LEAD NITRATE

LNT

CAUTIONARY RESPONSE INFORMATION

Common Synonyms	Solid	White	Odorless
Nitric acid, lead II salt	Sinks and mixes with water.		

KEEP PEOPLE AWAY. AVOID CONTACT WITH SOLID AND DUST.
Wear dust respirator.
Shut off ignition sources and call fire department.
Notify local health and pollution control agencies.

Fire

Not flammable.
Will increase the intensity of a fire.
POISONOUS GASES MAY BE PRODUCED WHEN HEATED.
Flood discharge area with water.
Cool exposed containers with water.

Exposure

CALL FOR MEDICAL AID.
DUST
POISONOUS IF INHALED.
If inhaled will cause dizziness or loss of consciousness.
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
Irritating to skin and eyes.
If swallowed will cause nausea, vomiting or loss of consconsciousness.
Remove contaminated clothing and shoes.
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.
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

Dilute and disperse
Stop discharge

2. CHEMICAL DESIGNATIONS

2.1 CG Compatibility Group: Not listed.
2.2 Formula: $Pb(NO_3)_2$
2.3 IMO/UN Designation: 5.1/1469
2.4 DOT ID No.: 1469
2.5 CAS Registry No.: 18256-98-9
2.6 NAERG Guide No.: 141
2.7 Standard Industrial Trade Classification: 52359

3. HEALTH HAZARDS

3.1 Personal Protective Equipment: Dust mask and protective gloves
3.2 Symptoms Following Exposure: Early symptoms of lead intoxicatin via inhalation or ingestion are most commonly gastrointestinal disorders, colic, constipation, etc.; weakness, which may go on to paralysis, chiefly of the extensor muscles of the wrists and less often the ankles, is noticeable in the most serious cases. Ingestion of a large amount causes local irritation of the alimentary tract; pain, leg cramps, muscle weakness, paresthesias, depression, coma, and death may follow in 1 or 2 days. Contact with eyes causes irritation.
3.3 Treatment of Exposure: Remove at once all cases of lead intoxication from further exposure until the blood level is reduced to a safe value; immediately place the individual under medical care. INGESTION: give gastric lavage using 1% solution of sodium or magnesium sulfate; leave 15-30 gm magnesium sulfate in 6-8 oz. of water in the stomach as antidote and cathartic; egg white, milk, and tannin are useful demulcents; atropine sulfate and other antispasmodics may relieve abdominal pain, but morphine may be necessary. EYES or SKIN: flush with water.
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 2; LD_{50} = 0.5-5 g/kg
3.8 Toxicity by Inhalation: Currently not available.
3.9 Chronic Toxicity: Currently not available
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 oxides of nitrogen may form in fire.
4.6 Behavior in Fire: Increases the intensity of a fire when in contact with burning material. Use plenty of water to cool containers or spilled material.
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: Contact with wood and paper may cause fire.
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:
1.6 ppm/*/tadpole/harms growth/tap water
200 mg/l/*/eggs of urchins/abnormalities/salt water
240 ppm/48 hr/mosquito fish/TL_m/fresh water
*Time period not specified.
6.2 Waterfowl Toxicity: May be toxic
6.3 Biological Oxygen Demand (BOD): None
6.4 Food Chain Concentration Potential: Both fish and animals can concentrate lead.
6.5 GESAMP Hazard Profile:
Bioaccumulation: +
Damage to living resources: 1
Human Oral hazard: 1
Human Contact hazard: 0
Reduction of amenities: XX

7. SHIPPING INFORMATION

7.1 Grades of Purity: Reagent; Technical, 98+%
7.2 Storage Temperature: Ambient
7.3 Inert Atmosphere: No requirement
7.4 Venting: Open
7.5 IMO Pollution Category: B
7.6 Ship Type: 2
7.7 Barge Hull Type: Currently not available

8. HAZARD CLASSIFICATIONS

8.1 49 CFR Category: Oxidizer
8.2 49 CFR Class: 5.1
8.3 49 CFR Package Group: II
8.4 Marine Pollutant: Yes
8.5 NFPA Hazard Classification:

Category	Classification	
Health Hazard (Blue).....	0	1
Flammability (Red).....	0	0
Instability (Yellow).....	0	0
Special (White).....	OX	OX

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: 331.2
9.3 Boiling Point at 1 atm: Not pertinent
9.4 Freezing Point: Not pertinent
9.5 Critical Temperature: Not pertinent
9.6 Critical Pressure: Not pertinent
9.7 Specific Gravity: 4.53 at 20°C (solid)
9.8 Liquid Surface Tension: Not pertinent
9.9 Liquid Water Interfacial Tension: Not pertinent
9.10 Vapor (Gas) Specific Gravity: Not pertinent
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: 41 Btu/lb = 23 cal/g = 0.96 X 10^5 J/kg
9.16 Heat of Polymerization: Not pertinent
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
	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
34	39.780		NOT PERTINENT		NOT PERTINENT		NOT PERTINENT
36	40.760						
38	41.750						
40	42.730						
42	43.710						
44	44.700						
46	45.680						
48	46.660						
50	47.650						
52	48.630						
54	49.610						
56	50.600						
58	51.580						
60	52.560						
62	53.550						
64	54.530						
66	55.510						
68	56.500						
70	57.480						
72	58.460						
74	59.450						
76	60.430						
78	61.410						
80	62.400						
82	63.380						
84	64.360						