

SAFETY DATA SHEET

Section 1: Identification

Product name: Lead (powder)
Product use: For laboratory research purposes.
Supplier: Trace Sciences International
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CANADA
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Section 2: Hazard(s) Identification

2.1 GHS Classification

Reproductive toxicity (Category 1A), H360

Effects on or via lactation, H362

Specific target organ toxicity - repeated exposure, Oral (Category 1), Central nervous system, Blood, Immune system, Kidney, H372

Short-term (acute) aquatic hazard (Category 1), H400

Long-term (chronic) aquatic hazard (Category 1), H410

2.2 GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s):

H360

May damage fertility or the unborn child.

H362

May cause harm to breast-fed children.

H372

Causes damage to organs (Central nervous system, Blood, Immune system, Kidney) through prolonged or repeated exposure if swallowed.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statement(s):

P201

Obtain special instructions before use.

P202

Do not handle until all safety precautions have been read and understood.

P260

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

P263

Avoid contact during pregnancy and while nursing.

P264

Wash 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.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

P391

Collect spillage.

P405

Store locked up.

P501

Dispose of contents/ container to an approved waste disposal plant.

Section 3: Composition/ Information on Ingredients

Formula : Pb
Molecular Weight : 207.20 g/mol

Material	CAS-No.	EC-No.	Index-No.	Concentration
Lead	7439-92-1	231-100-4	082-013-00-1	<=100%

Section 4: First-Aid Measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move person out of dangerous area if safe to do so.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water for at least 15 minutes. Use chemical shower if available. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. Remove contacts if possible.

If swallowed

After swallowing: immediately make victim drink water (two glasses at most). Consult a physician.

Section 5: Fire-Fighting Measures

5.1 Conditions of flammability

Not flammable or combustible.

5.2 Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.3 Hazardous combustion products

Hazardous decomposition products formed under fire conditions: Lead oxides

5.4 Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.5 Further information

No data available

Section 6: Accidental Release Measures

6.1 Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

7.2 Conditions for safe storage

Tightly closed. Dry. Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Section 8: Exposure Controls/Personal Protection

8.1 Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Lead	7439-92-1	TWA	0.05 mg/m ³	Canada. British Columbia OEL
		TWA	0.05 mg/m ³	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWA	0.05 mg/m ³	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.05 mg/m ³	USA. ACGIH Threshold Limit Values (TLV)

Remarks

Carcinogenic effect detected in animals. Results of studies relating to the carcinogenicity of these substances in animals are not necessarily applicable to humans.

8.2 Personal protective equipment

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Eye protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin and body protection

Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Specific engineering controls

Use mechanical exhaust or laboratory fume hood to avoid exposure.

Section 9: Physical and Chemical Properties

Appearance

Form	Powder
Colour	No data available

Safety Data

pH	No data available
Melting point/freezing point	326 °C (619 °F) at 1,013 hPa
Boiling point	1,740 °C (3,164 °F)
Flash point	Not applicable
Flammability (solid, gas)	No data available
Ignition temperature	No data available
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapour pressure	No data available
Density	11.45 g/cm ³ at 23.8 °C (74.8 °F) at 1,013 hPa
Water solubility	0.185 g/l at 20 °C (68 °F) at 1,013 hPa
Partition coefficient: n-octanol/water	No data available
Relative vapour density	No data available
Odour	No data available
Odour Threshold	No data available
Evaporation rate	No data available

Section 10: Stability and Reactivity

10.1 Chemical stability

Stable under recommended storage conditions

10.2 Possibility of hazardous reactions

Risk of explosion with:

Azides, picrates, ammonium nitrate, strong oxidizing agents

Exothermic reaction with:

Fluorine, hydrogen peroxide

Generates dangerous gases or fumes in contact with:

Nitric acid

10.3 Conditions to avoid

No data available

10.4 Materials to avoid

Strong acids

10.5 Hazardous decomposition products

See section 5

Section 11: Toxicological Information

Acute toxicity

Oral

LD50 Oral - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 423)

Inhalation

LC50 Inhalation - Rat - male and female - 4 h - > 5.05 mg/l
(OECD Test Guideline 403)

Dermal

LD50 Dermal - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)

Other information on acute toxicity

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation - 72 h
(OECD Test Guideline 405)

Respiratory or skin sensitization

Maximization Test - Guinea pig

Result: negative
(OECD Test Guideline 406)

Germ cell mutagenicity

Test Type: Micronucleus test

Species: Rat

Cell type: Red blood cells (erythrocytes)

Application Route: Oral

Result: positive

Remarks: (ECHA)

Test Type: comet assay

Species: Mouse

Cell type: Liver cells

Application Route: Inhalation

Result: negative

Remarks: (ECHA)

Test Type: Micronucleus test

Species: Mouse

Cell type: Bone marrow

Application Route: Oral

Result: Positive results were obtained in some in vivo tests.

Remarks: (ECHA)

Test Type: Chromosome aberration test in vitro

Species: Monkey

Cell type: lymphocyte

Application Route: Oral

Result: Positive results were obtained in some in vivo tests.

Remarks: (ECHA)

Carcinogenicity

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Lead)

Reproductive toxicity

May damage the unborn child. Positive evidence from human epidemiological studies.

May damage fertility. Positive evidence from human epidemiological studies. Studies indicating a hazard to babies during the lactation period

Specific target organ toxicity - single exposure (Globally Harmonized System)

No data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)

Oral - Causes damage to organs through prolonged or repeated exposure. – Central nervous system, blood, immune system, kidney

Aspiration hazard

No data available

Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. On the basis of the morphology of the product, no hazardous properties are to be expected when it is handled and used with appropriate care. The following applies to lead compounds in general: Due to the poor absorbability via the gastrointestinal tract, only very high doses lead to acute cases of intoxication. After a latency period of several hours, metallic taste, nausea, vomiting, and colics occur, in many instances followed by shock. Chronic uptake causes peripheral muscular weakness ("drop-wrist"), anaemia, and central-nervous disorders. Women of child-bearing age should not be exposed to the substance over longer periods of time (observe critical threshold).

Additional Information

RTECS: OF7525000

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0.1 mg/l - 96h
Remarks: (ECHA)

Toxicity to algae Mortality EC50 - Skeletonema costatum - 7.94 mg/l - 10 d
Remarks: (ECOTOX Database) (Lead)

Toxicity to fish (Chronic toxicity) Flow-through test NOEC - Cyprinodon variegatus (sheepshead minnow) - 0.23 mg/l - 28 d
Remarks: (ECHA)

12.2 Persistence and degradability

Biodegradability Result: - According to the results of tests of biodegradability this product is not readily biodegradable.

12.3 Bioaccumulative potential

Bioaccumulation: Oncorhynchus kisutch - 2 Weeks - 150 µg/l (Lead)

Bioconcentration factor (BCF): 12

12.4 Mobility in soil

No data available

12.5 PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

Very toxic to aquatic life with long lasting effects.

Section 13: Disposal Considerations

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

IATA

UN number: UN3077 Class: 9 Packing group: III

Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Lead)

Section 15: Regulatory Information

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR

Section 16: Other Information

Further information

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for his or her particular purpose(s).

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