### 1 Identification

**Product identifier**

Product name: **Lead(II) nitrate**

**Stock number:** A16345  
**CAS Number:** 10099-74-8  
**EC number:** 233-245-9  
**Index number:** 082-001-00-6

**Relevant identified uses of the substance or mixture and uses advised against.**

**Identified use:** SU24 Scientific research and development

**Details of the supplier of the safety data sheet**

Manufacturer/Supplier:  
*Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.*  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
Email: tech@alfa.com  
www.alfa.com

**Information Department:** Health, Safety and Environmental Department  
**Emergency telephone number:** During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

### 2 Hazard(s) identification

**Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)**

- **GHS08 Health hazard**

  **Repr. 1A H360** May damage fertility or the unborn child.  
  **STOT RE 2 H373** May cause damage to the kidneys, the liver, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral.

- **GHS07**

  **Acute Tox. 4 H302** Harmful if swallowed.  
  **Acute Tox. 4 H332** Harmful if inhaled.

**Hazard not otherwise classified** No information known.

**Label elements**

**GHS label elements** The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)

**Hazard pictograms**

- **GHS07 GHS08**

**Signal word** Danger

**Hazard statements**

- **H302+H332** Harmful if swallowed or if inhaled.  
- **H360** May damage fertility or the unborn child.  
- **H373** May cause damage to the kidneys, the liver, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral.

**Precautionary statements**

- **P260** Do not breathe dust/fume/gas/mist/vapours/spray.  
- **P261** Avoid breathing dust/fume/gas/mist/vapours/spray.  
- **P281** Use personal protective equipment as required.  
- **P304+P340 IF INHALED:** Remove person to fresh air and keep comfortable for breathing.  
- **P405** Store locked up.  
- **P501** Dispose of contents/container in accordance with local/regional/national/international regulations.

**WHMIS classification**

- **C - Oxidizing materials**  
- **D1B - Toxic material causing immediate and serious toxic effects**  
- **D2A - Very toxic material causing other toxic effects**

**Classification system**

**HMIS ratings (scale 0-4)**

- **Health (acute effects) = 2**  
- **Flammability = 0**  
- **Physical Hazard = 2**

**Other hazards**

**Results of PBT and vPvB assessment**

- **PBT:** Not applicable.  
- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Substances**

**CAS#** Description:  
10099-74-8 Lead(II) nitrate  
**Identification number(s):**  
**EC number:** 233-245-9

(Contd. on page 2)
4 First-aid measures
Description of first aid measures
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact
Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing
Seek medical treatment.

Information for doctor
Most important symptoms and effects, both acute and delayed
No further relevant information available.
Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Fire-fighting measures
Extinguishing media
Product is not flammable. Use fire-fighting measures that suit the surrounding fire.
Suitable extinguishing agents
Halocarbon extinguisher
Special hazards arising from the substance or mixture
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.
If this product is involved in a fire, the following can be released:
Nitrogen oxides (NOx)
Lead oxide fume

Advice for firefighters
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures
Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation.

Environmental precautions:
Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up:
Dispose of contaminated material as waste according to section 13.
Ensure adequate ventilation.

Prevention of secondary hazards:
Acts as an oxidizing agent on organic materials such as wood, paper and fats.
Keep away from combustible material.

Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage
Handling
Precautions for safe handling
Handle under dry protective gas.
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Open and handle container with care.

Information about protection against explosions and fires:
Substance/product can reduce the ignition temperature of flammable substances.
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Conditions for safe storage, including any incompatibilities
Store away from flammable substances.
Store away from reducing agents.
Do not store with organic materials.
Store away from metal powders.
Store away from water/moisture.

Further information about storage conditions:
Store under dry inert gas. This product is hygroscopic.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed containers.
Protect from humidity and water.

Specific end use(s)
No further relevant information available.

8 Exposure controls/personal protection
Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters

Components with limit values that require monitoring at the workplace:

PEL (USA) Long-term value: 0.05 mg/m³ as Pb; See 29 CFR 1910.1025
REL (USA) Long-term value: 0.05* mg/m³ as Pb;*8-hr TWA; See Pocket Guide App. C
TLV (USA) Long-term value: 0.05 mg/m³ as Pb; BEI

(Contd. of page 1)
**Product name:** Lead(II) nitrate

### Exposure controls

#### Personal protective equipment

**General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Store protective clothing separately. Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use suitable respirator when high concentrations are present. Recommended filter device for short term use: Use a respirator with type P100 (USA) or P3 (EN 143) 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.

**Protection of hands:** Impervious gloves

Check protective gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.

**Material of gloves** Nitrile rubber, NBR

**Penetration time of glove material (in minutes)** Not determined

**Eye protection:** Safety glasses

**Body protection:** Protective work clothing.

### 9 Physical and chemical properties

**Information on basic physical and chemical properties**

**General Information**

**Appearance:** Various forms (powderflake/crystalline/beads, etc.)

**Color:** White

**Odor:** Odorless

**Odor threshold:** Not determined.

**pH-value:** Not applicable.

**Change in condition**

- **Melting point/Melting range:** 470 °C (878 °F) (dec)
- **Boiling point/Boiling range:** Not determined
- **Sublimation temperature / start:** Not determined

**Flammability (solid, gaseous)** Contact with combustible material may cause fire.

**Ignition temperature:** Not determined

**Decomposition temperature:** Not determined

**Auto igniting:** Not determined.

**Danger of explosion:** Not determined.

**Explosion limits:**

- **Lower:** Not determined
- **Upper:** Not determined

**Vapor pressure:** Not applicable.

**Density at 20 °C (68 °F):** 4.53 g/cm³ (37.803 lbs/gal)

**Relative density:** Not determined.

**Vapor density:** Not applicable.

**Evaporation rate:** Not applicable.

**Solubility in / Miscibility with Water at 0 °C (32 °F):** 376 g/l Soluble

**Partition coefficient (n-octanol/water):** Not determined.

**Viscosity:**

- **dynamic:** Not applicable.
- **kinematic:** Not applicable.

**Other information** No further relevant information available.

### 10 Stability and reactivity

**Reactivity** May intensify fire; oxidizer.

**Chemical stability** Stable under recommended storage conditions.

**Thermal decomposition / conditions to be avoided** Decomposition will not occur if used and stored according to specifications.

**Possibility of hazardous reactions** Reacts with reducing agents

**Conditions to avoid** No further relevant information available.

**Incompatible materials:**

- Flammable substances
- Reducing agents
- Water/moisture
- Organic materials
- Metal powders

**Hazardous decomposition products:**

- Nitrogen oxides
- Lead oxide fume

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USA (Contd. on page 4)
11 Toxicological information

Information on toxicological effects

Acute toxicity:
Harmful if inhaled.
Harmful if swallowed.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion: May cause irritation

Eye irritation or corrosion: May cause irritation

Sensitization: No sensitizing effects known.

Germ cell mutagenicity: The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

Carcinogenicity:
EPA-B2: Probable human carcinogen, sufficient evidence from animal studies; inadequate evidence or no data from epidemiologic studies.
NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.
ACGIH A3: Animal carcinogenic: Agent is carcinogenic in experimental animals at a relatively high dose, by route(s) of administration, at site(s), of histologic type(s), or by mechanism(s) not considered relevant to worker exposure. Available epidemiologic studies do not confirm an increased risk of cancer in exposed humans.
IARC-2A: Probably carcinogenic to humans: limited human evidence; sufficient evidence in experimental animals

Reproductive toxicity:
May damage fertility or the unborn child.

Specific target organ system toxicity - repeated exposure:
May cause damage to the kidneys, the liver, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral.

Specific target organ system toxicity - single exposure: No effects known.

Subacute to chronic toxicity:
The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information

Toxicity
Aquatic toxicity: No further relevant information available.

Persistence and degradability: No further relevant information available.

Bioaccumulative potential: No further relevant information available.

Mobility in soil: No further relevant information available.

Ecological effects:

Remark: Very toxic for aquatic organisms

Additional ecological information:

General notes:
Do not allow material to be released to the environment without proper governmental permits.
Do not allow product to reach ground water, water course or sewage system, even in small quantities.
Danger to drinking water if even extremely small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
May cause long lasting harmful effects to aquatic life.
Avoid transfer into the environment.

Very toxic for aquatic organisms

Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

Other adverse effects: No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation: Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information

UN-Number
DOT, IMDG, IATA UN1469

UN proper shipping name
DOT Lead nitrate
IMDG LEAD NITRATE, MARINE POLLUTANT
IATA LEAD NITRATE

Transport hazard class(es)

DOT

Class 5.1 Oxidising substances.
Label 5.1+6.1

Class 5.1 (OT2) Oxidizing substances
Label 5.1+6.1

IMDG

Class 5.1 Oxidising substances.
Label 5.1+6.1
### 15 Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

<table>
<thead>
<tr>
<th>GHS label elements</th>
<th>The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)</th>
</tr>
</thead>
</table>

**Hazard pictograms**

- GHS07: Danger
- GHS08: No special hazard symbol

#### Signal word

**Danger**

**Hazard statements**

- **H302+H332**: Harmful if swallowed or if inhaled.
- **H360**: May damage fertility or the unborn child.
- **H373**: May cause damage to the kidneys, the liver, the blood and the brain through prolonged or repeated exposure. Route of exposure: Oral.

**Precautionary statements**

- **P260**: Do not breathe dust/fume/gas/mist/vapours/spray.
- **P261**: Avoid breathing dust/fume/gas/mist/vapours/spray.
- **P281**: Use personal protective equipment as required.
- **P304+P340**: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- **P405**: Store locked up.
- **P501**: Dispose of contents/container in accordance with local/regional/national/international regulations.

**National regulations**

- All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.
- All components of this product are listed on the Canadian Domestic Substances List (DSL).

**SARA Section 313 (specific toxic chemical listings)**

- **10099-74-8 Lead(II) nitrate**

**California Proposition 65**

- **Prop 65 - Chemicals known to cause cancer**
  - **10099-74-8 Lead(II) nitrate**

**Prop 65 - Developmental toxicity**

- **Substance is not listed.**

**Prop 65 - Developmental toxicity, female**

- **Substance is not listed.**

**Prop 65 - Developmental toxicity, male**

- **Substance is not listed.**

**Information about limitation of use:**

For use only by technically qualified individuals.

This product is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know Act of 1986 and 40CFR372.

**Other regulations, limitations and prohibitive regulations**

**Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006.**

This substance is included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH).

The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

**Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

### 16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

**Department issuing SDS:**

Global Marketing Department

**Date of preparation / last revision:**

11/24/2015 / -

**Abbreviations and acronyms:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- ICAO: International Maritime Code for Dangerous Goods
- DOT: US Department of Transportation
- ETS: International Air Transport Association
- EINECS: European Inventory of Existing Commercial Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- HMIS: Hazardous Materials Identification System (USA)
- LC50: Lethal concentration, 50 percent
- LD50: Lethal dose, 50 percent
- vPvB: very Persistent and very Bioaccumulative
- ACGIH: American Conference of Governmental Industrial Hygienists (USA)
- OSHA: Occupational Safety and Health Administration (USA)
- NTP: National Toxicology Program (USA)
- IARC: International Agency for Research on Cancer
- EPA: Environmental Protection Agency (USA)