RADCHEM

LABORATORY CHEMICALS AND CONSUMABLES

MATERIAL SAFETY DATA SHEET

LEAD NITRATE

1. Chemical Product and Company information.

Product name: Lead Nitrate

Contact Information:
Radchem cc
PO Box 166982
Brackendowns
Alberton 1454
Telephone : **011 867 3726 / 2864**

2. Hazard Identification

Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of eye contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator). Prolonged exposure may result in skin burns and ulcerations. Over-exposure by inhalation may cause respiratory irritation.

3. Composition / information on ingredients

CAS #: 10099-74-8

Synonym: Lead (2+) Nitrate; Lead dinitrate; Lead (II) Nitrate; Nitric acid, lead (2+); Plumbous nitrate

Chemical Name: Lead Nitrate

Chemical Formula: Pb(NO3)2

4. First Aid Measures

Eye Contact: Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.

Skin Contact: In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact: Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation: If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek medical attention.

Ingestion: Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

5. Fire-fighting measures

Flammability of the Product: Non-flammable

Fire Hazards in Presence of Various Substances: combustible materials, organic materials

Explosion Hazards in Presence of Various Substances: Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available. Slightly explosive in presence of heat, of combustible materials, of organic materials.

Fire Fighting Media and Instructions: Not applicable

Special Remarks on Fire Hazards: Will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Lead nitrate reacts with brilliant sparks when projected on red-hot carbon. Dangerous fire risk in contact with organic materials. When heated to decomposition it emits very toxic fumes of lead and nitrogen oxides.

Special Remarks on Explosion Hazards: May react explosively with hydrocarbons (fuels). Many metal oxo-compounds (nitrates, oxides, and particularly sulphates) and sulphides are reduced violently or explosively in heating with aluminium powder to a suitably high temperature. May explode when in presence of organic or easily oxidizable compounds. May form explosive compound with ammonium thiocyanate, potassium acetate, or lead hypophosphite.

6. Accidental release measures

Small Spill: Use appropriate tools to put the spilled solid in a convenient waste disposal container.

Large Spill: Oxidizing material. Stop leak if without risk. Avoid contact with a combustible material (wood, paper, oil, clothing...). Keep substance damp using water spray. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

7. Handling and storage

Precautions: Keep away from heat. Keep away from sources of ignition. Keep away from combustible material. Do not ingest. Do not breathe dust. Wear suitable protective clothing. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as combustible materials, organic materials.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area. Separate from acids, alkalise, reducing agents and combustibles. See NFPA 43A, Code for the Storage of Liquid and Solid Oxidizers.

8. Exposure controls/personal protection

Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection: Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill: Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

9. Physical and chemical properties

Physical state and appearance: Solid (Translucent crystals)

Odour: Odourless

Taste: Not available

Colour: White. Colourless

Boiling Point: Not available

Melting Point: 470°C - decomposes

Critical Temperature: Not available

Specific Gravity: 4.53 (Water = 1)

Vapour Density: Not available

Volatility: Not available

Odour Threshold: Not available

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol

Solubility: Easily soluble in cold water, hot water. Soluble in methanol. Solubility in water: 1 g/2 ml cold water; 1 g/0.75 ml boiling water; 37.65 g/100 ml water @ 0 deg. C; 56.5 g/100 ml water @ 20 deg. C; 127 g/100 ml water at 100 deg. C. Solubility in absolute alcohol: 1 g/2500 ml Solubility in Methanol: 1 g/75 ml Insoluble in concentrate nitric acid.

10. Stability and reactivity

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Incompatible materials

Incompatibility with various substances: Highly reactive with combustible materials, organic materials.

Corrosivity: Non-corrosive in presence of glass

Special Remarks on Reactivity: Incompatible with Ammonium thiocyanate, powdered carbon, lead hypophosphite, potassium acetate, aluminium, alkyl esters, hydroxylamine, phosphorus, phosphinates, sulphur, tin chloride.

Special Remarks on Corrosivity: Not available

Polymerization: Will not occur.

11. Toxicological information

Routes of Entry: Absorbed through skin. Inhalation. Ingestion.

Toxicity to Animals: LD50: Not available. LC50: Not available

Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified A3 (Proven for animal.) by ACGIH,

2B (Possible for human.) by IARC. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. DEVELOPMENTAL TOXICITY: Classified Reproductive system/toxin/female, Reproductive system/toxin/male [SUSPECTED]. May cause damage to the following organs: blood, kidneys, the reproductive system, peripheral nervous system, central nervous system (CNS).

Other Toxic Effects on Humans: Very hazardous in case of ingestion. Hazardous in case of skin contact (irritant), of inhalation. Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available

Special Remarks on Chronic Effects on Humans: Human: passes through the placenta. May cause adverse reproductive effects and birth defects (teratogenic). May affect genetic material (mutagenic). It may cause cancer, but therE is no conclusive evidence in humans. The American Conference of Governmental Industrial Hygienists (ACGIH) classified it as a confirmed animal carcinogen with unknown relevance to humans (A3).

Special Remarks on other Toxic Effects on Humans: Acute Potential Health Effects: Skin: Causes skin irritation. It may be absorbed through the skin. Eyes: Causes eye irritation. Inhalation: Breathing lead nitrate can irritate the nose and throat. Irritation of the bronchi and lungs may also occur. It may be absorbed through the respiratory system. It may cause methemoglobimnemia, cyanosis (bluish discoloration of skin due to deficient oxygenation of blood), convulsions, tachycardia, chest pain due to dyspnoea (laboured breathing), and death. It may also affect behaviour/central nervous system and cause central nervous system effects including headache, convulsions, and possible death. It may cause kidney damage and anaemia. It may also cause other symptoms similar to that of ingestion. Ingestion: Acute lead poisoning or plumbism is rare. Acute lead poisoning by ingestion may result in lead colic, abdominal discomfort or cramps, lead line on the gums, anorexia (loss of appetite)/weight loss, constipation, metallic taste. It may also affect behaviour / central nervous system and cause headache, lassitude, insomnia, muscle weakness, depression, irritability, lassitude, dizziness, reduced memory, disturbed sleep, poor

12. Ecological information

Ecotoxicity: Ecotoxicity in water (LC50): 240 ppm 48 hours [Fish (Mosquito fish)]. 6.7 ppm 96 hours [Daphnia (daphnia)].

BOD5 and COD: Not available

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation: Not available

13. Disposal considerations

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

14. Transport information

DOT Classification: CLASS 5.1: Oxidizing material. CLASS 6.1: Poisonous material.

Identification: : Lead nitrate UNNA: 1469 PG: II

Special Provisions for Transport: Marine Pollutant