

## SAFETY DATA SHEET

### Section 1: Identification

Product name: Lead(II) nitrate  
Product use: For laboratory research purposes.  
Supplier: Trace Sciences International  
40 Vogell Rd Suite 42  
Richmond Hill, ON L4B 3N6  
CANADA  
Telephone: +1 905-770-1100  
Fax: +1 905-770-1160  
Emergency Phone: CANUTEC +1-613-996-6666

### Section 2: Hazard(s) Identification

#### 2.1 GHS Classification

Acute toxicity, Oral (Category 4), H302  
Acute toxicity, Inhalation (Category 4), H332  
Serious eye damage (Category 1), H318  
Skin sensitization (Category 1), H317  
Carcinogenicity (Category 2), H351  
Reproductive toxicity (Category 1A), H360  
Specific target organ toxicity - repeated exposure (Category 1), Blood, Central nervous system, 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):

H302 + H332 Harmful if swallowed or if inhaled.  
H317 May cause an allergic skin reaction.  
H318 Causes serious eye damage.  
H351 Suspected of causing cancer.  
H360 May damage fertility or the unborn child.  
H372 Causes damage to organs (Blood, Central nervous system, Immune system, Kidney) through prolonged or repeated exposure.  
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.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P273 Avoid release to the environment.  
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.

P302 + P352	IF ON SKIN: Wash with plenty of water.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
P305 + P351 + P338 + P310	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
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** :  $\text{Pb}(\text{NO}_3)_2$   
**Molecular Weight** : 331.21 g/mol

Material	CAS-No.	EC-No.	Index-No.	Concentration
Lead Nitrate	10099-74-8	233-245-9	082-001-00-6	<=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: Nitrogen oxides (NOx), 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. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations. 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. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

### 7.2 Conditions for safe storage

Tightly closed. Keep locked up or in an area accessible only to qualified or authorized persons. Do not store near combustible materials.

## Section 8: Exposure Controls/Personal Protection

### 8.1 Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Lead(II) nitrate	10099-74-8	TWA	0.05 mg/m <sup>3</sup>	Canada. Alberta, Occupational Health and Safety Code (table 2: OEL)
		TWAEV	0.05 mg/m <sup>3</sup>	Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
		TWA	0.05 mg/m <sup>3</sup>	Canada. British Columbia OEL
		TWA	0.05 mg/m <sup>3</sup>	Ontario Table of Occupational Exposure Limits made under the Occupational Health and Safety Act.

### 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	Crystalline
Colour	White

### Safety Data

pH	3 - 4 at 50 g/l at 20 °C (68 °F)
Melting point/freezing point	470 °C (878 °F)
Boiling point	> 500 °C > 932 °F at 1,023 hPa
Flash point	No data available
Flammability (solid, gas)	No data available
Ignition temperature	400 °C (752 °F) at 1,023 hPa
Auto-ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	< 0.1 hPa at 20 °C (68 °F) - OECD Test Guideline 104 - low
Vapour pressure	4.49 g/cm <sup>3</sup> at 20 °C (68 °F)
Density	486 g/l at 20 °C (68 °F)
Water solubility	No data available
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:

Organic combustible substances, ammonium compounds, acetates, alcohols, esters

### 10.3 Conditions to avoid

No data available

### 10.4 Materials to avoid

Strong reducing agents, organic materials, powdered metals

### 10.5 Hazardous decomposition products

See section 5

## Section 11: Toxicological Information

### Acute toxicity

#### Oral

No data available

#### Inhalation

No data available

#### 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 - In vitro study

Result: non-corrosive

(OECD Test Guideline 431)

Skin - In vitro study

Result: No skin irritation - 42 min

(OECD Test Guideline 439)

### Serious eye damage/eye irritation

Eyes - Bovine cornea

Result: Causes serious eye damage. - 4 h

(OECD Test Guideline 437)

### Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse

Result: positive

(OECD Test Guideline 429)

### Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Result: negative

Remarks: (in analogy to similar products)  
(ECHA)

Test Type: Micronucleus test

Species: Rat

Cell type: Red blood cells (erythrocytes)

Application Route: Oral

Result: positive

Remarks: (in analogy to similar products)  
(ECHA)

The value is given in analogy to the following substances: lead(II) acetate

Test Type: Chromosome aberration test

Species: Monkey

Cell type: lymphocyte

Application Route: Oral

Result: positive

Remarks: (in analogy to similar products)  
(ECHA)

Test Type: comet assay

Species: Mouse

Cell type: Liver cells

Application Route: Inhalation

Result: negative

Remarks: (in analogy to similar products)  
(ECHA)

### **Carcinogenicity**

IARC: 2A - Group 2A: Probably carcinogenic to humans (Lead nitrate)

### **Reproductive toxicity**

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

May damage fertility. Positive evidence from human epidemiological studies.

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

No data available

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

Causes damage to organs through prolonged or repeated exposure. - Blood, central nervous system, immune system, kidney

### **Aspiration hazard**

No data available

### **Signs and Symptoms of Exposure**

Lead salts have been reported to cross the placenta and to induce embryo- and fetto- mortality.

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

A lethal effect is possible after the uptake of large quantities.

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).

The following applies to nitrites/nitrates in general: methaemoglobinaemia after the uptake of large quantities.

#### Additional Information

RTECS: OG2100000

## Section 12: Ecological Information

### 12.1 Toxicity

Toxicity to fish	Static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0.1 mg/l - 96 h Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 1.8 mg/l - 48 h Remarks: (ECOTOX Database)
Toxicity to algae	EC50 - algae - 0.024 - 0.029 mg/l - 28 h Remarks: (Lit.)
Toxicity to fish (Chronic toxicity)	Semi-static test NOEC - Pimephales promelas (fathead minnow) - 1.337 mg/l - 7 d Remarks: (ECHA)
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	Semi-static test NOEC - Ceriodaphnia dubia (water flea) - 0.0224 mg/l - 7 d (US-EPA)

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 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 organisms, may cause long-term adverse effects in the aquatic environment.

## 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: UN1469 Class: 5.1 (6.1) Packing group: II  
Proper shipping name: Lead nitrate

### 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).

#### *Trace Sciences International.*

See <https://www.tracesciences.com/> for additional terms and conditions of sale.

**Date Prepared: February 10, 2025**