



Safety Data Sheet

Lead (II) nitrate

Section 1: Chemical Product and Company Identification

Product Name: Lead (II) nitrate

Catalog Codes:

CAS#: 10099-74-8

RTECS: -

TSCA: -

Synonym: -

Chemical Name: Lead (II) nitrate

Chemical Formula: $\text{Pb}(\text{NO}_3)_2$

Contact Information:

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Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Lead (II) nitrate	10099-74-8	100 %

Toxicological Data on Ingredients:

Section 3: Hazards Identification

Classification of the substance or mixture

Acute toxicity, Category 4
Acute toxicity, Category 4
Serious eye damage, Category 1
Skin sensitisation, Sub-category 1B
Carcinogenicity, Category 2
Reproductive toxicity, Category 1A

Specific target organ toxicity - repeated exposure, Category 1, Blood, Central nervous system, Immune system, Kidney
Short-term (acute) aquatic hazard, Category 1
Long-term (chronic) aquatic hazard, Category 1

H302: Harmful if swallowed.
H332: Harmful if inhaled.
H318: Causes serious eye damage.
H317: May cause an allergic skin reaction
H351: Suspected of causing cancer.
H360Df: May damage the unborn child. Suspected of damaging fertility.
H372: Causes damage to organs through prolonged or repeated exposure.

H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects

Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Danger

Signal Word

Hazard Statements

H302 + H332

H317

H318

H351

H360Df

H372

H410

Precautionary Statements

P273

P280

Response:

P301 + P312

P304 + P340 + P312

Harmful if swallowed or if inhaled.
May cause an allergic skin reaction.
Causes serious eye damage.
Suspected of causing cancer
May damage the unborn child. Suspected of damaging fertility
Causes damage to organs (Blood, Central nervous system, Immune system, Kidney) through prolonged or repeated exposure.
Very toxic to aquatic life with long lasting effects.

Avoid release to the environment.
Wear protective gloves/ protective clothing/ eye protection/ face protection.

IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/

P305 + P351 + P338

P308 + P313

Additional Labelling

doctor if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

IF exposed or concerned: Get medical advice/ attention.

"As from 24 August 2023 adequate training is required before industrial or professional use." Restricted to professional users.

Reduced Labelling (<= 125 ml)

Pictogram



Signal Word

danger

Hazard Statements

none

H317

May cause an allergic skin reaction.

H351

Suspected of causing cancer.

H372

Causes damage to organs through prolonged or repeated exposure.

H318

Causes serious eye damage.

H360Df

May damage the unborn child. Suspected of damaging fertility.

Precautionary Statements

none

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection.

P305 + P351 + P338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308 + P313

IF exposed or concerned: Get medical advice/ attention.

Supplemental Hazard Statements

none

Other hazards

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.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information:

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Section 4: First Aid Measures

Description of first-aid measures

General advice

Show this safety data sheet to the doctor in attendance.

If inhaled

After inhalation: fresh air. Immediately call in physician. 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. Call a physician immediately.

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 3) and/or in section 11

Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire and Explosion Data

Extinguishing media

Suitable extinguishing media

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

Special hazards arising from the substance or mixture

Specific hazards during fire fighting	Combustible.
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Hazardous combustion products

Development of hazardous combustion gases or vapours possible in the event of fire.

:Nitrogen oxides (NOx)

Lead oxides

Advice for firefighters

Special protective

equipment 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.

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 dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

Precautions for safe handling

Advice on protection against fire and explosion:

Work under hood. Do not inhale substance/mixture.

Hygiene measures:

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

For precautions see section 3.

Conditions for safe storage, including any incompatibilities**Storage conditions**

Further information on storage conditions:

Tightly closed. Away from combustible materials and sources of ignition and heat. Keep locked up or in an area accessible only to qualified or authorised persons. Do not store near combustible materials.

Storage class (TRGS 510): 5.1B, Oxidizing hazardous materials

Section 8: Exposure Controls/Personal Protection**Control parameters****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

Hand protection

Material	Nitrile rubber
Break through time	480 min
Glove thickness	0,11 mm
Protective index	Full contact
Manufacturer	KCL 741 Dermatril® L

Material	Nitrile rubber
Break through time	480 min
Glove thickness	0,11 mm
Protective index	Splash contact
Manufacturer	KCL 741 Dermatril® L

Remarks	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 EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D36124 Eichenzell, Internet:
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www.kcl.de).

Skin and 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).

Environmental exposure controls

Advice

: Do not let product enter drains

Section 9: Physical and Chemical Properties

Physical state

solid (20 °C, 1.013 hPa)

Form

Crystalline

Color

colourless
white

Odor

Odourless

Melting point/freezing point

470 °C Method: dec.

Boiling point/boiling range

500 °C (1.023 hPa) Method: Regulation (EC) No. 440/2008, Annex, A.2

Flash point

Not applicable

Evaporation rate

No data available

Flammability

Method: Flammability (solids) Remarks: The

	product is not flammable.
Upper explosion limit / Upper flammability limit	Not applicable
Lower explosion limit / Lower flammability limit	Not applicable
Flash point	Not applicable
Autoignition temperature	not combustible
Decomposition temperature	No data available
pH	3 - 4 (20 °C) Concentration: 50 g/l
Viscosity Viscosity, dynamic Viscosity, kinematic	Not applicable No data available
Flow time	No data available
Solubility(ies) Water solubility	486 g/l (20 °C) pH: 1,6 Method: Regulation (EC) No. 440/2008, Annex, A.6 completely soluble
Partition coefficient: noctanol/water Vapor pressure	Not applicable for inorganic substances < 0,1 hPa (20 °C) Method: OECD Test Guideline 104 low
Relative density	4,77 (23,6 °C) Method: Regulation (EC) No. 440/2008, Annex, A.3 GLP: yes
Density	4,49 g/cm ³ (20 °C) Method: OECD Test Guideline 109
Relative vapour density	Not applicable
Other safety information Explosives	GLP: yes Not classified as explosive.
Oxidizing properties	No data available
Burning rate	No data available

Self-ignition	400 °C 1.023 hPa Method: Relative self-ignition temperature for solids
Substances and mixtures, which in contact with water, emit flammable gases	The substance or mixture does not emit flammable gases in contact with water.
Evaporation rate	Not applicable
Molecular weight	331,21 g/mol

Section 10: Stability and Reactivity Data

Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

Chemical stability

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

Possibility of hazardous reactions

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

Section 11: Toxicological Information

Information on toxicological effects

Acute toxicity

Oral: No data available

Acute toxicity estimate Inhalation - 1,6 mg/l - dust/mist

(Expert judgement)

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

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

suspected of causing cancer

Reproductive toxicity

May damage the unborn child. Positive evidence from human epidemiological studies.
Suspected of damaging fertility.

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

Additional Information

Endocrine disrupting properties

Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

RTECS: OG2100000

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

thoroughly investigated.

Systemic effects:

After absorption:

After a latency period:

Salivation

Vomiting

drop in blood pressure

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.

Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Section 12: Ecological Information

Toxicity

Mixture

Toxicity to fish

LC50 (*Oncorhynchus mykiss* (rainbow trout)):
0,1 mg/l

End point: mortality

Exposure time: 96 h

Test Type: static test

Analytical monitoring: yes

Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates

EC50 (*Daphnia magna* (Water flea)): 1,8 mg/l
Exposure time: 48 h
Remarks: (ECOTOX Database)

M-Factor (Acute aquatic toxicity)

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Toxicity to fish (Chronic toxicity)

NOEC: 1,337 mg/l
End point: mortality

Exposure time: 7 d
Species: Pimephales promelas (fathead minnow)
Test Type: semi-static test
Analytical monitoring: yes
GLP: yes
Remarks: (ECHA)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)

NOEC: 0,0224 mg/l
End point: mortality
Exposure time: 7 d
Species: Ceriodaphnia dubia (water flea)
Test Type: semi-static test
Analytical monitoring: yes
Method: US-EPA
GLP: yes

M-Factor (Chronic aquatic toxicity)

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Persistence and degradability

Components:

Lead(II) nitrate:

Biodegradability

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

Bioaccumulative potential

Components: Lead(II) nitrate:

Partition coefficient: noctanol/water

Remarks: Not applicable for inorganic substances

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.

Endocrine disrupting properties

Product:

Assessment: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

No data available

Other adverse effects

Additional ecological information

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.

Section 13: Disposal Considerations

Waste treatment methods

Product

Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

Section 14: Transport Information

UN number

ADR/RID: UN 1469

IMDG: UN 1469

IATA: UN 1469

UN proper shipping name

ADR/RID: LEAD NITRATE

IMDG: LEAD NITRATE

IATA: Lead nitrate

Transport hazard class(es)

	Class	Subsidiary risks
ADR	5.1	6.1
IMDG	5.1	6.1
IATA	5.1	6.1

Packaging group

ADR

Packing group	II
Classification Code	OT2
Hazard Identification Number	56
Labels	5.1 (6.1)
Tunnel restriction code	(E)
IMDG	
Packing group	II
Labels	5.1 (6.1)
EmS Code	F-A, S-Q
IATA (Cargo)	
Packing instruction (cargo aircraft)	562
Packing instruction (LQ)	Y543
Packing group	II
Labels	Division 5.1 - Oxidizing substances, Division 6.1 - Toxic substances
IATA_P (Passenger)	
Packing instruction (passenger aircraft)	558
Packing instruction (LQ)	Y543
Packing group	II
Labels	Division 5.1 - Oxidizing substances, Division 6.1 - Toxic substances
Environmental hazards	
ADR	yes
Environmentally hazardous	
IMDG	yes
Marine pollutant	

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

Section 15: Other Regulatory Information

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)

Conditions of restriction for the following entries should be considered:

Number on list 30: Lead(II) nitrate

Number on list 63: Lead(II) nitrate

Number on list 72: Lead(II) nitrate

Number on list 75: If you intend to use this product as tattoo ink, please contact your vendor.

Lead(II) nitrate

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).

Regulation (EU) No 2024/590 on substances that deplete the ozone layer

Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast)

Not applicable

REACH - List of substances subject to authorisation (Annex XIV)

Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.

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ENVIRONMENTAL HAZARDS

Chemical safety assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

References: Not available

Other Special Considerations: Not available

Created: 02/2026

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the

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