

## 化 学 品 安 全 技 术 说 明 书

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### MSDS标题

LEAD DIOXIDE MSDS报告

### 产品标题

氧化高铅;棕色氧化铅;过氧化铅

### CAS号

1309-60-0

### 化学品及企业标识

## PRODUCT NAME

LEAD DIOXIDE

## NFPA

Flammability	0
Toxicity	2
Body Contact	2
Reactivity	2
Chronic	3

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

## PRODUCT USE

Used as an oxidising agent, in electrodes, lead- acid storage batteries, curing agent for polysulphide elastomers, textiles (mordant, discharge in dyeing with indigo), matches, explosives and as an analytical reagent.

## **SYNONYMS**

Pb-O<sub>2</sub>, "lead brown", "lead oxide brown", "lead peroxide", "lead superoxide"

## **CANADIAN WHMIS SYMBOLS**

### **EMERGENCY OVERVIEW**

#### **RISK**

Contact with combustible material may cause fire.

Danger of cumulative effects.

Irritating to eyes.

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. • Gastric acids solubilize lead and its salts and lead absorption occurs in the small bowel. • Particles of less than 1um diameter are substantially absorbed by the alveoli following inhalation. • Lead is distributed to the red blood cells and has a half-life of 35 days. It is subsequently redistributed to soft tissue bone-stores or eliminated. The kidney accounts for 75% of daily lead loss; integumentary and alimentary losses account for the remainder. • Neurasthenic symptoms are the most common symptoms of intoxication. Lead toxicity produces a classic motor neuropathy. Acute encephalopathy appears infrequently in adults. Diazepam is the best drug for seizures. • Whole-blood lead is the best measure of recent exposure; free erythrocyte protoporphyrin (FEP) provides the best screening for chronic exposure. Obvious clinical symptoms occur in adults when whole-blood lead exceeds 80 ug/dL. • British Anti-Lewisite is an effective antidote and enhances fecal and urinary excretion of lead. The onset of action of BAL is about 30 minutes and most of the chelated metal complex is excreted in 4-6 hours, primarily in the bile. Adverse reaction appears in up to 50% of patients given BAL in doses exceeding 5 mg/kg. CaNa<sub>2</sub>EDTA has also been used alone or in concert with BAL as an antidote. D-penicillamine is the usual oral agent for mobilization of bone lead; its use in the treatment of lead poisoning remains

investigational. 2-3-dimercapto-1-propanesulfonic acid (DMPS) and dimercaptosuccinic acid (DMSA) are water soluble analogues of BAL and their effectiveness is undergoing review. As a rule, stop BAL if lead decreases below 50 ug/dL; stop CaNa2EDTA if blood lead decreases below 40 ug/dL or urinary lead drops below 2 mg/24hrs. [Ellenhorn Barceloux: Medical Toxicology] BIOLOGICAL EXPOSURE INDEX - BEI These represent the determinants observed in specimens collected from a healthy worker who has been exposed at the Exposure Standard (ES or TLV):

Determinant	Index	Sampling Time	Comments
1. Lead in blood	30 ug/100 ml	Not Critical	
2. Lead in urine	150 ug/gm creatinine	Not Critical	B
3. Zinc protoporphyrin in blood	250 ug/100 ml erythrocytes OR 100 ug/100 ml blood	After 1 month exposure	B

B: Background levels occur in specimens collected from subjects NOT exposed.

## **EYE**

This material can cause eye irritation and damage in some persons. The dust may produce eye discomfort causing smarting, pain and redness.

## **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.

## **INHALED**

There is some evidence to suggest that this material, if inhaled, can irritate the throat and lungs of some persons. 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**

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. 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. 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.

