

## **dibenzothiazol-2-yl disulfide 120-78-5 MSDS**

### **Section 1 - Chemical Product**

MSDS Name: 2,2'-Dithio(bis)benzothiazole Material Safety Data Sheet

Synonym: Benzothiazole Disulfide; 2-mercaptobenzothiazole Disulfide; MBTS

### **Section 2 - COMPOSITION, INFORMATION ON INGREDIENTS**

CAS#	Chemical Name	content
120-78-5	2,2'-Dithio(bis)benzothiazole	>/= 94

Hazard Symbols: XI N

Risk Phrases: 31 43 50/53

### **Section 3 - HAZARDS IDENTIFICATION**

#### **EMERGENCY OVERVIEW**

Contact with acids liberates toxic gas. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The toxicological properties of this material have not been fully investigated.

#### **Potential Health Effects**

##### **Eye:**

May cause eye irritation. Dust may cause mechanical irritation.

##### **Skin:**

May cause skin irritation. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.

##### **Ingestion:**

May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated. May cause allergic reaction.

##### **Inhalation:**

May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

##### **Chronic:**

No information found.

### **Section 4 - FIRST AID MEASURES**

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.

##### **Skin:**

In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.

##### **Ingestion:**

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give

anything by mouth to an unconscious person. Get medical aid.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician:

Treat symptomatically and supportively.

Antidote: None reported.

## **Section 5 - FIRE FIGHTING MEASURES**

General Information:

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Extinguishing Media:

Use water spray, dry chemical, carbon dioxide, or appropriate foam.

## **Section 6 - ACCIDENTAL RELEASE MEASURES**

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks:

Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation.

## **Section 7 - HANDLING and STORAGE**

Handling:

Wash thoroughly after handling. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation. Use with adequate ventilation.

Storage:

Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

## **Section 8 - EXPOSURE CONTROLS, PERSONAL PROTECTION**

Engineering Controls:

Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits CAS# 120-78-5: Personal Protective Equipment Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin:

Wear appropriate protective gloves to prevent skin exposure.

Clothing:

Wear appropriate protective clothing to prevent skin exposure.

Respirators:

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## **Section 9 - PHYSICAL AND CHEMICAL PROPERTIES**

Physical State: Powder

Color: yellow

Odor: aromatic odor

pH: Not available.

Vapor Pressure: Not available.

Viscosity: Not available.

Boiling Point: Not available.

Freezing/Melting Point: 177.00 - 183.00 deg C

Autoignition Temperature: Not applicable.

Flash Point: Not applicable.

Explosion Limits, lower: Not available.

Explosion Limits, upper: Not available.

Decomposition Temperature:

Solubility in water: insoluble

Specific Gravity/Density:

Molecular Formula: C<sub>14</sub>H<sub>8</sub>N<sub>2</sub>S<sub>4</sub>

Molecular Weight: 332.49

## **Section 10 - STABILITY AND REACTIVITY**

Chemical Stability:

Stable under normal temperatures and pressures. Contact with acids liberates toxic gas, Sulfur oxides.

Conditions to Avoid:

Dust generation.

Incompatibilities with Other Materials:

Strong oxidizing agents, acids.

Hazardous Decomposition Products:

Carbon monoxide, oxides of nitrogen, oxides of sulfur, carbon dioxide.

Hazardous Polymerization: Has not been reported

## **Section 11 - TOXICOLOGICAL INFORMATION**

RTECS#:

CAS# 120-78-5: DL4550000 LD50/LC50:

CAS# 120-78-5: Oral, mouse: LD50 = 7 gm/kg; Oral, rat: LD50 = >12 gm/kg; Skin, rabbit: LD50 = >7940 mg/kg.

Carcinogenicity:

2,2'-Dithio(bis)benzothiazole - Not listed by ACGIH, IARC, or NTP.

Other:

See actual entry in RTECS for complete information.

## **Section 12 - ECOLOGICAL INFORMATION**

Ecotoxicity:

Daphnia: Daphnia: 82mg/L; 48 Hr; EC50Fish: Bluegill/Sunfish: 82mg/L; 48 Hr; LC50Fish: Rainbow trout: 66mg/L; 96 Hr; LC50Fish: Fathead Minnow: >1000 mg/L; 96 Hr; LC50Algae: 0.7 mg/L; 96 Hr; EC50

## **Section 13 - DISPOSAL CONSIDERATIONS**

Dispose of in a manner consistent with federal, state, and local regulations.

## **Section 14 - TRANSPORT INFORMATION**

IATA

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S

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Hazard Class: 9

UN Number: 3077

Packing Group: III

IMO

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S

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Hazard Class: 9

UN Number: 3077

Packing Group: III

RID/ADR

Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S

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Hazard Class: 9

UN Number: 3077

Packing group: III

## **Section 15 - REGULATORY INFORMATION**

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XI N

Risk Phrases:

R 31 Contact with acids liberates toxic gas.

R 43 May cause sensitization by skin contact.

R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety Phrases:

S 36/37 Wear suitable protective clothing and gloves.

S 60 This material and its container must be disposed of as hazardous waste.

S 61 Avoid release to the environment. Refer to

special instructions/safety data sheets.

WGK (Water Danger/Protection)

CAS# 120-78-5: 2

Canada

CAS# 120-78-5 is listed on Canada's DSL List.

CAS# 120-78-5 is listed on Canada's Ingredient Disclosure List.

US FEDERAL

TSCA

CAS# 120-78-5 is listed on the TSCA inventory.

## **SECTION 16 - ADDITIONAL INFORMATION**

N/A