ALFAAB20081

# Benzyl mercaptan

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

**产品说明:** **苄硫醇,**
**Product Description:** **Benzyl mercaptan**

**Cat No. :** **B20081**
**Synonyms** alpha-Toluenetiol; Thiobenzyl alcohol
**CAS No** 100-53-8
**Molecular Formula** C7 H8 S

**Supplier**

Avocado Research Chemicals Ltd.
(Part of Thermo Fisher Scientific)
Shore Road, Heysham
Lancashire, LA3 2XY,
United Kingdom
Office Tel: +44 (0) 1524 850506
Office Fax: +44 (0) 1524 850608

**Emergency Telephone Number**

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US:**001-201-796-7100 / **Europe:** +32 14 57 52 99
**CHEMTREC** Tel. No. **US:**001-800-424-9300 / **Europe:**001-703-527-3887

**E-mail address** begel.sdsdesk@thermofisher.com

**Recommended Use** Laboratory chemicals.
**Uses advised against** No Information available

## SECTION 2. HAZARD IDENTIFICATION

| **Physical State** | **Appearance** | **Odor** |
|---|---|---|
| Liquid | Light yellow | Stench |

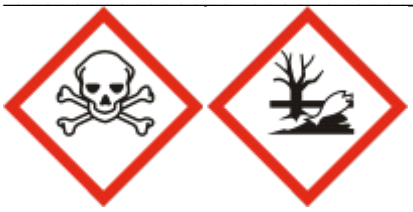
**Emergency Overview**

Causes serious eye irritation. Combustible liquid. Harmful if swallowed. Fatal if inhaled. Very toxic to aquatic life with long lasting effects. Air sensitive. Stench.

**Classification of the substance or mixture**

| | |
|---|---|
| Flammable liquids. | Category 4 |
| Acute Oral Toxicity | Category 4 |
| Acute Inhalation Toxicity - Vapors | Category 2 |
| Serious Eye Damage/Eye Irritation | Category 2 |
| Acute aquatic toxicity | Category 1 |
| Chronic aquatic toxicity | Category 1 |

**Label Elements**



**Signal Word** **Danger**

**Hazard Statements**
H227 - Combustible liquid
H319 - Causes serious eye irritation
H302 - Harmful if swallowed
H330 - Fatal if inhaled
H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements**
**Prevention**
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P284 - Wear respiratory protection
**Response**
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor
P330 - Rinse mouth
P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish
**Storage**
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
**Disposal**
P501 - Dispose of contents/ container to an approved waste disposal plant

**Physical and Chemical Hazards**
Combustible material.
**Health Hazards**
Causes serious eye irritation. Harmful if swallowed. Fatal if inhaled.
**Environmental hazards**
Harmful to aquatic life. Very toxic to aquatic life with long lasting effects. Is not likely mobile in the environment due its low water solubility. The product is insoluble and sinks in water. The product evaporates slowly. Spillage unlikely to penetrate soil.

**Other Hazards**

Stench. Toxic to terrestrial vertebrates. This product does not contain any known or suspected endocrine disruptors.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| Component | CAS No | Weight % |
|---|---|---|
| Benzyl mercaptan | 100-53-8 | >95 |

## SECTION 4. FIRST AID MEASURES

**General Advice**
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

**Eye Contact**
Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

**Skin Contact**
Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

**Inhalation**
Remove to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.

**Ingestion**
Do NOT induce vomiting. Call a physician or poison control center immediately.

**Most important symptoms and effects**
None reasonably foreseeable. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Self-Protection of the First Aider**
Use personal protective equipment as required.

**Notes to Physician**
Treat symptomatically.

## SECTION 5. FIRE-FIGHTING MEASURES

**Suitable Extinguishing Media**
Water spray, carbon dioxide (CO2), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

**Extinguishing media which must not be used for safety reasons**
No information available.

**Specific Hazards Arising from the Chemical**
Combustible material. Keep product and empty container away from heat and sources of ignition. Risk of ignition. Containers may explode when heated. Do not allow run-off from fire-fighting to enter drains or water courses.

**Protective Equipment and Precautions for Firefighters**
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions**
Use personal protective equipment as required. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

**Environmental Precautions**
Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Prevent product from entering drains. Local authorities should be advised if significant spillages cannot be contained.

**Methods for Containment and Clean Up**
Keep in suitable, closed containers for disposal. Soak up with inert absorbent material. Remove all sources of ignition.

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7. HANDLING AND STORAGE

**Handling**
Do not get in eyes, on skin, or on clothing. Wear personal protective equipment/face protection. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance. Keep away from open flames, hot surfaces and sources of ignition.

**Storage**
Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame. Store under an inert atmosphere.

**Specific Use(s)**
Use in laboratories

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control Parameters**

**Monitoring methods**
BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS70 General methods for sampling airborne gases and vapours

**Exposure Controls**

**Engineering Measures**
Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

**Personal protective equipment**

| | |
|---|---|
| **Eye Protection** | Goggles (European standard - EN 166) |
| **Hand Protection** | Protective gloves |

| Glove material | Breakthrough time | Glove thickness | EU standard | Glove comments |
|---|---|---|---|---|
| Natural rubber<br>Nitrile rubber<br>Neoprene<br>PVC | See manufacturers recommendations | - | EN 374 | (minimum requirement) |

Inspect gloves before use.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)
Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.
Remove gloves with care avoiding skin contamination.

| | |
|---|---|
| **Skin and body protection** | Long sleeved clothing |
| **Respiratory Protection** | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.<br>To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly |
| **Large scale/emergency use** | Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced<br>**Recommended Filter type:** Organic gases and vapours filter Type A Brown conforming to EN14387 |
| **Small scale/Laboratory use** | Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |

**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141
When RPE is used a face piece Fit Test should be conducted

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

**Environmental exposure controls** Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | | |
|---|---|---|
| **Appearance** | Light yellow | |
| **Physical State** | Liquid | |
| **Odor** | Stench | |
| **Odor Threshold** | No data available | |
| **pH** | No information available | |
| **Melting Point/Range** | -29 °C / -20.2 °F | |
| **Softening Point** | No data available | |
| **Boiling Point/Range** | 195 °C / 383 °F | |
| **Flash Point** | 70 °C / 158 °F | **Method -** No information available |
| **Evaporation Rate** | No data available | |
| **Flammability (solid,gas)** | Not applicable | Liquid |
| **Explosion Limits** | **Lower** 1 | |
| **Vapor Pressure** | 0.5 mbar @ 20 °C | |
| **Vapor Density** | 4.28 | (Air = 1.0) |
| **Specific Gravity / Density** | 1.058 | |
| **Bulk Density** | Not applicable | Liquid |
| **Water Solubility** | Insoluble | |
| **Solubility in other solvents** | No information available | |

**Partition Coefficient (n-octanol/water)**

| **Component** | **log Pow** |
|---|---|
| Benzyl mercaptan | 2.48 |

| | | |
|---|---|---|
| **Autoignition Temperature** | 270 °C / 518 °F | |
| **Decomposition Temperature** | No data available | |
| **Viscosity** | No data available | |
| **Explosive Properties** | | explosive air/vapour mixtures possible |
| **Oxidizing Properties** | No information available | |
| **Molecular Formula** | C7 H8 S | |
| **Molecular Weight** | 124.21 | |

## SECTION 10. STABILITY AND REACTIVITY

**Stability** Air sensitive.

**Hazardous Reactions** None under normal processing.
**Hazardous Polymerization** Hazardous polymerization does not occur.

**Conditions to Avoid** Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition. Exposure to air.

**Materials to avoid** Acids. Strong oxidizing agents. Strong bases.

**Hazardous Decomposition Products** Carbon monoxide (CO). Carbon dioxide ($CO_2$). Sulfur oxides. Sulfides.

## SECTION 11. TOXICOLOGICAL INFORMATION

**Product Information**

**(a) acute toxicity;**

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|
| Benzyl mercaptan | 493 mg/kg ( Rat ) | > 2000 mg/kg ( Rabbit ) | 178 ppm (4h) ( Mouse ) |

**(b) skin corrosion/irritation;** No data available

**(c) serious eye damage/irritation;** Category 2

**(d) respiratory or skin sensitization;**
**Respiratory** No data available
**Skin** No data available

**(e) germ cell mutagenicity;** No data available

Not mutagenic in AMES Test

**(f) carcinogenicity;** No data available

There are no known carcinogenic chemicals in this product

**(g) reproductive toxicity;** No data available

**(h) STOT-single exposure;** No data available

**(i) STOT-repeated exposure;** No data available

**Target Organs** No information available.

**(j) aspiration hazard;** No data available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

**Symptoms / effects,both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

## SECTION 12. ECOLOGICAL INFORMATION

**Ecotoxicity effects** Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

| Component | Freshwater Fish | Water Flea | Freshwater Algae | Microtox |
|---|---|---|---|---|
| Benzyl mercaptan | | | | EC50 = 0.96 mg/L 5 min<br>EC50 = 0.99 mg/L 15 min<br>EC50 = 1.21 mg/L 30 min |

**Persistence and Degradability** Not readily biodegradable
**Persistence** Persistence is unlikely.
**Degradation in sewage** Contains substances known to be hazardous to the environment or not degradable in waste

**treatment plant** water treatment plants.

**Bioaccumulative Potential** Bioaccumulation is unlikely

| Component | log Pow | Bioconcentration factor (BCF) |
|---|---|---|
| Benzyl mercaptan | 2.48 | No data available |

**Mobility in soil** The product is insoluble and sinks in water The product evaporates slowly Spillage unlikely to penetrate soil Is not likely mobile in the environment due its low water solubility Spillage unlikely to penetrate soil

**Endocrine Disruptor Information** This product does not contain any known or suspected endocrine disruptors
**Persistent Organic Pollutant** This product does not contain any known or suspected substance
**Ozone Depletion Potential** This product does not contain any known or suspected substance

## SECTION 13. DISPOSAL CONSIDERATIONS

**Waste from Residues/Unused Products** Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations. Should not be released into the environment.

**Contaminated Packaging** Dispose of this container to hazardous or special waste collection point.

**Other Information** Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains. Do not let this chemical enter the environment.

## SECTION 14. TRANSPORT INFORMATION

**Road and Rail Transport**

**UN-No** UN2810
**Proper Shipping Name** Toxic liquid, organic, n.o.s.
**Technical Shipping Name** Benzyl mercaptan
**Hazard Class** 6.1
**Packing Group** II

**IMDG/IMO**

**UN-No** UN2810
**Proper Shipping Name** Toxic liquid, organic, n.o.s.
**Technical Shipping Name** Benzyl mercaptan
**Hazard Class** 6.1
**Packing Group** II

**IATA**

**UN-No** UN2810
**Proper Shipping Name** Toxic liquid, organic, n.o.s.
**Technical Shipping Name** Benzyl mercaptan
**Hazard Class** 6.1
**Packing Group** II

**Special Precautions for User** No special precautions required

## SECTION 15. REGULATORY INFORMATION

**International Inventories**
X = listed, China (IECSC), Europe (EINECS/ELINCS/NLP), U.S.A. (TSCA), Canada (DSL/NDSL), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), Korea (KECL).

| Component | The Inventory of Hazardous Chemicals (2015 Edition) | List of dangerous goods GB 12268 - 2012 | TCSI | IECSC | EINECS | TSCA | DSL | PICCS | ENCS | ISHL | AICS | KECL |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Benzyl mercaptan | X | - | X | X | 202-862-5 | X | X | X | X | X | X | - |

**National Regulations**

## SECTION 16. OTHER INFORMATION

| | |
|---|---|
| **Prepared By** | Health, Safety and Environmental Department |
| **Creation Date** | 30-Apr-2012 |
| **Revision Date** | 22-Apr-2024 |
| **Revision Summary** | New emergency telephone response service provider. |

**Training Advice**
Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.
Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.
First aid for chemical exposure, including the use of eye wash and safety showers.
Chemical incident response training.

**Legend**

**CAS** - Chemical Abstracts Service

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**ENCS** - Japanese Existing and New Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**TWA** - Time Weighted Average

**ACGIH** - American Conference of Governmental Industrial Hygienists

**IARC** - International Agency for Research on Cancer

**DNEL** - Derived No Effect Level

**PNEC** - Predicted No Effect Concentration

**RPE** - Respiratory Protective Equipment

**LD50** - Lethal Dose 50%

**LC50** - Lethal Concentration 50%

**EC50** - Effective Concentration 50%

**NOEC** - No Observed Effect Concentration

**POW** - Partition coefficient Octanol:Water

**PBT** - Persistent, Bioaccumulative, Toxic

**vPvB** - very Persistent, very Bioaccumulative

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**OECD** - Organisation for Economic Co-operation and Development

**ATE** - Acute Toxicity Estimate

**BCF** - Bioconcentration factor

**VOC** - (Volatile Organic Compound)

**Key literature references and sources for data**
https://echa.europa.eu/information-on-chemicals
Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**Disclaimer**

**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 a 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**

## End of Safety Data Sheet