

化学品安全技术说明书

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**MSDS标题**

ZINC 2-MERCAPTOBENZOTHIAZOLE MSDS报告

**产品标题**

2-巯醇基苯并噻唑锌盐

**CAS号**

155-04-4

**化学品及企业标识**

**PRODUCT NAME**

ZINC 2-MERCAPTOBENZOTHIAZOLE

**NFPA**

Flammability	1
Toxicity	2
Body Contact	2
Reactivity	1
Chronic	2

SCALE: Min/Nil=0 Low=1 Moderate=2 High=3 Extreme=4

**PRODUCT USE**

Used as rubber vulcanisation accelerator and fungicide. Reagent

## SYNONYMS

C14-H8-N2-S4-Zn, Zn(SCNC6H4)2, "2-benzothiazolethiol, zinc salt", "2-benzothiazolethiol, zinc salt", bis(2-benzothiazolylthio)zinc, bis(mercaptobenzothiazolato)zinc, "2-mercaptobenzothiazole zinc salt", "2-mercaptobenzothiazole zinc salt", "zinc 2-benzothiazolethiolate", "zinc 2-benzothiazolethiolate", "zinc benzothiazolyl mercaptide", "zinc benzothiazol-2-ylthiolate", "zinc benzothiazol-2-ylthiolate", "zinc benzothiazyl-2-mercaptide", "zinc benzothiazyl-2-mercaptide", "zinc mercaptobenzothiazolate", "zinc mercaptobenzothiazole salt", "2(3H)-benzothiazolethione, zinc salt", Oxaf, "Pennac ZT", "Tisperse MB-58", "USAF GY-7", "Vulcacit ZM", Zenite, "Zenite Special", Zetax, ZMBT, ZnMB, "Hermat Zn-MBT", "Monsanto Bantex", "Perkacit ZMBT", "rubber accelerator"

## CANADIAN WHMIS SYMBOLS

## EMERGENCY OVERVIEW

### RISK

Harmful if swallowed.

May cause SENSITIZATION by skin contact.

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

## POTENTIAL HEALTH EFFECTS

### ACUTE HEALTH EFFECTS

#### SWALLOWED

Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Soluble zinc salts produces irritation and corrosion of the alimentary tract with pain, and vomiting. Death can occur due to insufficiency of food intake due to severe narrowing of the esophagus and pylorus. The toxic effects of mercaptobenzothiole is mainly due to the high concentration of thiocarbamates which are produced as a metabolite. Although fairly safe in low doses, if enough substance is given, symptoms such as loss of appetite, squinting, excessive salivation and tears, hair standing up, inco-ordination, hypothermia, depression, paralysis, and muscle twitching. Very high doses cause a progressing weakness and rising paralysis eventually affecting the muscles of breathing and causing death. Other symptoms such as flushing, breathing difficulties, nausea, vomiting and low blood pressure may also occur if alcohol is also given.

#### EYE

Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also

result. The material may produce foreign body irritation in certain individuals.

## **SKIN**

Skin contact is not thought to produce harmful health effects (as classified using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

## **INHALED**

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. Welding or flame cutting of metals with zinc or zinc dust coatings may result in inhalation of zinc oxide fume; high concentrations of zinc oxide fume may result in "metal fume fever"; also known as "brass chills", an industrial disease of short duration. [I.L.0] Symptoms include malaise, fever, weakness, nausea and may appear quickly if operations occur in enclosed or poorly ventilated areas.

## **CHRONIC HEALTH EFFECTS**

Skin contact with the material is more likely to cause a sensitization reaction in some persons compared to the general population. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray. Welding or flame cutting of metals with zinc or zinc dust coatings may result in inhalation of zinc oxide fume; high concentrations of zinc oxide fume may result in "metal fume fever"; also known as "brass chills", an industrial disease of short duration. [I.L.0] Symptoms include malaise, fever, weakness, nausea and may appear quickly if operations occur in enclosed or poorly ventilated areas. Mercaptobenzothiazole can cause liver damage, birth defects, cancers and reduction in male fertility, probably due to formation of dithiocarbamate, a metabolite. There is limited evidence that, skin contact with this product is more likely to cause a sensitization reaction in some persons compared to the general population. A 2 year chronic feeding study in rats and a one-year study in dogs (5000 ppm MBT) was negative.