



Section 1 – Company Information

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Section 2 – Product Identification/ Information on Ingredients

PRODUCT NAME 2-Mercaptobenzothiazole
CAS NUMBER 149-30-4
SYNONYM 2-Benzothiazolethiol
FORMULA $C_7H_5NS_2$

Section 3 – Hazards Identification

Emergency Overview

WHMIS Classification: D2B, Toxic Material Causing Other Toxic Effects, Skin sensitizer

GHS Classification

Skin sensitization (Category 1)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

GHS Label elements, including Precautionary Statements

Signal Word: Warning

Hazard Statement(s)

H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statement(s)

P273 Avoid release to the environment.
P280 Wear protective gloves.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health Hazard: 2
Flammability: 1
Physical Hazards: 0



Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Ingestion: May be harmful if swallowed.

Section 4 – First Aid Measures

General Advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

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: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Section 5 – Fire Fighting Measures

Conditions of Flammability: Not flammable or combustible.

Suitable Extinguishing Media: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.

Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous Combustion Products: Hazardous decomposition products formed under fire conditions are carbon oxides, nitrogen oxides (NO_x), sulfur oxides

Explosion Data - Sensitivity to Mechanical Impact: No data available

Explosion Data - Sensitivity to Static Discharge: No data available

Section 6 – Accidental Release Measures

Personal Precautions: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Avoid breathing dust.

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.

Methods and Materials for Containment and Cleaning-Up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.



Section 7 – Handling & Storage

Precautions for Safe Handling: Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.
Conditions for Safe Storage: Keep container tightly closed in a dry and well-ventilated place. Store under inert gas. Air sensitive.

Section 8 – Exposure Controls & Personal Protection

Contains no substances with occupational exposure limit values.

Personal Protective Equipment

Respiratory Protection: For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. 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 gloves' 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.

Full Contact

Material: Nitrile rubber
Minimum Layer Thickness: 0.11 mm
Break Through Time: 480 min
Material Tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash Contact

Material: Nitrile rubber
Minimum Layer Thickness: 0.11 mm
Break Through Time: 480 min
Material Tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.



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. 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.

Specific Engineering Controls: Use mechanical exhaust or laboratory fume hood to avoid exposure.

Section 9 – Physical & Chemical Properties

Appearance

Form: Crystalline

Color: Light yellow

Safety Data

pH: No data available

Melting Point/Range: 178 - 181°C (352 - 358°F)

Boiling Point: > 260°C (> 500°F) - Decomposes on heating.

Flash Point: 200°C (392°F) - closed cup

Ignition Temperature: No data available

Auto-Ignition Temperature: No data available

Lower Explosion Limit: 15 % (V)

Vapor Pressure: No data available

Density: 1.42 g/cm³ at 20°C (68°F)

Water Solubility: 0.118 g/L at 25°C (77°F) - insoluble

Partition Coefficient: n-Octanol/Water log Pow: 2.41

Relative Vapor Density: No data available

Odor: Unpleasant

Odor Threshold: No data available

Evaporation Rate: No data available

Section 10 – Stability & Reactivity Data

Chemical Stability: Stable under recommended storage conditions.

Possibility of Hazardous Reactions: No data available

Conditions to Avoid: No data available

Materials to Avoid: Oxidizing agents

Hazardous Decomposition Products: Hazardous decomposition products formed under fire conditions are carbon oxides, nitrogen oxides (NO_x), sulfur oxides

Other Decomposition Products: No data available



Section 11 – Toxicological Information

Acute Toxicity

Oral LD50: LD50 Oral - rat - male and female - 3800 mg/kg

Inhalation LC50: LC50 Inhalation - rat - > 1270 mg/m³

Dermal LD50: LD50 Dermal - rabbit - male and female - > 7940 mg/kg

Other Information on Acute Toxicity: No data available

Skin Corrosion/Irritation: Skin - rabbit - No skin irritation - 24 h

Serious Eye Damage/Eye Irritation: Eyes - rabbit - No eye irritation - 24 h

Respiratory or Skin Sensitization

Buehler Test - guinea pig - May cause allergic skin reaction.

Maximization Test - guinea pig - May cause allergic skin reaction.

Germ Cell Mutagenicity

Genotoxicity in vitro - Ames test - *S. typhimurium* - with and without metabolic activation - negative

Genotoxicity in vivo - mouse - male and female - Intraperitoneal - negative

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.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

Reproductive Toxicity: No data available

Teratogenicity: No data available

Specific Target Organ Toxicity - Single Exposure (Globally Harmonized System):

No data available

Specific Target Organ Toxicity - Repeated Exposure (Globally Harmonized System):

No data available

Aspiration Hazard: No data available

Potential Health Effects

Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Ingestion: May be harmful if swallowed.

Skin: May be harmful if absorbed through skin. May cause skin irritation.

Eyes: May cause eye irritation.

Signs and Symptoms of Exposure: To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic Effects: No data available

Additional Information: Repeated dose toxicity - rat - male and female - Lowest observed adverse effect level - 2500 mg/kg

RTECS: DL6475000



Section 12 – Ecological Information

Toxicity

Toxicity to Fish: Flow-through test LC50 - *Oncorhynchus mykiss* (rainbow trout) - 0.73 mg/L - 96 h

Method: OECD Test Guideline 203

Toxicity to Daphnia and other Aquatic Invertebrates: Immobilization EC50 - *Daphnia magna* (Water flea) - 0.71 mg/L - 48 h

Method: OECD Test Guideline 202

Toxicity to Algae: Growth inhibition EC50 - *Selenastrum capricornutum* (green algae) - 0.5 mg/L - 72 h

Method: OECD Test Guideline 201

Persistence and Degradability

Biodegradability: Biotic/Aerobic

Result: < 1 % - Not readily biodegradable.

Bioaccumulative Potential

Bioaccumulation *Cyprinus carpio* (Carp) - 42 d at 25 °C

Bioconcentration factor (BCF): < 0.8

Mobility in Soil: No data available

PBT and vPvB Assessment: No data available

Other Adverse Effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

Section 13 – Disposal Consideration

Dispose of product and contaminated packaging in accordance with all local, state and federal environmental control regulations.

Section 14 – Transportation Data

DOT (US): Not dangerous goods

IMDG

UN Number: 3077

Class: 9

Packing Group: III EMS-No: F-A, S-F

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Benzothiazole-2-thiol)

Marine Pollutant: Marine pollutant



IATA

UN Number: 3077

Class: 9

Packing Group: III

Proper Shipping Name: Environmentally hazardous substance, solid, n.o.s. (Benzothiazole-2-thiol)

Further information: EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5 L for liquids or > 5 kg for solids.

Section 15 – Regulatory Information

WHMIS Classification: D2B, Toxic Material Causing Other Toxic Effects, Skin sensitizer
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Section 16 – Other Information

Disclaimer

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.

