

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : 1-Butanethiol

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

According to Regulation (EC) No1272/2008
Flammable liquids (Category 2)
Acute toxicity, Inhalation (Category 4)
Skin toxicity, Oral (Category 4)
Skin irritation (Category 2)
Eye irritation (Category 2)
Specific target organ toxicity - single exposure (Category 3)

According to European Directive 67/548/EEC as amended.
Highly flammable. Harmful by inhalation and if swallowed. Irritating to eyes, respiratory system and skin.

Label elements

Pictogram 

Signal word Danger

Hazard statement(s)
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.

Precautionary statement(s)
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Hazard symbol(s)
F Highly flammable
Xn Harmful

R-phrases(s)
R11 Highly flammable.
R20/22 Harmful by inhalation and if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.

S-phrases(s)
S16 Keep away from sources of ignition - No smoking.
S23 Do not breathe vapour.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S36 Wear suitable protective clothing.

Other hazards

Lachrymator.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Butyl mercaptan
Mercaptan C4

Formula : C4H10S
Molecular Weight : 90,19 g/mol

CAS-No.	EC-No.	Classification	Concentration
Butane-1-thiol 109-79-5	203-705-3	- Flam. Liq. 2; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; STOT SE 3; H225, H302, H315, H319, H332, H335 F, Xn, R11 - R20/22 - R36/37/38	-

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

4. 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
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed
Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.

Further information
Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Use personal protective equipment. Avoid breathing vapors, 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.

Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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).

7. HANDLING AND STORAGE

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.

Conditions for safe storage
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. Store in cool place.

Air sensitive.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Personal protective equipment

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of 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).

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

Eye 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 and 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.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form clear, liquid
Colour colourless

Safety data

pH no data available
Melting point -116 °C - lit.
Boiling point 98 °C - lit.
Flash point 12 °C - closed cup
Ignition temperature no data available
Lower explosion limit no data available
Upper explosion limit no data available
Vapour pressure 111 hPa at 37,7 °C
Density 0,842 g/cm3 at 25 °C
Water solubility no data available
Relative vapour density 3,11
- (Air = 1.0)

10. STABILITY AND REACTIVITY

Chemical stability
Stable under recommended storage conditions.

Conditions to avoid
Heat, flames and sparks. Extremes of temperature and direct sunlight.

Materials to avoid
Bases, Oxidizing agents, Alkali metals

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions. - Carbon oxides, Sulphur oxides

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD50 Oral - rat - 1.500 mg/kg
Remarks: Behavioral:Somnolence (general depressed activity). Respiratory disorder Behavioral:Coma.
LC50 Inhalation - rat - 4 h - 4020 ppm
Remarks: Lungs, Thorax, or Respiration:Respiratory stimulation. Behavioral:Somnolence (general depressed activity). Sense Organs and Special Senses (Nose, Eye, Ear, and Taste):Eye:Lacrimation.

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Reproductive toxicity - mouse - Inhalation

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Specific Developmental Abnormalities: Craniofacial (including nose and tongue). Specific Developmental Abnormalities: Musculoskeletal system.

Specific target organ toxicity - single exposure

Inhalation - May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Potential health effects

Inhalation Harmful if inhaled. Causes respiratory tract irritation.
Ingestion Harmful if swallowed.
Skin May be harmful if absorbed through skin. Causes skin irritation.
Eyes Causes serious eye irritation.

Signs and Symptoms of Exposure
Nausea, Headache, Vomiting, Cyanosis, Unconsciousness, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS: EK6300000

12. ECOLOGICAL INFORMATION

Toxicity

Toxicity to fish LC50 - Ictalurus punctatus - 1.100 mg/l - 96 h

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Mobility in soil

no data available

PBT and vPvB assessment

no data available

Other adverse effects

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID

UN-Number: 2347 Class: 3 Packing group: II

Proper shipping name: BUTYL MERCAPTAN

IMDG

UN-Number: 2347 Class: 3 Packing group: II EMS-No: F-E, S-D

Proper shipping name: BUTYL MERCAPTANS

Marine pollutant: No

IATA

UN-Number: 2347 Class: 3 Packing group: II

Proper shipping name: Butyl mercaptan

15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. OTHER INFORMATION

Text of H-code(s) and R-phrases(s) mentioned in Section 3

Acute Tox. Acute toxicity
Eye Irrit. Eye irritation
Flam. Liq. Flammable liquids
H225 Highly flammable liquid and vapour.
H302 Harmful if swallowed.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
Skin Irrit. Skin irritation
F Highly flammable
Xn Harmful
R11 Highly flammable.
R20/22 Harmful by inhalation and if swallowed.
R36/37/38 Irritating to eyes, respiratory system and skin.

Further information

For R&D use only. Not for drug, household or other uses.



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WARRANTY:
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. Lookchem shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.