



Preparing for the New Era of Laboratories

MATERIAL SAFETY DATA SHEET (MSDS)

According to regulation (EU) no.1907/2006

LEAD NITRATE 99,5% AR

PRODUCT CODE : O-5106

CAS No : 10099-74-8

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

UN No : 1469

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LEAD NITRATE 99,5% AR



MSDS Number : 0202

Date : Aug 26th, 2024

Version : 1.0

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

- 1.1 Product Name** : LEAD NITRATE 99,5% AR
Synonyms : Lead nitrate, Plumbous nitrate, Lead dinitrate, Plumb dulcis
CAS No. : 10099-74-8
HS Code : 2834 29 90
Chemical Formula : $\text{Pb}(\text{NO}_3)_2$ $\text{N}_2\text{O}_6\text{Pb}$ (Hill)
Molecular Weight : 331.21 g/mol
Product Code : 0-5106
Brand : Labotiq
1.2 Manufacturer : Labotiq
Address : Jl.Terapi Raya AD2-Bumi Menteng Asri Bogor, Jawa Barat Indonesia – 16111
Website : www.labotiq.net
Email : labotiq.id@gmail.com
For information : Phone : (+62-251) 839110, 8311662, Fax : (+62-251) 83135710
Emergency number : +6281316894650
1.3 Application : Laboratory chemicals, Manufacture of substances, General Chemical reagent

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture**
Classification according to Regulation (EC) No 1272/2008
 Oxidising Solids, H272
 Category 2
 Acute toxicity (oral), H302
 Category 4
 Acute toxicity (inhal.), H332
 Category 4
 Reproductive toxicity, H360
 Category 1A
 Specific target organ toxicity — Repeated exposure, Category 2 H373
 Hazardous to the aquatic environment — Chronic Hazard, Category 1 H410

For the full text of the H-Statements mentioned in this Section, see Section 16

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008
 Pictogram



Signal word

Danger

Hazard statement(s)

H272 -

May intensify fire; oxidiser

H302+H332 -

Harmful if swallowed or if inhaled

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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)	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273	Avoid release to the environment.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.
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	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

2.3 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.

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms	: Plumbous nitrate	
Formula	: $\text{Pb}(\text{NO}_3)_2$	$\text{N}_2\text{O}_6\text{Pb}$ (Hill)
Molecular weight	: 331.21 g/mol	
CAS-No.	: 10099-74-8	
EC-No.	: 233-245-9	
Index-No.	: 082-001-00-6	

3.2 Mixture

Hazardous ingredients according to Regulation (EC) No 1272/2008

Component	Classification	Concentration
Lead Nitrate CAS-No. 10099-74-8 EC-No. 233-245-9 Index-No. 082-001-00-6	Ox. Sol. 2; Acute Tox. 4; Eye Dam. 1; Skin Sens. 1; Repr. 1A; STOT RE 1; Aquatic Acute 1; Aquatic Chronic 1; H272, H302, H332, H318, H317, H360FD, H372, H400, H410 M-Factor - Aquatic Acute: 10 M-Factor - Aq	<=100 %

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice

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

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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.

4.2 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

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures**5.1 Extinguishing media****Suitable extinguishing media**

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

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x), Lead oxides

Not combustible.

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

5.3 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.

5.4 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**6.1 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.

6.2 Environmental precautions

Do not let product enter drains.

6.3 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.

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6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling

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 2.2.

7.2 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.

Storage class

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

7.3 Specific end use(s)

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with workplace control parameters

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face 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 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.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

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Full contact

Material: Nitrile rubber
 Minimum layer thickness: 0.11 mm
 Break through time: 480 min
 Material tested: Dermatrill® (KCL 740, Size M)

Splash contact

Material: Nitrile rubber
 Minimum layer thickness: 0.11 mm
 Break through time: 480 min
 Material tested: Dermatrill® (KCL 740, Size M)

Body Protection

protective clothing

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use (EN 143) respirator cartridges as a backup to engineering controls. If the 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.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Form: solid Colour: White crystalline.
Odour	odorless
Odour Threshold	Not applicable
pH	3 - 4
Melting point/freezing point	Melting point/range: 470 °C - dec
Initial boiling point and boiling range	> 500 °C at 1.023 hPa - Regulation (EC) No. 440/2008, Annex, A.2
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	4,77 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: octanol/water	Not applicable for inorganic substances
Auto-ignition temperature	400 °C at 1.023 hPa - Relative self-ignition temperature for solids
Decomposition temperature	No data available
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	The substance or mixture is classified as oxidizing with the subcategory 2.

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9.2 Other safety information

Relative vapor density

Not applicable

SECTION 10: Stability and reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Risk of explosion with: organic combustible substances, ammonium compounds, acetates Alcohols, Esters

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

No data available

10.6 Hazardous decomposition products

In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Oral: No data available

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

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 sensitisation

Local lymph node assay (LLNA) - Mouse

Result: positive (OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test

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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(Lead nitrate)

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

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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**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.)

12.2 Persistence and degradability

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

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 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.

12.6 Other adverse effects

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.

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**13.1 Waste treatment methods****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

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Contaminated packaging
Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADR/RID: 1469

IMDG: 1469

IATA: 1469

14.2 UN proper shipping name

ADR/RID: LEAD NITRATE

IMDG: LEAD NITRATE

IATA: Lead nitrate

14.3 Transport hazard class(es)

ADR/RID: 5.1 (6.1)

IMDG 5.1 (6.1)

IATA: 5.1 (6.1)

14.4 Packaging group

ADR/RID: II

IMDG: II

IATA: II

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: yes

IATA: no

14.6 Special precautions for user

No data available

SECTION 15: Regulatory information

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use

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

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Lead(II) nitrate

National legislation

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

: OXIDISING LIQUIDS AND SOLIDS

: ENVIRONMENTAL HAZARDS

Other regulations

Observe work restrictions regarding maternity protection in accordance to Dir 92/85/EEC or stricter national regulations where applicable.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

Full text of H-Statements referred to under sections 2 and 3.

H272 May intensify fire; oxidizer.

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H302	Harmful if swallowed.
H302 + H332	Harmful if swallowed or if inhaled.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H360FD	May damage fertility. May damage the unborn child.
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.

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 3

Further information

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. Labotiq shall not be held liable for any damage resulting from handling or from contact with the above product.

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