LEAD SULFIDE

LSU

CAUTIONARY RESPONSE INFORMATION

Common Synonyms		
Galena Plumbous sulfide	Solid, powder or crystal Sinks in water.	Black, silver

Keep people away. AVOID CONTACT WITH POWDER OR DUST.
Wear goggles, self-contained breathing apparatus, rubber overclothing (including gloves).
Notify local health and pollution control agencies.

Fire	Not flammable. Poisonous and irritating gases produced when heated. Wear goggles and self-contained breathing apparatus.
Exposure	CALL FOR MEDICAL AID. DUST. POISONOUS IF INHALED. Irritating to skin and eyes. Move to fresh air. IF IN EYES, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. SOLID. POISONOUS IF SWALLOWED. Flush affected areas with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk and have victim induce vomiting. IF SWALLOWED and victim is UNCONSCIOUS or having CONVULSIONS, do nothing except keep victim warm.
Water Pollution	Dangerous to aquatic life in high 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
Contain
Collection Systems: Pump; Dredge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
2.2 Formula: PbS
2.3 IMO/UN Designation: Not listed
2.4 DOT ID No.: 2291
2.5 CAS Registry No.: 1314-87-0
2.6 NAERG Guide No.: 151
2.7 Standard Industrial Trade Classification: 52342

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Protective clothing, rubber gloves, safety goggles, or face mask and an approved respirator.
3.2 Symptoms Following Exposure: INHALATION OR INGESTION: Abdominal pain, loss of appetite, weight loss, constipation, apathy or irritability, vomiting, fatigue, headache, weakness metallic taste and muscle incoordination. Lead line on gums. EYES: Irritation. May cause corneal destruction. SKIN: Pain and severe burns.
3.3 Treatment of Exposure: Call a doctor. INHALATION: Remove from exposure. EYES: Flush with running water. SKIN: Wash with soap and water. INGESTION: Gastric lavage if vomiting is not extensive. Give egg white or milk as demulcent.
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: Grade 1; LD_{50} 5-15 g/kg.
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Accumulative poison; repeated exposure can lead to damage to the liver, kidney, blood and nervous system. A suspected carcinogen of the lungs and kidney. Some evidence of teratogenic effects in laboratory animals.
3.10 Vapor (Gas) Irritant Characteristics: Not pertinent
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 pertinent
4.2 Flammable Limits in Air: Not flammable
4.3 Fire Extinguishing Agents: Use appropriate media to suppress exposure fire.
4.4 Fire Extinguishing Agents Not to Be Used: Not pertinent
4.5 Special Hazards of Combustion Products: Not pertinent
4.6 Behavior in Fire: At fire temperatures emits highly toxic and irritating sulfur oxides.
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: No reaction
5.3 Stability During Transport: Stable
5.4 Neutralizing Agents for Acids and Caustics: Not pertinent
5.5 Polymerization: Not pertinent
5.6 Inhibitor of Polymerization: Not pertinent

6. WATER POLLUTION

6.1 Aquatic Toxicity: > 1000 ppm/96 hr/fin fish/TL_m
6.2 Waterfowl Toxicity: Currently not available
6.3 Biological Oxygen Demand (BOD): Currently not available
6.4 Food Chain Concentration Potential: Positive, is concentrated in the food chain.
6.5 GESAMP Hazard Profile:
Bioaccumulation: 0
Damage to living resources: /D
Human Oral hazard: 0
Human Contact hazard: 0
Reduction of amenities: 0

7. SHIPPING INFORMATION

7.1 Grades of Purity: Currently not available
7.2 Storage Temperature: Currently not available
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: 10 pounds
8.7 EPA Pollution Category: A
8.8 RCRA Waste Number: Not listed
8.9 EPA FWPCA List: Yes

9. PHYSICAL & CHEMICAL PROPERTIES

9.1 Physical State at 15° C and 1 atm: Solid
9.2 Molecular Weight: 239.27.
9.3 Boiling Point at 1 atm: 2337.8°F = 1281°C = 1554.2°K.
9.4 Freezing Point: 2037.2°F = 1114°C = 1387.2°K.
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 7.5 at 20°C.
9.8 Liquid Surface Tension: Not pertinent
9.9 Liquid Water Interfacial Tension: Not pertinent
9.10 Vapor (Gas) Specific Gravity: 8.25 (calculated).
9.11 Ratio of Specific Heats of Vapor (Gas): Not pertinent
9.12 Latent Heat of Vaporization: Not pertinent
9.13 Heat of Combustion: Not pertinent
9.14 Heat of Decomposition: Not pertinent
9.15 Heat of Solution: Not pertinent
9.16 Heat of Polymerization: Not pertinent
9.17 Heat of Fusion: 17.3 cal/g
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
	NOT PERTINENT		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
64	0.009		NOT PERTINENT		NOT PERTINENT >3		NOT PERTINENT
65	0.009						
66	0.008						
67	0.007						
68	0.007						
69	0.006						
70	0.005						
71	0.005						
72	0.004						
73	0.003						
74	0.003						
75	0.002						
76	0.002						
77	0.001						