHLOROBUTANES

14.3 Transport hazard class(es)

Land transport (ADR/RID)

Class(es) : 3

Classification code : F1

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Hazard identification number (Kemler No.) : 33
Tunnel restriction code : D/E
Special provisions : LQ 1 | E 2
Hazard label(s) : 3

Sea transport (IMDG)

Class(es) : 3
EmS-No. : F-E / S-D
Special provisions : LQ 1 | E 2 · IMDG-Code segregation group 10 - Liquid halogenated hydrocarbons
Hazard label(s) : 3

Air transport (ICAO-TI / IATA-DGR)

Class(es) : 3
Special provisions : E 2
Hazard label(s) : 3

14.4 Packing group

II

14.5 Environmental hazards

Land transport (ADR/RID) : No
Sea transport (IMDG) : No
Air transport (ICAO-TI / IATA-DGR) : No

14.6 Special precautions for user

Hazard label(s) :



14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

No information available.

SECTION 15: Regulatory information

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

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) Classification according to Regulation (EC) No 1272/2008 [CLP] according to Regulation (EU) No. 2020/878

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]

| | |
|------------------------------------|-------------------------|
| Hazard categories | P5c - FLAMMABLE LIQUIDS |
| Lower-tier requirements (t) | 5000 |
| Upper-tier requirements (t) | 50000 |

National regulations

Water hazard class

Class : nwg (Non-hazardous to water)

15.2 Chemical Safety Assessment

No information available.

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SECTION 16: Other information

16.1 Indication of changes

None

16.2 Abbreviations and acronyms

| | |
|--------------|---|
| ADR: | European Agreement concerning the International Carriage of Dangerous Goods by Road |
| ASTM: | ASTM International, originally known as American Society for Testing and Materials (ASTM) |
| EINECS: | European Inventory of Existing Commercial Chemical Substances |
| EC50: | Effective Concentration 50 (Maximum Effective Concentration for 0% of Individuals) |
| LC50: | Lethal Concentration 50 (Lethal Concentration for 50% of Individuals) |
| IC50: | Inhibitor Concentration 50 (Inhibitory Concentration for 50% of Individuals) |
| NOEL: | No Observed Effect Level (Maximum dose without effect) |
| DNEL: | Derived No Effect Level (Derived no-effect dose) |
| DMEL: | Derived Minimum Effect Level (Derived dose of minimal effect) |
| CLP: | Classification, Labelling and Packaging |
| CSR: | Chemical Safety Report |
| LD50: | Lethal Dose 50 (Lethal Dose for 50% of Individuals) |
| IATA: | International Air Transport Association |
| ICAO: | International Civil Aviation Organization |
| Codice IMDG: | International Maritime Dangerous Goods code |
| PBT: | Persistent, bioaccumulative and toxic |
| RID: | Regulations concerning the international rail transport of Dangerous Goods |
| STEL: | Short term exposure limit |
| TLV: | Threshold limit value |
| TWA: | Time Weighted Average |
| UE: | European Union |
| vPvB: | Very persistent very bioaccumulative |
| N.D.: | Unavailable |
| N.A.: | Not applicable |
| VwVwS.: | Text of Administrative Regulation on the Classification of Substances hazardous to waters into Water Hazard Classes |

16.3 Key literature references and sources for data

None

16.4 Relevant H- and EUH-phrases (Number and full text)

H225 Highly flammable liquid and vapour.

16.5 Training advice

None

16.6 Additional information

None

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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