

## SAFETY DATA SHEET

Preparation Date: 02/14/2019

Revision date 02/14/2019

Revision Number: G1

### 1. IDENTIFICATION

#### Product identifier

**Product code:** M2171  
**Product Name:** 2-MERCAPTOBENZOTHAZOLE

#### Other means of identification

**Synonyms:** 2(3H)-Benzothiazolethione  
 2-Benzothiazolyl mercaptan  
 2-Mercaptobenzothiazole  
 2-Merkaptobenzotiazol (Polish)  
 2-Merkaptobenzthiazol (Czech)  
 Benzothiazole-2-thione  
 MBT  
 Mercaptobenzothiazole  
 NCI-C56519  
 Pennac MBT powder  
 USAF GY-3  
 USAF XR-29  
 Vulkacit mercapto  
**CAS #:** 149-30-4  
**RTECS #** DL6475000  
**CI#:** Not available

#### Recommended use of the chemical and restrictions on use

**Recommended use:** No information available.  
**Uses advised against** No information available

**Supplier:** Spectrum Chemical Mfg. Corp  
 14422 South San Pedro St.  
 Gardena, CA 90248  
 (310) 516-8000

**Order Online At:** <https://www.spectrumchemical.com>  
**Emergency telephone number** Chemtrec 1-800-424-9300  
**Contact Person:** Tom Tyner (USA - West Coast)  
**Contact Person:** Ibad Tirmiz (USA - East Coast)

### 2. HAZARDS IDENTIFICATION

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Skin sensitization	Category 1

## Label elements

### **Warning**

#### **Hazard statements**

Harmful if swallowed

May cause an allergic skin reaction



### **Hazards not otherwise classified (HNOC)**

Not Applicable

### **Other hazards**

May be harmful if inhaled

Very toxic to aquatic life with long lasting effects

Very toxic to aquatic life

### **Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Avoid breathing dust/fume/gas/mist/vapors/spray

Contaminated work clothing must not be allowed out of the workplace

Wear protective gloves

### **Precautionary Statements - Response**

IF ON SKIN: Wash with plenty of water

If skin irritation or rash occurs: Get medical advice/attention

Wash contaminated clothing before reuse

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

### **Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

## **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Component</b>	<b>CAS No</b>	<b>Weight-%</b>
2-Mercaptobenzothiazole	149-30-4	100

## **4. FIRST AID MEASURES**

### **First aid measures**

#### **General Advice:**

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222.

#### **Skin Contact:**

Wash off immediately with soap and plenty of water removing all contaminated clothing and shoes. Get medical attention if irritation develops. Consult a physician if necessary.

**Eye Contact:** Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

**Inhalation:** Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

**Ingestion:** Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** May cause an allergic skin reaction  
Harmful if swallowed  
May cause irritation of respiratory tract  
May cause methemoglobinemia  
Nausea  
Headache  
May cause anorexia  
Salivation  
Seizures  
Somnolence

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician:** Treat symptomatically.

**Protection of first-aiders**

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

**5. FIRE-FIGHTING MEASURES**

**Extinguishing Media**

**Suitable Extinguishing Media:** Dry chemical. Carbon dioxide (CO<sub>2</sub>). Water spray, mist, or foam.

**Unsuitable Extinguishing Media:** No information available.

**Specific hazards arising from the chemical**

**Hazardous combustion products** Carbon monoxide. Carbon dioxide (CO<sub>2</sub>). Sulfur oxides. Nitrogen oxides (NO<sub>x</sub>).

**Specific hazards** May be combustible at high temperatures.

**Special Protective Actions for Firefighters**

**Specific Methods:** No information available

**Special Protective Equipment for Firefighters:** As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions:** Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing dust. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep people away from and upwind of spill/leak. Remove all sources of ignition.

**Environmental precautions** Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

### Methods and material for containment and cleaning up

**Methods for containment** Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

**Methods for cleaning up** Use appropriate tools to put the spilled solid in a suitable waste disposal container. Clean contaminated surface thoroughly.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. Keep away from incompatible materials.

**Safe Handling Advice**

Wear personal protective equipment. Keep away from sources of ignition - no smoking. Do not ingest. Do not breathe dust. Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage, including any incompatibilities

**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store away from incompatible materials. Store at room temperature in the original container.

**Incompatible Materials:**

Strong oxidizing agents  
Acids

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### National occupational exposure limits

##### United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
2-Mercaptobenzothiazole	149-30-4	None	None	None	5 mg/m <sup>3</sup> TWA

##### Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
2-Mercaptobenzothiazole	149-30-4	None	None	None	None

## Australia and Mexico

Component	CAS No	Australia	Mexico
2-Mercaptobenzothiazole	149-30-4	None	None

### Appropriate engineering controls

**Engineering measures to reduce exposure:** Ensure adequate ventilation, especially in confined areas. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

### Individual protection measures, such as personal protective equipment

#### Personal Protective Equipment

**Eye protection:** Goggles or Safety glasses with side-shields.

**Skin and body protection:** Chemical resistant apron  
Gloves  
Long sleeved clothing

**Respiratory protection:** Effective dust mask. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.

**Hygiene measures:** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product When using, do not eat, drink or smoke.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid	<b>Appearance:</b> Needles. Leaflets.	<b>Color:</b> Pale Yellow.
<b>Odor:</b> Disagreeable.	<b>Taste</b> No information available.	<b>Formula</b> C7H5NS2
<b>Molecular/Formula weight (g/mole):</b> 167.24	<b>Flammability (solid, gas)</b> no data available	<b>Flashpoint (°C/°F):</b> 200°C/ 392°F
<b>Flash Point Tested according to:</b> Closed cup	<b>Autoignition Temperature (°C/°F):</b> 628°C/ 1162°F	<b>Lower Explosion Limit (%):</b> 15%
<b>Upper Explosion Limit (%):</b> No information available	<b>Melting point/range(°C/°F):</b> 170-181.7°C/ 338-359.06°F	<b>Decomposition temperature(°C/°F):</b> >260°C/ >500°F
<b>Boiling point/range(°C/°F):</b> >260°C/ >500°F	<b>Bulk density:</b> No information available	<b>Density (g/cm3):</b> No information available
<b>Specific gravity:</b> 1.42	<b>pH</b> No information available	<b>Vapor pressure @ 20°C (kPa):</b> No information available

**Evaporation rate:**  
No information available

**Vapor density:**  
No information available

**VOC content (g/L):**  
No information available

**Odor threshold (ppm):**  
No information available

**Partition coefficient  
(n-octanol/water):**  
2.4

**Viscosity:**  
No information available

**Miscibility:**  
No information available

**Solubility:**  
Partially soluble in acetone  
Very slightly soluble in diethyl ether  
Slightly soluble in glacial Acetic acid  
Slightly soluble in Benzene  
Slightly soluble in Toluene  
Slightly soluble in Carbon Tetrachloride  
Soluble in Alkalis  
Soluble in Alcohol  
Soluble in Chloroform  
Insoluble in water

## 10. STABILITY AND REACTIVITY

### Reactivity

No information available

### Chemical stability

**Stability:** Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials.

**Incompatible Materials:** Strong oxidizing agents  
Acids

**Hazardous decomposition products:** Carbon oxides. Nitrogen oxides (NOx). Sulfur oxides.

### Other Information

**Corrosivity:** No information available

**Special Remarks on Corrosivity:** No information available

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Principal Routes of Exposure:**  
Skin. Inhalation. Ingestion. Eyes.

### Acute Toxicity

The following values are calculated based on chapter 3.1 of the GHS document  
**Component Information**

2-Mercaptobenzothiazole

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CAS No	149-30-4
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**LD50/oral/rat** = 100 mg/kg Oral LD50 Rat  
**LD50/oral/mouse** = 2000 mg/kg Oral LD50  
**LD50/dermal/rabbit** = >7940 mg/kg Dermal LD50Rabbit  
**LD50/dermal/rat** = No information available  
**LC50/inhalation/rat** = >1270 mg/m<sup>3</sup>/4H  
**LC50/inhalation/mouse** = No information available  
**Other LD50 or LC50 information** = >2150 mg/kg Oral LD50 Quail

**Product Information**

**LD50/oral/rat** =  
**Value - Acute Tox** = 100 mg/kg

**LD50/oral/mouse** =  
**Value - Acute Tox Oral** = 2000 mg/kg

**LD50/dermal/rabbit**  
**Value - Acute Tox** = >7940 mg/kg

**LD50/dermal/rat**  
**VALUE - Acute Tox Dermal** = No information available

**LC50/inhalation/rat**  
**VALUE-Vapor** = No information available  
**VALUE-Gas** = No information available  
**VALUE-Dust/Mist** = >1270 mg/m<sup>3</sup>/4H

**LC50/Inhalation/mouse**  
**VALUE-Vapor** = No information available  
**VALUE - Gas** = No information available  
**VALUE - Dust/Mist** = No information available

**Symptoms**

**Skin Contact:** May cause allergic skin reaction. May cause skin irritation.

**Eye Contact:** May cause eye irritation. May cause conjunctivitis.

**Inhalation** May cause irritation of respiratory tract.

**Ingestion** Harmful if swallowed. May cause nausea. May cause headache. May cause anorexia. May cause salivation. May affect behavior/central nervous system (somnolence). May cause Methemoglobinemia.

**Aspiration hazard** No information available.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Chronic Toxicity** Prolonged or repeated ingestion may affect the liver. Prolonged or repeated ingestion may affect the urinary system. Prolonged or repeated ingestion may affect metabolism (cause anorexia, weight loss).

**Sensitization:** May cause sensitization by skin contact.

**Mutagenic Effects:** No information available

**Carcinogenic effects:** Carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
2-Mercaptobenzothiazole	149-30-4	Monograph 115 [2018]	Not listed	Not listed	Present	Not listed	Not listed

*ACGIH (American Conference of Governmental Industrial Hygienists)*

*IARC (International Agency for Research on Cancer)*

*NTP (National Toxicology Program)*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

**Reproductive toxicity** No data is available

**Reproductive Effects:** No information available

**Developmental Effects:** No information available

**Teratogenic Effects:** No information available

### **Specific Target Organ Toxicity**

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Target Organs:** No information available.

## **12. ECOLOGICAL INFORMATION**

### **Ecotoxicity**

**Ecotoxicity effects:** Aquatic environment.

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**Algae/aquatic plants** EC50: =0.25mg/L (96h, Pseudokirchneriella subcapitata)

**Fish** LC50: 1.32 - 2.73mg/L (96h, Lepomis macrochirus) LC50: =0.42mg/L (96h, Oncorhynchus mykiss) LC50: =11mg/L (96h, Pimephales promelas)

**Crustacea** EC50: =4.1mg/L (48h, Daphnia magna)

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available.

**Mobility in soil** No information available

**Other adverse effects** No information available.

## **13. DISPOSAL CONSIDERATIONS**

### **Disposal Methods**

#### **Waste from residues / unused products:**

Waste must be disposed of in accordance with Federal, State and Local regulation.

#### **Contaminated packaging:**

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Empty containers should be taken for local recycling, recovery or waste disposal

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
2-Mercaptobenzothiazole	149-30-4	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Hazard Class** 9  
**Subsidiary Class** No information available  
**Packing group:** III  
**Emergency Response Guide Number** 171  
**Marine Pollutant** (contains copper sulfate)  
**DOT RQ (lbs):** No information available  
**Special Provisions** 146, 335, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33, 8  
**Symbol(s):** No information available  
**Description:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S., 9, III, Marine pollutant

### TDG (Canada)

**UN-No:** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Hazard Class** 9  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Marine Pollutant** No Information available  
**Description:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Mercaptobenzothiazole), 9, III

### ADR

**UN Number** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Transport hazard class(es)** 9  
**Packing group** III  
**Subsidiary Risk:** No information available  
**Special Provisions** 274, 335, 375, 601  
**Description:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-MERCAPTOBENZOTHIAZOLE), 9, III

### IMDG

**UN-No:** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Hazard Class:** 9  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Marine Pollutant** No information available  
**EMS:** F-A  
**Special Provisions** 274, 335, 966, 967, 969  
**Description** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-MERCAPTOBENZOTHIAZOLE), 9, III, Marine pollutant

### RID

**UN Number** UN3077

**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Transport hazard class(es)** 9  
**Subsidiary Risk:** No information available  
**Packing group** III  
**Special Provisions** 274, 335, 375, 601  
**Description:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-MERCAPTOBENZOTHIAZOLE), 9, III

**ICAO (air)**

**UN-No:** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Hazard Class** 9  
**Subsidiary Risk:** No information available  
**Packing Group:** III  
**Description:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Mercaptobenzothiazole), 9, III  
**Special Provisions** A158, A97, A179, A197

**IATA**

**UN Number** UN3077  
**Proper Shipping Name:** Environmentally hazardous substance, solid, n.o.s.  
**Transport hazard class(es)** 9  
**Subsidiary Risk:** No information available  
**Packing group** III  
**Precautionary Statements - Response** 9L  
**Special Provisions** No information available  
**Description:** UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (2-Mercaptobenzothiazole), 9, III

**15. REGULATORY INFORMATION**

**International Inventories**

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia AICS	EINECS-No.
2-Mercaptobenzothiazole	149-30-4	PresentACTIVE	Present KE-02723	Present	Present (5)-242	Present	Present	Present 205-736-8

**U.S. Regulations**

*2-Mercaptobenzothiazole*

**New Jersey RTK Hazardous Substance List:** 3710  
**New Jersey (EHS) List:** 3710 500 lb TPQ  
**New Jersey - Discharge Prevention - List of Hazardous Substances:** Present

**California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.**

**Chemicals Known to the State of California to Cause Cancer:**

 **WARNING:** This product contains a chemical known to the State of California to cause cancer. (See table below)

**Chemicals Known to the State of California to Cause Reproductive Toxicity:**

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
2-Mercaptobenzothiazole	149-30-4	carcinogen	Not Listed	Not Listed	Not Listed

## CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
2-Mercaptobenzothiazole	149-30-4	None	None	None	None	1.0 % de minimis concentration

## U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) - Health and Safety Reporting
2-Mercaptobenzothiazole	149-30-4	Not Applicable	Not Applicable

## Canada

### WHIMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:

The WHMIS 2015 classification of this product has not been validated or reviewed yet.

**Canada Hazardous Products Regulation** This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

## DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
2-Mercaptobenzothiazole	149-30-4	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
2-Mercaptobenzothiazole	149-30-4	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
2-Mercaptobenzothiazole	149-30-4	Not listed

## EU Classification

### EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
2-Mercaptobenzothiazole	149-30-4	Skin sensitizers - Skin Sens. 1: H317 May cause allergic skin reaction.; Hazardous to aquatic environment - acute hazard - Aquatic Acute 1: H400 Very toxic to aquatic life.; Hazardous to aquatic environment - chronic hazard - Aquatic Chronic 1: H410 Very toxic to aquatic life with long lasting effects.613-108-00-3

### EU - CLP (1272/2008)

### R-phrases(s)

R22 - Harmful if swallowed

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R43 - May cause sensitization by skin contact  
R50 - Very toxic to aquatic organisms  
R53 - May cause long-term adverse effects in the aquatic environment

**S -phrase(s)**

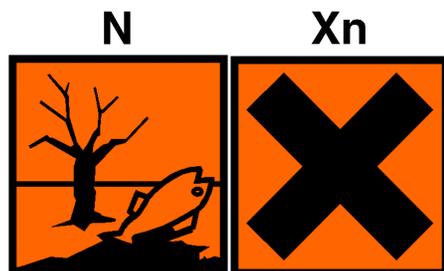
S24 - Avoid contact with skin  
S37 - Wear suitable gloves  
S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible)  
S60 - This material and its container must be disposed of as hazardous waste  
S61 - Avoid release to the environment. Refer to special instructions/safety data sheets.

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
2-Mercaptobenzothiazole	149-30-4	R43 N; R50-53	No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

**Indication of danger:**

N - Dangerous for the environment  
Xn - Harmful  
Xi - Irritant



**16. OTHER INFORMATION**

Preparation Date: 02/14/2019  
Revision date 02/14/2019  
Prepared by: Sonia Owen

**Disclaimer:**

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

**End of Safety Data Sheet**