LEAD THIOSULFATE

LTS

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Solid crystals White
Lead hyposulfite Thiosulfuric acid, lead salt	Sinks and mixes slowly with water.

Keep people away. Avoid contact with solid or dust.
Wear goggles, self-contained breathing apparatus, rubberoverclothing (including gloves).
Notify local health and pollution control agencies.

Fire	Not flammable. POISONOUS FUMES MAY BE PRODUCED IN FIRE. Wear goggles and self-contained breathing apparatus.
Exposure	CALL FOR MEDICAL AID. DUST POISONOUS IF INHALED. Move to fresh air. SOLID If swallowed, will cause abdominal pain, diarrhea, weakness, nausea, and vomiting. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting.
Water Pollution	HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

1. CORRECTIVE RESPONSE ACTIONS

Stop discharge
Collection Systems: Dredge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
2.2 Formula: PbS_2O_3
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: 2291
2.5 CAS Registry No.: Currently not available
2.6 NAERG Guide No.: 151
2.7 Standard Industrial Trade Classification: 52344

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Rubber gloves, safety glasses, respirator.
3.2 Symptoms Following Exposure: INHALATION: Joint and muscle pains, headache, dizziness, and insomnia. Weakness, frequently of extensor muscles of hand and wrist (unilateral or bilateral). Heavy contamination - Brain damage. Stupor progressing to coma - with or without convulsion, often death. Excitation, confusion, and mania less common. Cerebrospinal pressure may be increased. INGESTION: Abdominal pain, diarrhea, constipation, loss of appetite, muscular weakness, headache, blue line on gums metalic taste, nausea and vomiting, joint and muscle pain.
3.3 Treatment of Exposure: Immediately place under medical care. INHALATION: Remove from further exposure. EYES: Flush with copious amounts of water. SKIN: Wash with soap and water. INGESTION: Induce vomiting and follow with gastric lavage at the earliest possible time. Administer a saline cathartic and an enema.
3.4 TLV-TWA: 0.05 mg/m^3 (as lead)
3.5 TLV-STEL: Not listed.
3.6 TLV-Ceiling: Not listed.
3.7 Toxicity by Ingestion: Currently not available
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Intermittent vomiting, irritability, nervousness, incoordination; vague pains in the arms, legs, joints, and abdomen. Sensory disturbances of extremities, paralysis of extensor muscles of arms and legs with wrist and foot drop. Disturbance of menstrual cycle, and abortion. Periods of stupor or lethargy, encephalopathy (with visual disturbances), elevated blood pressure, papilledema, cranial nerve paralysis, delirium, convulsions, and coma.
3.10 Vapor (Gas) Irritant Characteristics: Currently not available
3.11 Liquid or Solid Characteristics: Currently not available
3.12 Odor Threshold: Currently not available
3.13 IDLH Value: 100 mg Pb/m^3
3.14 OSHA PEL-TWA: 0.05 mg/m^3 (as lead).
3.15 OSHA PEL-STEL: Not listed.
3.16 OSHA PEL-Ceiling: Not listed.
3.17 EPA AEGL: Not listed

4. FIRE HAZARDS

4.1 Flash Point: Not flammable
4.2 Flammable Limits in Air: Not flammable
4.3 Fire Extinguishing Agents: Not pertinent
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: Toxic fumes
4.6 Behavior in Fire: Can emit toxic metal fumes and oxides of sulfur.
4.7 Auto Ignition Temperature: Not pertinent
4.8 Electrical Hazards: Not pertinent
4.9 Burning Rate: Not pertinent
4.10 Adiabatic Flame Temperature: Currently not available
4.11 Stoichometric Air to Fuel Ratio: Not pertinent.
4.12 Flame Temperature: Currently not available
4.13 Combustion Molar Ratio (Reactant to Product): Not pertinent.
4.14 Minimum Oxygen Concentration for Combustion (MOCC): Not listed

5. CHEMICAL REACTIVITY

5.1 Reactivity with Water: No reaction
5.2 Reactivity with Common Materials: Currently not available
5.3 Stability During Transport: Currently not available
5.4 Neutralizing Agents for Acids and Caustics: Currently not available
5.5 Polymerization: Currently not available
5.6 Inhibitor of Polymerization: Currently not available

6. WATER POLLUTION

6.1 Aquatic Toxicity:
0.34 ppm (as Pb)/48-hour TL_m/stickelbacks and coho salmon
1.4 ppm (as Pb)/48-hour TL_m/Bluegil sunfish
2.0 ppm (as Pb)/24-hour TL_m/Bluegil sunfish
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): Currently not available
6.4 Food Chain Concentration Potential: Animals and fish are capable of concentrating lead.
6.5 GESAMP Hazard Profile: Not listed

7. SHIPPING INFORMATION

7.1 Grades of Purity: Currently not available
7.2 Storage Temperature: Cool - out of direct rays of sun
7.3 Inert Atmosphere: Currently not available
7.4 Venting: Currently not available
7.5 IMO Pollution Category: Currently not available
7.6 Ship Type: Currently not available
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Keep Away From Food
8.2 49 CFR Class: 6.1
8.3 49 CFR Package Group: III
8.4 Marine Pollutant: No
8.5 NFPA Hazard Classification: Not listed
8.6 EPA Reportable Quantity: Not listed.
8.7 EPA Pollution Category: Not listed.
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Solid
9.2 Molecular Weight: 319.33
9.3 Boiling Point at 1 atm: Currently not available
9.4 Freezing Point: Decomposes at melting point.
9.5 Critical Temperature: Currently not available
9.6 Critical Pressure: Currently not available
9.7 Specific Gravity: 5.18 at room temperature
9.8 Liquid Surface Tension: Not pertinent
9.9 Liquid Water Interfacial Tension: Not pertinent
9.10 Vapor (Gas) Specific Gravity: 11.0 (calculated)
9.11 Ratio of Specific Heats of Vapor (Gas): Currently not available
9.12 Latent Heat of Vaporization: Currently not available
9.13 Heat of Combustion: Currently not available
9.14 Heat of Decomposition: Currently not available
9.15 Heat of Solution: Currently not available
9.16 Heat of Polymerization: Currently not available
9.17 Heat of Fusion: Currently not available
9.18 Limiting Value: Currently not available
9.19 Reid Vapor Pressure: Currently not available

NOTES

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9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	CURRENTLY NOT AVAILABLE		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	SLIGHTLY SOLUBLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE		CURRENTLY NOT AVAILABLE