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

1.1 Product identifiers
Product name: 1-Chloro Butane
CAS-No.: 109-69-3

1.2 Relevant identified uses of the substance or mixture and uses advised against
Identified uses: Laboratory chemicals, Industrial & for professional use only.

1.3 Details of the supplier of the safety data sheet
Company: Central Drug House (P) Ltd
7/28 Vardaan House
New Delhi-10002
INDIA
Telephone: +91 11 49404040
Email: care@cdhfinechemical.com

1.4 Emergency telephone number
Emergency Phone #: +91 11 49404040 (9:00am - 6:00 pm) [Office hours]

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
Aspiration hazard (Category 1), H304
Chronic aquatic toxicity (Category 3), H412

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
Hazard statement(s)
H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H412 Harmful to aquatic life with long lasting effects.
Precautionary statement(s)
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 Avoid release to the environment.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P331 Do NOT induce vomiting.
P403 + P235 Store in a well-ventilated place. Keep cool.
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.

SECTION 3: Composition/information on ingredients
3.1 Substances
Synonyms: Butyl chloride
Formula: C4H9Cl
Molecular weight: 92.57 g/mol
CAS-No.: 109-69-3
EC-No.: 203-696-6
Index-No.: 602-059-00-3

Hazardous ingredients according to Regulation (EC) No 1272/2008
Component Classification Concentration
Butyl chloride Flam. Liq. 2; Asp. Tox. 1; <= 100 %
CAS-No. 109-69-3
EC-No. 203-696-6
Index-No. 602-059-00-3
Aquatic Chronic 3; H225, H304, H412

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
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
Wash off with soap and plenty of water. Consult a physician.
In case of eye contact
Flush eyes with water as a precaution.
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
SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture
Carbon oxides, Hydrogen chloride gas

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.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
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.

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 build up of electrostatic charge. 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. Storage class (TRGS 510): Flammable liquids

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
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face 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**
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.

**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 (US) or type ABEK (EN 14387) respirator cartridges as a backup to enginee 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- **Appearance**
  Form: liquid
- **Odour**
  Stinging
- **Odour Threshold**
  No data available
- **pH**
  No data available
- **Melting point/freezing point**
  Melting point/range: -123 °C - lit.
- **Initial boiling point and boiling range**
  77 - 78 °C - lit.
- **Flash point**
  -12 °C - closed cup
- **Evaporation rate**
  No data available
- **Flammability (solid, gas)**
  No data available
- **Upper/lower flammability or explosive limits**
  Upper explosion limit: 10.1 %(V)
  Lower explosion limit: 1.8 %(V)
- **Vapour pressure**
  80.1 mmHg at 78.4 °C
- **Vapour density**
  3.2 - (Air = 1.0)
- **Relative density**
  0.886 g/cm3 at 25 °C
- **Water solubility**
  ca.0.11 g/l at 20 °C - OECD Test Guideline 105 - partly soluble
- **Partition coefficient: n-octanol/water**
  log Pow: 2.66 at 20 °C
- **Auto-ignition temperature**
  245 °C
- **Decomposition temperature**
  No data available
- **Viscosity**
  No data available
- **Explosive properties**
  No data available
- **Oxidizing properties**
  No data available

9.2 Other safety information

- **Surface tension**
  63.2 mN/m at 20 °C
SECTION 10: Stability and reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Heat, flames and sparks.

10.5 Incompatible materials
Strong oxidizing agents, Strong bases

10.6 Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Hydrogen chloride gas
Other decomposition products - No data available
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity
LD50 Oral - Rat - 2,670 mg/kg(Butyl chloride)
LC50 Inhalation - Rat - male and female - 4 h - > 7.74 mg/l(Butyl chloride)
(OECD Test Guideline 403)

Skin corrosion/irritation
Skin - Rabbit(Butyl chloride)
Result: No skin irritation
(OECD Test Guideline 404)

Serious eye damage/eye irritation
Eyes - Rabbit(Butyl chloride)
Result: No eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitisation
Buehler Test - Guinea pig(Butyl chloride)
Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity

Chromosome aberration test in vitro(Butyl chloride)
Chinese hamster cells
Result: negative
OECD Test Guideline 474(Butyl chloride)
Mouse - male and female
Result: negative

Carcinogenicity
Animal testing did not show any carcinogenic effects.(Butyl chloride)

Reproductive toxicity
No toxicity to reproduction(Butyl chloride)
No data available(Butyl chloride)
Specific target organ toxicity - single exposure
No data available (Butyl chloride)

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
May be fatal if swallowed and enters airways. (Butyl chloride)

Additional Information
Repeated dose toxicity - Rat - male and female - Oral - No observed adverse effect level - 120 mg/kg (Butyl chloride)
RTECS: EJ6300000

SECTION 12: Ecological information
12.1 Toxicity
Toxicity to fish
semi-static test LC50 - Brachydanio rerio (zebrafish) - ca. 75.6 mg/l - 96 h (Butyl chloride)
(OECD Test Guideline 203)

Toxicity to daphnia and other aquatic invertebrates
EC50 - Daphnia magna (Water flea) - 3,020 mg/l - 48 h (Butyl chloride)

12.2 Persistence and degradability
No data available

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available (Butyl chloride)

12.5 Results of PBT and vPvB assessment
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.

12.6 Other adverse effects
Harmful to aquatic life with long lasting effects.
No data available

SECTION 13: Disposal considerations
13.1 Waste treatment methods
Product
Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging
Dispose of as unused product.
SECTION 14: Transport information

14.1 UN number
   ADR/RID: 1127  IMDG: 1127  IATA: 1127

14.2 UN proper shipping name
   ADR/RID: CHLOROBUTANES
   IMDG: CHLOROBUTANES
   IATA: Chlorobutanes

14.3 Transport hazard class(es)
   ADR/RID: 3  IMDG: 3  IATA: 3

14.4 Packaging group
   ADR/RID: II  IMDG: II  IATA: II

14.5 Environmental hazards
   ADR/RID: no  IMDG Marine pollutant: no  IATA: no

14.6 Special precautions for user
   No data available

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

SECTION 16: Other information

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

   H225 Highly flammable liquid and vapour.
   H304 May be fatal if swallowed and enters airways.
   H412 Harmful to aquatic life with long lasting effects.

   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. Central Drug House (P) Ltd and its
   Affiliates shall not be held liable for any damage resulting from handling or from contact with the
   above product. See www.cdhfinechemical.com for additional terms and conditions of sale.