



Specialized in chemicals

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Material Safety Data Sheet

n-Butyl chloride MSDS

Section 1: Chemical Product and Company Identification

Product Name: n-Butyl chloride

Catalog Codes: Not applicable.

CAS#: 109-69-3

RTECS: EJ6300000

TSCA: Not applicable.

CI#: Not applicable.

Synonym: 1-Butylchlorid; 1-Chlorobutane

Chemical Name: Not applicable.

Chemical Formula: C₄H₉Cl

Contact Information for Emergency: (0086) 551 65418678

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Section 2: Composition and Information on Ingredients

Chemical Name: 1-Chlorobutane

Main Content (%): >99.5

Molecular Formula: C₄H₉Cl

Molecular Weight: 92.57

CAS No.: 109-69-3

Section 3: Hazards Identification

Clear, colorless Liquid. Sharp, unpleasant odor. Toxic by inhalation, ingestion, and contact.

Flammable liquid and vapor.

POTENTIAL HEALTH EFFECTS

Eye: Causes mild eye irritation.

Skin: May cause skin irritation.

Ingestion: May cause irritation of the digestive tract. May cause central nervous system depression.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause respiratory tract irritation. Vapors may cause dizziness or suffocation.

Chronic: No information found.

Section 4: First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water.

Never give anything by mouth to an unconscious person. Get medical aid immediately.

Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Section 5: Fire and Explosion Data

Flash point : -9 ° C (16 ° F)

Ignition temperature : 240 ° C (464 ° F)

Lower explosion limit : 1.8 %(V)

Upper explosion limit : 10.1 %(V)

Suitable extinguishing media: Foam,Carbon dioxide (CO₂),Dry chemical

Extinguishing media which shall not be used for safety reasons:

Water may be ineffective.

Do not use a solid water stream as it may scatter and spread fire.

Specific hazards during fire fighting:

Extremely flammable. Vapours may form explosive mixtures with air. Vapours are heavier than air and may spread along floors. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. In case of fire hazardous decomposition products may be produced such as: Phosgene, Gaseous hydrogen chloride (HCl), Carbon monoxide, Carbon dioxide (CO₂).

Special protective equipment for fire-fighters:

In the event of fire and/or explosion do not breathe fumes.

Wear self-contained breathing apparatus and protective suit.

Section 6: Accidental Release Measures

Personal precautions :

Immediately evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Wear personal protective equipment. Unprotected persons must be kept away. Ensure adequate ventilation. Remove all sources of ignition. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Do not swallow. Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing.

Environmental precautions :

Prevent further leakage or spillage if safe to do so. Discharge into the environment must be avoided. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Methods for cleaning up :

Ventilate the area. No sparking tools should be used. Use explosion-proof equipment. Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

Section 7: Handling and Storage

Handling :

Handle with care. Wear personal protective equipment. Use only in well-ventilated areas. Keep container tightly closed. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from fire, sparks and heated surfaces. Take precautionary measures against static discharges. Ensure all equipment is electrically grounded before beginning transfer operations. No sparking tools should be used. Use explosion-proof equipment. Do not smoke. Do not swallow. Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion:

Vapours may form explosive mixture with air. Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. Vapours are heavier than air and may spread along floors. Vapors may travel to areas away from work site before igniting/flashing back to vapor source. Container hazardous when empty. Keep product and empty container away from heat and sources of ignition. Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Take measures to prevent the build up of electrostatic charge. To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded. Electrical equipment should be protected to the appropriate standard. No sparking tools should be used. Use explosion-proof equipment. No smoking.

Storage

Requirements for storage areas and containers:

Storage rooms must be properly ventilated. Keep containers tightly closed in a dry, cool and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep away from heat and sources of ignition. Keep away from direct sunlight. Store in area designed for storage of flammable liquids. Protect from physical damage. Store away from incompatible substances.

Section 8: Exposure Controls/Personal Protection

Protective measures :

Ensure that eyewash stations and safety showers are close to the workstation location.

Do not swallow. Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing.

Engineering measures :

Use with local exhaust ventilation. Prevent vapor buildup by providing adequate ventilation during and after use.

Eye protection :

Do not wear contact lenses. Wear as appropriate: Safety glasses with side-shields.

If splashes are likely to occur, wear: Goggles or face shield, giving complete protection to eyes

Hand protection :

Solvent-resistant gloves. Gloves must be inspected prior to use. Replace when worn.

Skin and body protection :

Wear as appropriate: Solvent-resistant apron and boots, flame retardant antistatic protective clothing.

If splashes are likely to occur, wear: Protective suit

Respiratory protection :

In the case of vapour formation use a respirator with an approved filter.

For rescue and maintenance work in storage tanks use self-contained breathing apparatus.

Hygiene measures :

Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke.

Wash hands before breaks and immediately after handling the product. Keep working clothes separately. Remove and wash contaminated clothing before re-use. Do not swallow. Avoid breathing vapors, mist or gas. Avoid contact with skin, eyes and clothing.

Exposure Guidelines

Contains no substances with occupational exposure limit values.

Section 9: Physical and Chemical Properties

APPEARANCE: Clear, colorless liquid

PHYSICAL STATE: Liquid

MOLECULAR WEIGHT: 92.57

CHEMICAL FORMULA: C₄H₉Cl

ODOR: Sharp unpleasant odor. Threshold not listed.

SPECIFIC GRAVITY (water = 1.0): 0.8862

SOLUBILITY IN WATER (weight %): 0.066% @ 12°C

PH: Not Applicable

BOILING POINT: 173° F (78° C)

MELTING/FREEZING POINT: -190° F (-123° C)

VAPOR PRESSURE: 80.1mm Hg @ 20° C

VAPOR DENSITY (air = 1.0): 3.2

EVAPORATION RATE: 4.0 COMPARED TO: Water = 1

% VOLATILES: 100

FLASH POINT: 15° F (-9° C)

Section 10: Stability and Reactivity Data

NORMALLY STABLE (CONDITIONS TO AVOID):

Stable at room temperature in closed containers under normal storage and handling conditions.

INCOMPATIBILITIES:

Avoid acids, bases, oxidizers, explosives, nitrogen-fluorine compounds, sulfites, perchlorates, reducing agents.

HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition can produce toxic and corrosive phosgene, hydrogen chloride, carbon monoxide, and other hazardous gases.

HAZARDOUS POLYMERIZATION:

Will not occur.

Section 11: Toxicological Information

IMMEDIATE (ACUTE) EFFECTS:

Oral LD50 (rat): 2670 mg/Kg

Skin (rabbit): mild irritant (500 mg/24h; 10 mg/24 open)

Eye (rabbit): mild irritant (500 mg)

DELAYED (SUBCHRONIC AND CHRONIC) EFFECTS:

Not carcinogenic in 2 year mouse and rat gavage study.

OTHER DATA:

Ames Assay: Negative

Section 12: Ecological Information

Toxicity to fish :

LC50

Species: Leuciscus idus (Golden orfe)

Dose: 6,001 mg/l

Exposure time: 48 h

DIN 38412

Toxicity to daphnia and other aquatic invertebrates.:

LC50

Species: Daphnia

Dose: 4,521 mg/l

Exposure time: 48 h

Toxicity to algae :

LC50

Species: Scenedesmus subspicatus

Dose: > 450 mg/l

Section 13: Disposal Considerations

Waste Information: Avoid contact of spilled material and runoff with soil and surface waterways. Consult an environmental professional to determine if local, regional or national regulations would classify spilled or contaminated materials as hazardous waste. Use only approved transporters, recyclers, treatment, storage or disposal facilities. Dispose of according to all federal, state and local applicable regulations.

Other Disposal Considerations: Observe all Federal, State, and Local Environmental regulations. The information offered here is for the product as shipped. Use and/or alterations to the product such as mixing with other materials may significantly change the characteristics of the material and alter the RCRA classification and the proper disposal method.

Additional advice : Offer surplus and non-recyclable solutions to a licensed disposal company.

Section 14: Transport Information

US DOT PROPER SHIPPING NAME: Chlorobutane

US DOT HAZARD CLASS: 3, Flammable Liquid

US DOT PACKING GROUP: II

US DOT ID NUMBER: UN1127

NA EMERGENCY RESPONSE GUIDE: 130

For additional information on shipping regulations affecting this material, contact the information number found in Section 1.

Section 15: Other Regulatory Information

INGREDIENT NAME COMMENT

No ingredients listed in this section.

STATE RIGHT-TO-KNOW

In addition to the ingredients found in Section 2, the following are listed for state right-to-know purposes.

INGREDIENT NAME WEIGHT % COMMENT

No ingredients listed in this section.

ADDITIONAL REGULATORY INFORMATION:

None

FOREIGN INVENTORY STATUS:

DSL, EINECS

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

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