

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Lead(II) nitrate

Product Number : 228621  
Brand : Sigma-Aldrich

Supplier : Sigma-Aldrich  
3050 Spruce Street  
SAINT LOUIS MO 63103  
USA

Telephone : +1 800-325-5832  
Fax : +1 800-325-5052  
Emergency Phone # (For both supplier and manufacturer) : (314) 776-6555

Preparation Information : Sigma-Aldrich Corporation  
Product Safety - Americas Region  
1-800-521-8956

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Oxidizer, Carcinogen, Target Organ Effect, Toxic by inhalation., Harmful by ingestion., Irritant, Teratogen

##### GHS Classification

Oxidizing solids (Category 2)  
Acute toxicity, Oral (Category 4)  
Acute toxicity, Inhalation (Category 4)  
Serious eye damage (Category 1)  
Reproductive toxicity (Category 1A)  
Specific target organ toxicity - repeated exposure (Category 2)  
Acute aquatic toxicity (Category 1)  
Chronic aquatic toxicity (Category 1)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H272 : May intensify fire; oxidiser.  
H302 + H332 : Harmful if swallowed or if inhaled  
H318 : Causes serious eye damage.  
H360 : May damage fertility or the unborn child.  
H373 : May cause damage to organs through prolonged or repeated exposure.  
H410 : Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P201 : Obtain special instructions before use.  
P220 : Keep/Store away from clothing/ combustible materials.  
P273 : Avoid release to the environment.  
P280 : Wear protective gloves/ eye protection/ face protection.  
P305 + P351 + P338 : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if

P308 + P313 present and easy to do. Continue rinsing.  
P501 IF exposed or concerned: Get medical advice/ attention.  
Dispose of contents/ container to an approved waste disposal plant.

#### HMIS Classification

Health hazard: 2  
Chronic Health Hazard: \*  
Flammability: 0  
Physical hazards: 2

#### NFPA Rating

Health hazard: 2  
Fire: 0  
Reactivity Hazard: 2  
Special hazard.: OX

#### Potential Health Effects

**Inhalation** Toxic if inhaled. Causes respiratory tract irritation.  
**Skin** Harmful if absorbed through skin. Causes skin irritation.  
**Eyes** Causes eye irritation.  
**Ingestion** Harmful if swallowed.

---

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula :  $N_2O_6Pb$   
Molecular Weight : 331.21 g/mol

Component	Concentration
<b>Lead nitrate</b> Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH)	
CAS-No.	10099-74-8
EC-No.	233-245-9
Index-No.	082-001-00-6

---

### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

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

#### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

#### In case of eye contact

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

#### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

---

### 5. FIREFIGHTING MEASURES

#### Conditions of flammability

Not flammable or combustible.

#### Suitable extinguishing media

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

#### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

**Hazardous combustion products**

Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NOx), Lead oxides

**Further information**

Use water spray to cool unopened containers.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

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

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**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 (see section 13). Keep in suitable, closed containers for disposal.

**7. HANDLING AND STORAGE****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. Keep away from heat and sources of ignition.

**Conditions for safe storage**

Keep container tightly closed in a dry and well-ventilated place.

**8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Basis
Remarks	See 1910.1025			
Lead nitrate	10099-74-8	TWA	0.075 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	0.05 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
	Confirmed animal carcinogen with unknown relevance to humans			
		TWA	0.05 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
	Central Nervous System impairment Hematologic effects Peripheral Nervous System impairment Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Confirmed animal carcinogen with unknown relevance to humans varies			
		TWA	0.05 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
	See Appendix C			

**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.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

Splash protection

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374  
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### Eye protection

Face shield and safety glasses 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.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form solid

Colour white

### Safety data

pH no data available

Melting point/freezing point Melting point/range: 470 °C (878 °F) - dec.

Boiling point no data available

Flash point 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 4.53 g/cm<sup>3</sup>

Water solubility 500 g/l

Partition coefficient: n-octanol/water no data available

Solubility in other solvents	Ethanol 0.4 g/l Methanol 13.3 g/l
Relative vapor density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

---

## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

no data available

### Materials to avoid

Strong reducing agents, Organic materials, Powdered metals

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - nitrogen oxides (NO<sub>x</sub>), Lead oxides  
Other decomposition products - no data available

---

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

#### Inhalation LC50

#### Dermal LD50

no data available

#### Other information on acute toxicity

LD50 Intravenous - rat - 93 mg/kg

LD50 Intraperitoneal - mouse - 74 mg/kg

### Skin corrosion/irritation

no data available

### Serious eye damage/eye irritation

no data available

### Respiratory or skin sensitization

no data available

### Germ cell mutagenicity

no data available

### Carcinogenicity

IARC: 2B - Group 2B: Possibly carcinogenic to humans Re-evaluation of inorganic lead compounds, IARC Monograph (Vol. 87) (February 2004) (Lead nitrate)

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

IARC: 2B - Group 2B: Possibly carcinogenic to humans Re-evaluation of inorganic lead compounds, IARC Monograph (Vol. 87) (February 2004) (Lead nitrate)

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

NTP: Reasonably anticipated to be a human carcinogen (Lead nitrate)

Reasonably anticipated to be a human carcinogenThe reference note has been added by TD based on the background information of the NTP. (Lead nitrate)

OSHA: 1910.1025 (Lead nitrate)

### Reproductive toxicity

no data available

### Teratogenicity

Developmental Toxicity - rat

Specific Developmental Abnormalities: Central nervous system.

Known human reproductive toxicant

no data available

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

no data available

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

May cause damage to organs through prolonged or repeated exposure.

### Aspiration hazard

no data available

### Potential health effects

<b>Inhalation</b>	Toxic if inhaled. Causes respiratory tract irritation.
<b>Ingestion</b>	Harmful if swallowed.
<b>Skin</b>	Harmful if absorbed through skin. Causes skin irritation.
<b>Eyes</b>	Causes eye irritation.

### Signs and Symptoms of Exposure

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated., Lead salts have been reported to cross the placenta and to induce embryo- and feto- mortality.

### Synergistic effects

no data available

### Additional Information

RTECS: OG2100000

---

## 12. ECOLOGICAL INFORMATION

### Toxicity

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 1.5 mg/l - 96.0 h
	LC50 - Cyprinus carpio (Carp) - 0.4 - 1.3 mg/l - 96.0 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 0.5 - 2.0 mg/l - 48 h

### Persistence and degradability

no data available

### Bioaccumulative potential

no data available

### Mobility in soil

no data available

### PBT and vPvB assessment

no data available

**Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life with long lasting effects.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**13. DISPOSAL CONSIDERATIONS****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. 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.

**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 1469 Class: 5.1 (6.1) Packing group: II  
Proper shipping name: Lead nitrate  
Reportable Quantity (RQ): 10 lbs  
Marine Pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN number: 1469 Class: 5.1 (6.1) Packing group: II EMS-No: F-A, S-Q  
Proper shipping name: LEAD NITRATE  
Marine Pollutant: Marine pollutant

**IATA**

UN number: 1469 Class: 5.1 (6.1) Packing group: II  
Proper shipping name: Lead nitrate

**15. REGULATORY INFORMATION****OSHA Hazards**

Oxidizer, Carcinogen, Target Organ Effect, Toxic by inhalation., Harmful by ingestion., Irritant, Teratogen

**SARA 302 Components**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Lead nitrate	10099-74-8	1993-04-24

**SARA 311/312 Hazards**

Reactivity Hazard, Acute Health Hazard, Chronic Health Hazard

**Massachusetts Right To Know Components**

	CAS-No.	Revision Date
Lead nitrate	10099-74-8	1993-04-24

**Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Lead nitrate	10099-74-8	1993-04-24

**New Jersey Right To Know Components**

	CAS-No.	Revision Date
Lead nitrate	10099-74-8	1993-04-24

**California Prop. 65 Components**

WARNING! This product contains a chemical known to the State of California to cause cancer.  
Lead nitrate

CAS-No.  
10099-74-8

Revision Date  
1992-10-01

---

**16. OTHER INFORMATION****Further information**

Copyright 2013 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only. The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

---