

MATERIAL SAFETY DATA SHEET

I PRODUCT IDENTIFICATION

Chemical Name: Lead Telluride **Formula:** PbTe
Chemical Family: Metal Telluride **CAS #:** 1314-91-6

II HAZARDOUS INGREDIENTS

<u>Hazardous Component</u>	<u>%</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>	<u>Sec. 302 EHS</u>	<u>Sec. 304 RQ</u>	<u>Sec. 313</u>
Lead Telluride	0-100	.05 mg (Pb)/m ³	.15 mg (Pb)/m ³	No	Yes 10 lb	Yes
Tellurium Compounds	0-100	0.1 mg/m ³	0.1 mg/m ³	No	Yes 1 lb	Yes

III PHYSICAL DATA

Boiling Point:	N/E	Melting Point:	917 °C	
Physical States:	Solid	Vapor Pressure (mm hg):	N/A	
Vapor Density (Air = 1):	N/A	Solubility in H₂O:	Insoluble	
% Volatiles by Weight:	N/A	Specific Gravity (Water = 1):	8.164	
Appearance and Odor:	Metallic crystalline pieces and powder, no odor.		Evaporation Rate:	N/A

IV FIRE AND EXPLOSION HAZARDS DATA

Flash Point: N/A **Autoignition Temperature:** N/A
Flammable Limits in Air: Lower: N/A **Upper:** N/A **Flammability:** Non-flammable

Extinguishing Media: Use suitable extinguishing media for surrounding materials and type of fire.

Special Firefighting Procedures: Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire and Explosion Hazards: When heated to decomposition or if lead telluride comes into contact with acid or acid fumes it may emit toxic fumes of lead.

V HEALTH HAZARD INFORMATION

Effects of Overexposure:

To the best of our knowledge the chemical, physical and toxicological properties of lead telluride have not been thoroughly investigated and recorded.

Some lead compounds are experimental neoplastigens and tumorigens. Lead poisoning is one of the commonest of occupational diseases. The lead must be in such form, and so distributed, as to gain entrance to the body or tissues of the worker in measurable quantity, otherwise no exposure can be said to exist. Some lead compounds are carcinogens of the lungs and kidneys. Lead is a cumulative poison. Increasing amounts build up in the body and eventually reach a point where symptoms and disability occur.

Elemental tellurium has relatively low toxicity. It is converted in the body to dimethyl telluride which imparts a garlic-like odor to the breath and sweat. Heavy exposures may, in addition, result in headache, drowsiness, metallic taste, loss of appetite, nausea, tremors, convulsions and respiratory arrest. Large doses can be fatal.

Acute Effects:

Inhalation: May cause irritation to the upper respiratory system, insomnia, dryness of the mouth and a metallic taste.

Skin: May cause irritation.

Eyes: May cause irritation.

Ingestion: May cause constipation and abdominal pain, colic, tremors, nausea, vomiting, diarrhea, metallic taste, loss of appetite, irritability and muscle pain. May cause acute lead and tellurium toxicity.

Chronic Effects:

Inhalation: May cause chronic lead toxicity. May be toxic to the central and peripheral nervous system affecting the cerebellum, spinal cord, motor and sensory nerves.

Skin: May cause dermatitis.

Eyes: No chronic health effects recorded.

Ingestion: May cause anemia, gingival lead line, paralysis in the wrist and permanent neurological injury. May cause chronic lead and tellurium toxicity. May cause nephritis, scarring and shrinking of the kidney tissue.

Target Organs: May affect the gastrointestinal tract, central nervous system, kidneys, blood, skin and gingival tissue.

Medical Conditions Generally Aggravated by Exposure: Pre-existing lung disorders.

Carcinogenicity: NTP: No **IARC Monographs:** No **OSHA Regulated:** No

Signs and Symptoms of Exposure:

Inhalation: May cause insomnia, depression, dryness of the mouth, nausea, vomiting, diarrhea, metallic taste, loss of appetite, irritability and muscle pain. Chronic lead toxicity may cause: loss of appetite, vomiting, renal malfunction, hyperactivity, mild anemia, liver cirrhosis, brain damage and general intellectual and psychological impairment.

Skin: May cause redness, itching and burning.

Eyes: May cause redness, itching, burning and watering.

Ingestion: May cause constipation and abdominal pain, colic, tremors, nausea, vomiting, diarrhea, metallic taste, loss of appetite, irritability and muscle pain. Acute lead toxicity may cause: lassitude, vomiting, loss of appetite, uncoordinated body movements, convulsions, stupor, coma and death. Acute tellurium toxicity may cause: suppression of sweat, nausea, somnolence, inflammation of the gastric mucosa, intestinal hemorrhage and intense hyperemia of internal organs and finally death from respiratory paralysis. Chronic lead toxicity may cause: loss of appetite, vomiting, renal malfunction, hyperactivity, mild anemia, liver cirrhosis, brain damage and general intellectual and psychological impairment. Chronic tellurium toxicity may cause: digestive disturbance, growth suppression, somnolence and garlic breath.

EMERGENCY AND FIRST AID PROCEDURES

INHALATION: Remove victim to fresh air; keep warm and quiet; give oxygen if breathing is difficult and seek medical attention immediately.

SKIN: Remove contaminated clothing; brush material off skin; wash affected area with mild soap and water; seek medical attention if symptoms persist.

EYES: Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention if symptoms persist.

INGESTION: Give 1-2 glasses of milk or water and induce vomiting; seek medical attention immediately. Never induce vomiting or give anything by mouth to an unconscious person.

VI REACTIVITY DATA

Stability: Stable

Conditions to Avoid: None

Incompatibility (Materials to Avoid): Acids, strong oxidizing agents, hydrogen peroxide, active metals, sodium and potassium.

Hazardous Decomposition Products: No data.

Hazardous Polymerization: Will not occur.

VII SPILL OR LEAK PROCEDURES

Steps to Be Taken in Case Material is Released or Spilled: Wear appropriate respiratory and protective equipment specified in Section VIII - Special Protection Information. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

Waste Disposal Method: Dispose of in accordance with State, Local and Federal regulations.

VIII SPECIAL PROTECTION INFORMATION

Respiratory Protection: NIOSH/MSHA approved dust mask for ordinary use, self-contained breathing apparatus for emergency use.

Ventilation: Use local exhaust to maintain concentration at or below the TLV, PEL. Mechanical exhaust not recommended.

Protective Gloves: Rubber

Eye Protection: ANSI approved safety goggles.

Other Protective Equipment: Lab coat and apron, flame and chemical resistant coveralls, eyewash capable of sustained flushing, safety drench shower and hygienic facilities for washing.

Work/Hygienic/Maintenance Practices: Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.

IX SPECIAL PRECAUTIONS

Precautions to Be Taken in Handling and Storage: Keep container tightly closed. Store in a cool, dry, well-ventilated area. Wash thoroughly after use.

HMIS Ratings: Health: 3 (chronic health hazard) **Flammability:** 0 **Reactivity:** 0

HMIS Protective Equipment: H: Glasses, gloves, clothing, combo resp.

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