

化 学 品 安 全 技 术 说 明 书

填表时间 2019-12-30

打印时间 2026-05-16

**MSDS标题**

LEAD FLUOBORATE MSDS报告

**产品标题**

四氟硼酸铅

**CAS号**

13814-96-5

**化学品及企业标识**

**PRODUCT NAME**

LEAD FLUOBORATE

**NFPA**

Flammability	0
Toxicity	2
Body Contact	2
Reactivity	1
Chronic	3

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

**PRODUCT USE**

Used as a salt for for electroplating lead. Can be mixed with stannous fluoborate to electroplate any composition of tin and lead as an alloy. Also used as a catalyst in the manufacture of linear polyester.

## SYNONYMS

B2-F8-Pb, Pb(BF4)2, "borate (1-), tetrafluoro-, lead (2+)", "plumbous fluoborate", "tetrafluoro borate (1-) lead (2+)", "lead borofluoride", "lead fluoroborate"

## CANADIAN WHMIS SYMBOLS

None

## EMERGENCY OVERVIEW

### RISK

Danger of cumulative effects.

May cause harm to the unborn child.

Possible risk of impaired fertility.

Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.

Harmful by inhalation and if swallowed.

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. Lead, in large amounts, can affect the blood, nervous system, heart, glands, immune system and digestive system. Anemia may occur. If untreated muscles may become paralyzed, and there may be brain damage. Symptoms include joint and muscle pain, weakness in the back of the forearm and wrist and in the shin muscles, headaches, dizziness, abdominal pain, diarrhea or constipation, nausea, vomiting, blue line on gums, sleep disturbance and a metallic taste in the mouth. The pressure in the brain may increase with high doses, and cause brain damage, coma, and death. Early signs include loss of appetite and weight, constipation, tiredness and irritability, headache, weakness. Later there may be vomiting, nervousness, and muscle pains in the arms and legs. Serious cases cause severe vomiting, inco-ordination, stupor, permanent eye damage, high blood pressure, multiple nerve disorders of the head resulting in paralysis and loss of reflexes, delirium, convulsions and coma. The kidneys may become irreversibly damaged, and the nervous system may become affected causing mental retardation, cerebral palsy, and jerks and seizures. 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 produce transient discomfort characterized by tearing or conjunctival redness (as with windburn).

## **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. Solution of material in moisture on the skin, or perspiration, may increase irritant effects. Open cuts, abraded or irritated skin should not be exposed to this material. Toxic effects may result from skin absorption.

## **INHALED**

The material is not thought to produce respiratory irritation (as classified using animal models). Nevertheless inhalation of the material, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. 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**

Ample evidence exists that developmental disorders are directly caused by human exposure to the material.

Principal routes of exposure are by accidental skin and eye contact and inhalation of generated dusts. 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. Lead can cross the placenta, and cause miscarriage, stillbirths and birth defects. Exposure before birth can cause mental retardation, behavioral disorders and infant death. Lead can also cause reduced sex drive, impotence, sterility and damage the sperm of males, increasing the potential for birth defects. Periods in women can also be affected. Lead can accumulate in the skeleton for a very long time.