

## Chemical Safety Data Sheet MSDS / SDS

## Lead(II) nitrate

Revision Date:2024-12-21 Revision Number:1

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

## Product identifier

Product name : Lead(II) nitrate  
CBnumber : CB4690009  
CAS : 10099-74-8  
EINECS Number : 233-245-9  
Synonyms : lead nitrate,Pb(NO<sub>3</sub>)<sub>2</sub>

## Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : For R&D use only. Not for medicinal, household or other use.  
Uses advised against : none

## Company Identification

Company : Chemicalbook  
Address : Building 1, Huihuang International, Shangdi 10th Street, Haidian District, Beijing  
Telephone : 400-158-6606

## SECTION 2: Hazards identification

## GHS Label elements, including precautionary statements

Symbol(GHS)



Signal word

Danger

## Precautionary statements

P405 Store locked up.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P221 Take any precaution to avoid mixing with combustibles/...  
P220 Keep/Store away from clothing/.../combustible materials.  
P210 Keep away from heat/sparks/open flames/hot surfaces. — No smoking.  
P201 Obtain special instructions before use.

## Hazard statements

H410 Very toxic to aquatic life with long lasting effects  
H400 Very toxic to aquatic life  
H373 May cause damage to organs through prolonged or repeated exposure  
H360 May damage fertility or the unborn child  
H350 May cause cancer  
H332 Harmful if inhaled  
H318 Causes serious eye damage  
H302 Harmful if swallowed  
H272 May intensify fire; oxidizer

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## SECTION 3: Composition/information on ingredients

### Substance

Product name	: Lead(II) nitrate
Synonyms	: lead nitrate, Pb(NO <sub>3</sub> ) <sub>2</sub>
CAS	: 10099-74-8
EC number	: 233-245-9
MF	: N <sub>2</sub> O <sub>6</sub> Pb
MW	: 331.21

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## SECTION 4: First aid measures

### Description of first aid measures

#### General advice

Show this material safety data sheet to the doctor in attendance.

#### If inhaled

If breathing stops: immediately apply artificial respiration, if necessary also oxygen.

#### In case of skin contact

In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

#### In case of eye contact

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist. Remove contact lenses.

#### If swallowed

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

### Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

## Extinguishing media

### Suitable extinguishing media

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

### Special hazards arising from the substance or mixture

Nitrogen oxides (NO<sub>x</sub>) Lead oxides

Not combustible.

Has a fire-promoting effect due to release of oxygen. Ambient fire may liberate hazardous vapours.

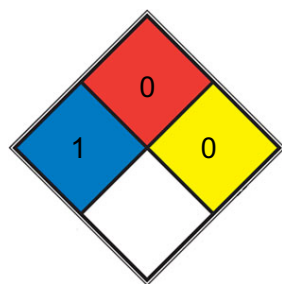
### Advice for firefighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

### NFPA 704



■ HEALTH 1 Exposure would cause irritation with only minor residual injury (e.g. [acetone](#), sodium bromate, potassium chloride)

■ FIRE 0 Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand. Materials that will not burn in air when exposed to a temperature of 820 °C (1,500 °F) for a period of 5 minutes.(e.g. Carbon tetrachloride)

■ REACT 0 Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium,[N<sub>2</sub>](#))

□ SPEC.

□ HAZ.

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## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel: Avoid generation and inhalation of dusts in all circumstances. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

### Environmental precautions

Do not let product enter drains.

## Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully. Dispose of properly. Clean up affected area. Avoid generation of dusts.

## Reference to other sections

For disposal see section 13.

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# SECTION 7: Handling and storage

## Precautions for safe handling

### Advice on safe handling

Work under hood. Do not inhale substance/mixture.

### Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and sources of ignition.

### Hygiene measures

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

For precautions see section 2.2.

## Conditions for safe storage, including any incompatibilities

### Storage conditions

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

### Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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# SECTION 8: Exposure controls/personal protection

## control parameter

### Hazard composition and occupational exposure limits

Does not contain substances with occupational exposure limits.

## Exposure controls

### Personal protective equipment

#### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

#### Skin protection

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved  
Chemical Book

gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested:KCL 741 Dermatil? L

This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: [www.kcl.de](http://www.kcl.de)).

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0,11 mm Break through time: 480 min

Material tested:KCL 741 Dermatil? L

#### Body Protection

protective clothing

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (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).

#### Control of environmental exposure

Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### Information on basic physicochemical properties

Appearance	colorlesswhite solid
Odour	odorless
Odour Threshold	Not applicable
pH	3 - 4 at 50 g/l at 20 °C
Melting point/freezing point	Melting point/range: 470 °C - dec.
Initial boiling point and boiling range	>500 °C at 1.023 hPa
Flash point	Not applicable
Evaporation rate	Not applicable
Flammability (solid, gas)	The product is not flammable. - Flammability (solids)
Upper/lower flammability or explosive limits	No data available
Vapour pressure	< 0,1 hPa at 20 °C - OECD Test Guideline 104 - low
Vapour density	Not applicable
Relative density	4,49 g/cm <sup>3</sup> at 20 °C - OECD Test Guideline 109 4,77 at 23,6 °C - Regulation (EC) No. 440/2008, Annex, A.3
Water solubility	486 g/l at 20 °C - Regulation (EC) No. 440/2008, Annex, A.6- completely soluble
Partition coefficient: n-octanol/water	log Pow: 4,51 at 22 °C - Potential bioaccumulation
Autoignition temperature	400 °C at 1.023 hPa - Relative self-ignition temperature for solids

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Decomposition temperature	No data available
Viscosity	Viscosity, kinematic: No data available Viscosity, dynamic: Not applicable
Explosive properties	No data available
Oxidizing properties	The substance or mixture is classified as oxidizing with the category 2.

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### Other safety information

Relative vapor density

Not applicable

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## SECTION 10: Stability and reactivity

### Reactivity

No data available

### Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### Possibility of hazardous reactions

Risk of explosion with:

organic combustible substances ammonium compounds acetates

Alcohols Esters

### Conditions to avoid

no information available

### Incompatible materials

No data available

### Hazardous decomposition products

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### Information on toxicological effects

#### Acute toxicity

Oral

Acute toxicity estimate Inhalation - 1,6 mg/l (Expert judgment)

Acute toxicity estimate Inhalation - 1,6 mg/l (Expert judgment)

Symptoms: Possible damages:, mucosal irritations LD50 Dermal - Rat - male and female - > 2.000 mg/kg (OECD Test Guideline 402)

Remarks: (in analogy to similar products)

The value is given in analogy to the following substances: Lead(II) oxide red

#### Skin corrosion/irritation

(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**

(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**

No data available

#### **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**

No data available

#### **Specific target organ toxicity - repeated exposure**

Causes damage to organs through prolonged or repeated exposure. - Blood, Central nervous system, Immune system, Kidney

#### **Aspiration hazard**

No data available

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## SECTION 12: Ecological information

### **Toxicity**

#### **Toxicity to fish**

static test LC50 - Oncorhynchus mykiss (rainbow trout) - 0,1 mg/l - 96 h

Remarks: (ECHA)

Toxicity to daphnia EC50 - Daphnia magna (Water flea) - 1,8 mg/l - 48 h  
and other aquatic invertebrates

Remarks: (ECOTOX Database)

#### **Toxicity to algae**

EC50 - algae - 0,024 - 0,029 mg/l - 28 h

Remarks: (Lit.)

#### **Persistence and degradability**

The methods for determining biodegradability are not applicable to inorganic substances.

#### **Bioaccumulative potential**

No data available

#### **Mobility in soil**

No data available

#### **Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

#### **Other adverse effects**

Depending on the concentration, phosphorus and/or nitrogen compounds may contribute to the eutrophication of drinking- water supplies.

Discharge into the environment must be avoided.

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

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## SECTION 13: Disposal considerations

#### **Waste treatment methods**

#### **Product**

See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

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## SECTION 14: Transport information

#### **UN number**

ADR/RID: 1469 IMDG: 1469

#### **UN proper shipping name**

ADR/RID: LEAD NITRATE IMDG: LEAD NITRATE IATA: Lead nitrate

#### **Transport hazard class(es)**



ADR/RID: 5.1 (6.1) IMDG: 5.1 (6.1) IATA: 5.1 (6.1)

### **Packaging group**

ADR/RID: II IMDG: II IATA: II

### **Environmental hazards**

ADR/RID: yes IMDG Marine pollutant: yes IATA: no

### **Special precautions for user**

No data available

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## SECTION 15: Regulatory information

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

#### **Regulations on the Safety Management of Hazardous Chemicals**

China Catalog of Hazardous chemicals 2015:Listed. website: <https://www.mem.gov.cn/>

#### **Measures for Environmental Management of New Chemical Substances**

EC Inventory:Listed.

New Zealand Inventory of Chemicals (NZIoC):Listed. website: <https://www.epa.govt.nz/>

Vietnam National Chemical Inventory:Listed. website: <https://chemicaldata.gov.vn/>

United States Toxic Substances Control Act (TSCA) Inventory:Listed. website: <https://www.epa.gov/>

Chinese Chemical Inventory of Existing Chemical Substances (China IECSC):Listed. website: <https://www.mee.gov.cn/>

European Inventory of Existing Commercial Chemical Substances (EINECS):Listed. website: <https://echa.europa.eu/>

Korea Existing Chemicals List (KECL):Listed. website: <http://ncis.nier.go.kr>

Philippines Inventory of Chemicals and Chemical Substances (PICCS):Listed. website: <https://emb.gov.ph/>

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## SECTION 16: Other information

### **Abbreviations and acronyms**

CAS: Chemical Abstracts Service

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

RID: Regulation concerning the International Carriage of Dangerous Goods by Rail

IMDG: International Maritime Dangerous Goods

IATA: International Air Transportation Association

TWA: Time Weighted Average

STEL: Short term exposure limit

LC50: Lethal Concentration 50%

LD50: Lethal Dose 50%

EC50: Effective Concentration 50%

### **References**

**[1]** CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>

【2】 ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>

【3】 ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

【4】 eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website:

[http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)

【5】 ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>

【6】 Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>

【7】 HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>

【8】 IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>

【9】 IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>

【10】 Sigma-Aldrich, website: <https://www.sigmaaldrich.com/>

## Other Information

Depending on the degree of exposure, periodic medical examination is suggested. Do NOT take working clothes home.

### Disclaimer:

The information in this MSDS is only applicable to the specified product, unless otherwise specified, it is not applicable to the mixture of this product and other substances. This MSDS only provides information on the safety of the product for those who have received the appropriate professional training for the user of the product. Users of this MSDS must make independent judgments on the applicability of this SDS. The authors of this MSDS will not be held responsible for any harm caused by the use of this MSDS.