1. Product and Company Identification

Trade Name:	Lead
Chemical Formula:	Pb
Recommended Use:	Scientific research and development
Manufacturer/Supplier:	LTS Research Laboratories, Inc.
Street:	2001 Oaks Pkwy
City:	Belmont
State:	North Carolina
Zip Code:	28012
Country:	USA
Tel #:	855-587-2436 / 855-lts-chem
24-Hour Emergency Contact:	800-424-9300 (US & Canada) +1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger

Hazard Statements:
H350: May cause cancer
H351: Suspected of causing cancer
H360: May damage fertility or the unborn child
H362: May cause harm to breast-fed children
H372: Causes damage to organs through prolonged or repeated exposure
H410: Very toxic to aquatic life with long lasting effects

Precautionary Statements:
P202: Do not handle until all safety precautions have been read and understood
P260: Do not breathe dust/fume/gas/mist/vapors/spray
P263: Avoid contact during pregnancy/ while nursing
P264: Wash face, hands and any exposed skin thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P273: Avoid release to the environment
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection
P281: Use personal protective equipment as required
P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P308 + P313: IF exposed or concerned: Get medical advice/ attention
P391: Collect spillage
P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):	Powder	Bulk
Health:	2	1
Flammability:	0	0
Physical:	1	0

3. Composition

Chemical Family: Metal
Additional Names: None

Lead (Pb):
Percentage: 100 wt.%
CAS #: 7439-92-1
EC #: 231-100-4

4. First Aid Procedures

General Treatment:	Seek medical attention if symptoms persist.
Special Treatment:	None
Important Symptoms:	None
Inhalation:	Remove victim to fresh air. Supply oxygen if breathing is difficult.
Ingestion:	Seek medical attention.
Skin:	Wash affected area with mild soap and water. Remove any contaminated clothing.
Eyes:	Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing

5. Firefighting Measures

Flammability:	Non-flammable
Extinguishing Media:	Do not use water for metal fires – use CO_2, sand, extinguishing powder.
Spec. Fire Fighting Procedure:	Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in 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 disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions:	Wash thoroughly after handling.
Storage Conditions:	Store in a cool dry place in a tightly sealed container. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	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.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits:	0.05 mg/m^3 as Pb, long-term value
Threshold Limit Value:	0.05 mg/m^3 as Pb, long-term value
Special Equipment:	None
Respiratory Protection:	Use a respirator with type P100 (USA) or P3 (EN143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.
Protective Gloves:	Nitrile rubber, NBR 0.11mm thick.
Eye Protection:	Safety glasses or goggles
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	Grey/black
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	Odorless
Water Solubility:	Insoluble
Boiling Point:	1740 °C
Melting Point:	327.4 °C
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	11.34 g/cc
Molecular weight:	207.2 g/mol

10. Reactivity

Stability:	Stable under recommended storage conditions
Reacts with:	Strong acids, Ammonium nitrate: fertilizers capable of self-sustaining decomposition, Peroxides, Fluorine, Nitric acid
Incompatible Conditions:	Exposure to air
Hazardous Decomposition Products:	Lead, lead oxides

11. Toxicological Information

Potential Health Effects:

Eyes:	May cause irritation
Skin:	May cause irritation
Ingestion:	Harmful if swallowed
Inhalation:	Harmful if inhaled
Chronic:	The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	LD50 Oral- >2000 mg/kg for rat by mouth
Carcinogen:	ACGIH A3: Animal carcinogen: Agent is carcinogenic in experimental animals at a relatively high dose, by routes of administration, at sites, of histologic types, or by mechanisms not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans. Available evidence suggests that the agent is not likely to cause cancer in humans except under uncommon or unlikely routes or level of exposure. NTP-R: Reasonably anticipated to be a carcinogen, limited evidence of carcinogenicity from epidemiologic studies. IARC-2B: Possibly carcinogenic to humans: limited evidence in human in the absence of sufficient evidence in experimental animals. OSHA: OSHA specifically regulated carcinogen (Lead)

12. Ecological Information

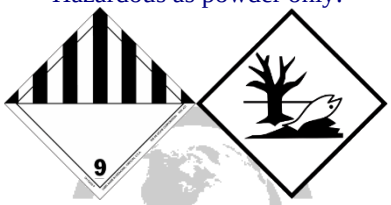
Aquatic Toxicity:	Very toxic to aquatic life with long lasting effects
Persistent Bioaccumulation Toxicity:	No
Very Persistent, Very Bioaccumulative:	No
Notes:	Very toxic for aquatic organism. May cause long lasting harmful effect on aquatic life. Do not allow material to be released to the environment without proper governmental permits. Do not allow product to reach any water sources. Danger to drinking water if even extremely small quantities leak into the ground. Also poisonous for fish and plankton in water bodies. Avoid transfer into the environment.

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous:	Hazardous as powder only.



Hazard Class:	9 Miscellaneous dangerous substances and articles
Packing Group:	III
UN Number:	UN3077
Proper Shipping Name:	Environmentally hazardous substances, solid, n.o.s. (Lead powder)

15. Regulatory Information

Sec 302 Extremely Hazardous:	No
Sec 304 Reportable Quantities:	10 lbs (4.54 kg) (powder less than 100 microns only)
Sec 313 Toxic Chemicals:	Yes

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

Document Last Revised:	08/22/2023