

化 学 品 安 全 技 术 说 明 书

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**MSDS标题**

ZINC TETRAFLUOROBORATE MSDS报告

**产品标题**

硼氟酸锌;四氟硼酸(1-)锌

**CAS号**

13826-88-5

**化学品及企业标识**

**PRODUCT NAME**

ZINC TETRAFLUOROBORATE

**NFPA**

Flammability 0

Toxicity 2

Body Contact 2

Reactivity 0

Chronic 2

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

**PRODUCT USE**

Plating and bonderising; resin curing agent. Semiconductor research, photoconductor.

## **SYNONYMS**

B2-F8-Zn, Zn(BF<sub>4</sub>)<sub>2</sub>, "zinc fluorborate", "zinc fluoborate"

## **CANADIAN WHMIS SYMBOLS**

## **EMERGENCY OVERVIEW**

## **RISK**

## **POTENTIAL HEALTH EFFECTS**

### **ACUTE HEALTH EFFECTS**

#### **SWALLOWED**

Accidental ingestion of the material may be damaging 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. Fluoride causes severe loss of calcium in the blood, with symptoms appearing several hours later including painful and rigid muscle contractions of the limbs. Cardiovascular collapse can occur and may cause death with increased heart rate and other heart rhythm irregularities. The brain and kidneys may be affected. Other toxic effects include headache, increased saliva output, jerking of the eyeball and dilated pupils, lethargy, stupor, coma and rarely, convulsions.

#### **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**

The material is not thought to be a skin irritant (as classified using animal models). Abrasive damage however, may result from prolonged exposures. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. Solution of material in moisture on the skin, or perspiration, may markedly increase skin corrosion and accelerate tissue destruction. 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**

Inhalation may produce health damage\*. Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual. 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. Inhalation of small amounts of dust or fume over long periods may cause poisoning. Acute effects of fluoride inhalation include irritation of nose and throat, coughing and chest discomfort. A single acute over-exposure may even cause nose bleed. Pre-existing respiratory conditions such as emphysema, bronchitis may be aggravated by exposure. Occupational asthma may result from exposure.

## **CHRONIC HEALTH EFFECTS**

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. Borate can accumulate in the testes and deplete germ cells and cause withering of the testicles, according to animal testing. Hair loss, skin inflammation, stomach ulcer and anemia can all occur. Repeated swallowing or inhalation irritates the stomach, causes a loss of appetite, disturbed digestion, nausea and vomiting, red rash, dry skin and mucous membranes, reddening of the tongue, cracking of the lips, inflamed conjunctiva, swelling of the eyelids and kidney injury. Prolonged ingestion causes effects to the reproductive system in both males and females. Fluoroborates accumulate in the thyroid gland, preventing the uptake of iodine. Chronic exposure to boron trifluoride can increase levels of bone fluoride and cause dental fluorosis.