

## 化 学 品 安 全 技 术 说 明 书

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### MSDS标题

ZINC BORATE MSDS报告

### 产品标题

硼酸锌

### CAS号

1332-07-6

### 化学品及企业标识

## PRODUCT NAME

ZINC BORATE

## 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

Fire and smoke inhibitor for textiles, synthetic resins, rubber, etc; mildew inhibitor and fungistat; ceramic flux; medicine A lube oil additive for corrosion resistance, wear resistance, antioxidant. Food

## SYNONYMS

BH3O3.3/2Zn, Zn(BO2)2, "ZnH2(BO2)4: CAS RN: 108749-27-5", "ZnH2(BO2)4: CAS RN: 108749-27-5", "CAS RN: 13826-88-5 [Nuvo]", "CAS RN: 13826-88-5 [Nuvo]", "ISC Nuvo", "boric acid, zinc salt"

## CANADIAN WHMIS SYMBOLS

None

## EMERGENCY OVERVIEW

### RISK

### POTENTIAL HEALTH EFFECTS

### ACUTE HEALTH EFFECTS

#### SWALLOWED

Accidental ingestion of the material may be damaging to the health of the individual. Borate poisoning causes nausea, vomiting, diarrhea and pain in the upper abdomen. Often persistent vomiting occurs, and there may be blood in the feces. There may also be weakness, lethargy, headache, restlessness, tremors and convulsions. All borates cause similar effects; the lethal dose is over 30 grams. Poisoning initially stimulates the central nervous system before causing depression, as well as disturbing the digestive system, causing skin eruptions, and damage to the liver and kidneys. Borate is mostly eliminated from the body via the kidneys.

#### 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 produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Open cuts, abraded or irritated skin should not be exposed to this material. 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. Borates, as represented by borax, may act as simple respiratory irritants. In a study of the respiratory effects of borax dust on active borax workers, the incidence of respiratory symptoms, pulmonary function and abnormalities of chest radiographs were related to estimated exposures. Dryness of the mouth, nose or throat, dry cough, nose bleeds, sore throat, productive cough, shortness of breath and chest tightness were related to exposures of 4 mg/m<sup>3</sup> or more. Not normally a hazard due to non-volatile nature of product.

## **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. 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. 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.