

## 化 学 品 安 全 技 术 说 明 书

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### MSDS标题

ZINC DIMETHYLDITHIOCARBAMATE MSDS报告

### 产品标题

二甲基二硫代氨基甲酸锌;橡胶促进剂 ZDMC

### CAS号

137-30-4

### 化学品及企业标识

## PRODUCT NAME

ZINC DIMETHYLDITHIOCARBAMATE

## NFPA

Flammability	1
Toxicity	4
Body Contact	3
Reactivity	1
Chronic	2

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

## PRODUCT USE

Dangerous POISON. Available ONLY for industrial and manufacturing purposes. To be used by or in accordance with directions of accredited pest control officers. Operators to be trained in procedures for safe use of material. As a rubber accelerator for use in rubber articles intended for repeated or continuous contact with food; and for adhesives and

animal glue. Ziram in Granular forms (non dusting) are Schedule 6 Poisons. Also as fungicide used extensively on almond, peaches to control shot- hole, brown rot and peachleaf curl. Used on vegetables. The most stable of the metallic dithiocarbamates; non-phytotoxic except for zinc sensitive plants.

## SYNONYMS

C6-H12-N2-S4.Zn, "zinc, bis(dimethyldithiocarbamate)-", "bis(dimethylcarbamo-dithioato-s, s')zinc", "carbamic acid, dimethyldithio-, zinc salt (2:1)", "dimethylcarbamo-dithioic acid, zinc complex", "dimethylcarbamo-dithioic acid, zinc salt", "dimethyldithiocarbamate zinc salt", "zinc bis(dimethyldithiocarbamoyl)disulphide", "zinc bis(dimethyldithiocarbamoyl)disulfide", "zinc N, N-dimethyldithiocarbamate", "zinc N, N-dimethyldithiocarbamate", "methyl ziram", Aaprotect, "Corona Corozate", Cymate, Aavolex, "Cuman L", "Drupina 90", Aazira, "Eptac 1", Zitox, Carbazinc, "Methyl Zimate", "Methyl Zineb", "Accelerator L", "ENT 988", Z-C, Z-C, "Aceto ZDED", "Fuclasin Ultra", ZC, Antene, "Hermat ZDM", Hexazir, "Amyl Zimate", "Karbam White", "Alcobam ZM", Methazate, "Z 75", "Aceto ZDMD", Fuklasin, FungostopCiram, "Methyl Ziram", Mexene, Mezene, Milbam, Milban, Molurame, Mycronil, Prodaram, "Pomarzol Z Forte", NCI-C50442, Rhodiacid, "Soxinal PZ", "Soxonol PZ", Ziride, "Zirex 90", "Tricarbamix Z", Triscabol, Tsimat, "USAF P-2", "USAF P-2", "Vancide MZ-96", "Zerlate Vulcacure ZM", "Vulkacit L", Zarlate, Zirthane, "Zirame Zincmate", Zincarbamate, Ziramvis, Zirasan, Zirberk, "CAS RNs: 12768-61-5; 17125-91-6; 111922-61-3;", "CAS RNs: 12768-61-5; 17125-91-6; 111922-61-3;", "98391-07-2; 12773-04-5; 55870-88-7; 31300-71-7; 8059-74-3; 8070-07-3", "98391-07-2; 12773-04-5; 55870-88-7; 31300-71-7; 8059-74-3; 8070-07-3"

## CANADIAN WHMIS SYMBOLS

None

## EMERGENCY OVERVIEW

### RISK

Harmful if swallowed.

Very toxic by inhalation.

Risk of serious damage to eyes.

May cause SENSITIZATION by skin contact.

Possible risk of irreversible effects.

Harmful: danger of serious damage to health by prolonged exposure if swallowed.

Irritating to respiratory system and skin.

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. Strong evidence exists that the substance may cause irreversible but non-lethal mutagenic effects following a single exposure. Lethal doses of some thiocarbamates have produced muscle weakness and ascending paralysis progressing to respiratory paralysis and death in animals. Exposure to small quantities of thiocarbamates and intake of small quantities of ethanol may produce flushing, breathing difficulties, nausea and vomiting and lowered blood pressure. Sensitization to alcohol may last as long as 6-14 days following exposure. The acute toxicity of thiocarbamates is generally low, because of their rapid metabolism. Exposure to high doses may produce signs such as loss of appetite, squinting, excessive production of saliva, watery eyes, hairs standing on end, labored breathing, reduced body temperature, incoordination, depression and rapid muscle twitching.

## **EYE**

If applied to the eyes, this material causes severe eye damage.

## **SKIN**

This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition. 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**

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.

## **CHRONIC HEALTH EFFECTS**

Harmful: danger of serious damage to health by prolonged exposure if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. This has been demonstrated via both short- and long-term experimentation. Exposure to the material may result in a possible risk of irreversible effects. The material may produce mutagenic effects in man. This concern is raised, generally, on the basis of appropriate studies using mammalian somatic cells in vivo. Such findings are often supported by positive results from in vitro mutagenicity studies. There has been some

concern that this material can cause cancer or mutations but there is not enough data to make an assessment. 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. Some dithiocarbamates may cause birth defects and cancer and may affect male reproductive capacity. They may also cause goiter (overactivity of the thyroid gland) and nerve disorders. Thiocarbamates have been shown to alter sperm form and therefore reproduction. 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.O] Symptoms include malaise, fever, weakness, nausea and may appear quickly if operations occur in enclosed or poorly ventilated areas. When rats were fed ziram at the rate of 50 mg/kg onset of pregnancy was retarded and infertility resulted. Resorption of fetuses and developmental abnormalities in offspring were also noted.(1) Skeletal lesions associated with chronic oral administration to rats have been described. These seem to be associated with the impaired regulation of epiphyseal closure (1). Carcinogenic potential seems also to be expressed in a sex-dependant fashion with male rats being symptomatic (2). Nitrite interactions have been investigated in vivo in rats. Nitrosamines, (active carcinogens) were found in the stomach. The finding has some significance as nitrites are often used as food additives; residual amounts of the fungicide in the human diet may begin the process of nitrosamine formation when ingested along with nitrites (3). (1) Enomoto et al, Toxicology, 54, pp 45-58, 1989 (2) NIH Publication No. 83-1794, 1983 (3) Eisenbrand et al, Food & Cosmetics Toxicology, 12, pp 229-223, 1974