

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

**1.1 Product identifier**

Product name 1-CHLOROBUTANE  
CAS-No. 109-69-3  
Product code AR1031, GP1031, LC1031, RP1031

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

Identified uses Chemical for analysis and production.

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

Company RCI LABSCAN LIMITED.  
24 Rama 1 Road, Pathumwan, Bangkok 10330 Thailand  
Telephone number (662) 613-7911-4  
Fax number (662) 613-7915

**1.4 Emergency Telephone Number**

Emergency phone (662) 613-7911-4

**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

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.

Precautionary statement(s)

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.  
P242 Use non-sparking tools.  
P243 Take action to prevent static discharges.  
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 [or shower].  
P403 + P235 Store in a well-ventilated place. Keep cool.

**2.3 Other hazards**

None

**SECTION 3: Composition/information on ingredients****3.1 Substances**

Synonyms Butyl chloride, n-Butyl chloride, 1-Butyl chloride

CAS-No	EC-No	EC-Index-No	Formula	Molecular Weight	Weight %
109-69-3	203-696-6	602-059-00-3	CH <sub>3</sub> (CH <sub>2</sub> ) <sub>3</sub> Cl	92.58 g/mol	<=100

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

Component	Concentration	Classification
<b>1-Chlorobutane</b>		
CAS-No 109-69-3 EC-No 203-696-6 EC-Index-No 602-059-00-3	<=100%	Flammable liquids (Category 2), H225

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

**SECTION 4: First aid measures****4.1 Description of first aid measures**

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	Move to fresh air in case of accidental inhalation of vapors. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus.
Skin contact	Remove contaminated clothing and wash affected skin with soap and water. If signs of poisoning appear, treat as for inhalation. Obtain medical attention. Wash contaminated clothing before reuse. Contaminated combustible material, e.g. clothing ignites more readily and burns fiercely.
Eye contact	If the substance has got into the eyes, immediately wash out with plenty of water at least 15 minutes. Obtain medical attention.
Ingestion	Rinse mouth. Do not induce vomiting. Keep patient warm. In case of shortness of breath, give oxygen. Apply artificial respiration only if patient is not breathing or under medical supervision. No artificial aspiration mouth to mouth or mouth to nose. Use suitable instruments/apparatus. Obtain medical attention. Never give anything by mouth to an unconscious person.

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

The most important known symptoms and effects are described in section 2.2 and section 11

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

After swallowing, caution if victim vomits, risk of aspiration. Subsequently: Paraffin oil 3 ml/kg, Sodium sulfate 1 tablespoon/250 ml of water, Activated charcoal. No milk, No castor oil, No alcohol. Summon doctor. (Gastric lavage: only in case of emergency and with utmost caution).

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Extinguish with carbon dioxide, dry chemical or foam. In the event of fire, cool tanks with water spray.

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

Vapors may form explosive mixture with air at ambient temperature. Flash back possible over considerable distance.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus and protective suit.

### 5.4 Further information

Standard procedure for chemical fires. Take measures to prevent electrostatic charging. Prevent firefighting water from entering surface water or groundwater.

## SECTION 6: Accidental release measures

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

Evacuate personnel to safe areas. Do not breathe vapors or spray mist. Wear a positive-pressure supplied-air respirator, flame retardant antistatic protective clothing. Shut off leaks if without risk. Keep people away from and upwind of spill/leak.

### 6.2 Environmental precautions

Contain or absorb leaking liquid with sand or earth, consults an expert. Prevent liquid entering sewers, basements and workpits. If substance has entered a water course or sewer or contaminated soil, advise police.

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

Spillage: May react with combustible substances creating fire or explosion hazard and formation of toxic fumes. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Soak up with inert absorbent material (e.g. sand, silica gel or chemical absorbent pads). Prevent liquid entering sewers, basements and workpits; vapor may create explosive atmosphere. Transfer to covered steel drums. Dispose of promptly.

### 6.4 Reference to other sections

For disposal see **Section 13**.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Keep container tightly closed. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors). Use only in area provided with appropriate exhaust ventilation. Do not breathe vapors or spray mist. Avoid contact with skin, eyes and clothing. Do not empty into drains.

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

Keep tightly closed in a dry, cool and well ventilated place. Keep away from heat and sources of ignition. Keep out of direct sunlight and away from incompatible materials. Store in original container. Electrical equipment should be protected to the appropriate standard.

### 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

### 8.2 Exposure controls

#### Appropriate engineering controls

The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Ventilation hoods and fans required when working with organic solvents or in hot melt applications.

#### Individual protection measures (Personal protective equipment, PPE)

##### Eye/face protection

Goggles giving complete protection to eyes.

**Skin protection**

Chemical resistant apron / flame retardant antistatic protective clothing, heavy duty work shoes.

Handle with gloves

- Full contact wears gloves from viton material.
- Splash contact wears gloves from butyl rubber material.

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

**Respiratory protection**

In case of insufficient ventilation, wear suitable respiratory equipment. Required when vapor/aerosols are generated filter A (EN 141 or EN 14387).

**Environmental exposure controls**

Prevent liquid entering sewers, basements and workpits.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

Appearance: Form	Liquid
: Color	Colorless
Odour	Pungent
Odour Threshold	Not Available
pH	Not Available
Melting point/range	-123 °C
Boiling point/range	78.4 °C at 1013 hPa
Flash point	-17 °C (closed cup)
Evaporation rate	Not Available
Flammability (solid, gas)	Not Available
Explosion limits: lower	1.8 % (V)
upper	10.1 % (V)
Vapor Pressure	110 hPa at 20°C
Relative Vapor Density	3.2
Density	0.886 g/ml at 20°C
Water solubility	0.5 g/l at 20°C
Partition coefficient (n-octanol/water)	log Pow: 2.66
Auto-Ignition temperature	280 °C
Decomposition Temperature	Not Available
Viscosity	0.45 mPa.s at 20°C
Explosive properties	Not Explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.

**SECTION 10: Stability and reactivity****10.1 Reactivity**

Highly inflammable, light sensitive, sensitive to air.

**10.2 Chemical stability**

Sensitive to light and air. Decompose on exposure to light and heat. Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

Risk of explosion in contact with: alkali metals, metal powders, sodium amide, liquid oxygen.

The substance can react dangerously with: oxidizing agents, alkali hydroxide, light metal powders.

**10.4 Conditions to avoid**

Heating, flames, sparks and action of light (decomposition).

**10.5 Incompatible materials**

Alkali metals, light metals in powder form, sodium amides, oxidizing agents, strong bases.

**10.6 Hazardous decomposition products**

Combustion- and pyrolysis-gases of chlorine containing compounds contain hydrogen chloride, chlorine, phosgene, dioxins and other poisonous or corrosive substances in different concentrations.

Carbon monoxides, carbon dioxides, (Hazardous decomposition products from under fire condition).

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

LD<sub>50</sub> (oral, rat): 2200 mg/kg

LDLO (dermal, rabbit): 20 g/kg

LC<sub>50</sub> (inhalation, rat): 30.8 mg /l/ 4h

**Acute oral toxicity**

Irritations of mucous membranes in mouth, pharynx, oesophagus and gastrointestinal tract.

**Acute inhalation toxicity**

Slight mucosal irritation.

**Skin corrosion/irritation**

Slight irritation, degreasing effect on the skin and possibly followed by secondary by inflammation.

**Serious eye damage/eye irritation**

Slight irritation.

**Respiratory or skin sensitization**

Sensitisation test (guinea pig) is negative (OECD 406).

**Germ cell mutagenicity**

Bacterial mutagenicity : Ames test ; negative.

Mutagenicity (mammal cell test): chromosome aberration negative. (in vitro)

**Carcinogenicity**

NTP evaluation for carcinogenicity: negative in animals.

**Reproductive toxicity**

Not Available

**Teratogenicity**

Not Available

**Specific target organ toxicity (STOT) - single exposure**

Not Available

**Specific target organ toxicity (STOT) - repeated exposure**

Not Available

**Aspiration hazard**

Not Available

**Further information**

After absorption of toxic quantities; narcosis.

Possible symptoms; headache, vomiting, inebriation, Dizziness, unconsciousness.

The product should be handled with the care usual when dealing with chemicals.

**SECTION 12: Ecological information****12.1 Toxicity**

Toxicity to fish	LC <sub>50</sub> L.idus: 600 mg/l /48h.
Toxicity to daphnia and other aquatic invertebrates	EC <sub>50</sub> Daphnia magna: 452 mg/l /48h.
Toxicity to algae	IC <sub>50</sub> Desmodesmus subspicatus: > 450 mg/l /72h. NOEC Desmodesmus subspicatus : 90 mg/l /72h.

**12.2 Persistence and degradability**

Biodegradability 47% /28d. Poor biodegradable.

**12.3 Bioaccumulative potential**

Partition coefficient (n-octanol/water) log Pow: 2.66 (experimental).  
No Bioaccumulation is to be expected (log P o/w 1-3)

**12.4 Mobility in soil**

Not Available

**12.5 Other adverse effects**

Toxic effect on fish and plankton. Do not allow to enter waters, waste water or soil.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods****Product**

There are no uniform EC Regulations for the disposal of chemicals or residues. Chemical residues generally count as special waste. The disposal of the latter is regulated in the EC member countries through corresponding law and regulations. We recommend that you contact either the authorities in charge or approved waste disposal companies which will advise you on how to dispose of special waste or burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations.

**Contaminated packaging**

Disposal in compliance with official regulations. Handle contaminated packaging as hazardous waste in the same way of the substance itself. If not officially specified differently, non-contaminated packaging may be treated like household waste or recycled.

**SECTION 14: Transport information****Land Transport (ADR/RID)**

UN Number	1127
UN proper shipping name	CHLOROBUTANES
Transport hazard class(es)	3
Packing group	II
Environmental hazards	No
Special precautions for user	Yes

**Sea transport (IMDG)**

UN Number	1127
-----------	------

UN proper shipping name	CHLOROBUTANES
Transport hazard class(es)	3
Packing group	II
Marine pollutant	No
Special precautions for user	Yes
EmS	F-E S-D

**Air transport (IATA)**

UN Number	1127
UN proper shipping name	CHLOROBUTANES
Transport hazard class(es)	3
Packing group	II
Environmental hazards	No
Special precautions for user	No

**River transport (AND/ADNR)**

(Not examined)

**SECTION 15: Regulatory information**

This safety datasheet complies with the requirements of Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

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

Not Available

**15.2 Chemical Safety Assessment**

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

**SECTION 16: Other information****Full text of H-Statements referred to under sections 2 and 3**

H225 Highly flammable liquid and vapour.

**Recommended restrictions**

Take notice of labels and safety data sheets for the working. Chemicals Take necessary action to avoid static electricity discharge.

**Reference**

Globally Harmonized System of Classification and Labelling of Chemicals (GHS).

Labelling according to EC Directives 67/548 EEC and Regulation (EC) No 1272/2008.

Transportation information according to Recommendations on the Transport of Dangerous Goods, Model Regulations. Twelfth revised edition. United Nations.

Institute for Occupational Safety and Health of the German Social Accident Insurance in Sankt Augustin/Germany,

Source: IFA for Databases on hazardous substances (GESTIS).

**Further information**

Contact to RCI Labscan Limited.

**Revision Date**

01/04/2021

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.