

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**
Version: **3.0 en**
Replaces version of: 2022-04-05
Version: (2)

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

1.1 Product identifier

Identification of the substance	Lead(II) nitrate ≥99 %, p.a., ACS
Article number	HN32
Index No (GB CLP)	082-001-00-6
EC number	233-245-9
CAS number	10099-74-8

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

Relevant identified uses:	Laboratory chemical Laboratory and analytical use
Uses advised against:	Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-stuffs.

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone: +49 (0) 721 - 56 06 0

Telefax: +49 (0) 721 - 56 06 149

e-mail: sicherheit@carlroth.de

Website: www.carlroth.de

Competent person responsible for the safety data sheet: Department Health, Safety and Environment

e-mail (competent person): sicherheit@carlroth.de

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Service City Hospital	Dudley Rd	B187QH Birmingham	844 892 0111	

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥ 99 %, p.a., ACS

article number: **HN32**

Classification acc. to GHS

Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.10	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.1I	Acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.7	Reproductive toxicity	1A	Repr. 1A	H360Df
3.9	Specific target organ toxicity - repeated exposure	1	STOT RE 1	H372
4.1A	Hazardous to the aquatic environment - acute hazard	1	Aquatic Acute 1	H400
4.1C	Hazardous to the aquatic environment - chronic hazard	1	Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling

Signal word

Danger

Pictograms

GHS07, GHS08,
GHS09



Hazard statements

H302+H332	Harmful if swallowed or if inhaled
H360Df	May damage the unborn child. Suspected of damaging fertility
H372	Causes damage to organs (blood, central nervous system, immune system, kidney) through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects

Precautionary statements

Precautionary statements - prevention

P273	Avoid release to the environment
P280	Wear protective gloves/eye protection

Precautionary statements - response

P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P308+P313	IF exposed or concerned: Get medical advice/attention

Precautionary statements - storage

P405	Store locked up
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For professional users only

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate $\geq 99\%$, p.a., ACS

article number: HN32

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

SECTION 3: Composition/information on ingredients

3.1 Substances

Name of substance	Lead(II) nitrate
Molecular formula	$\text{Pb}(\text{NO}_3)_2$
Molar mass	331,2 g/mol
CAS No	10099-74-8
EC No	233-245-9
Index No (GB CLP)	082-001-00-6

Substance of Very High Concern (SVHC)

Name of substance	CAS No	EC No	Listed in	Remarks
Lead(II) nitrate	10099-74-8	233-245-9	Candidate list	Repr. A57c

Legend

Candidate list Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV
Repr. A57c Toxic for reproduction (article 57c)

Substance, Specific Conc. Limits, M-factors, ATE

Specific Conc. Limits	M-Factors	ATE	Exposure route
Repr. 1A; H360D: C $\geq 0,3\%$ Repr. 2; H361f: C $\geq 2,5\%$ STOT RE 2; H373: C $\geq 0,5\%$	M-factor (acute) = 10	500 mg/kg >1,5 mg/l/4h	oral inhalation: dust/ mist

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off contaminated clothing.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower.

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥ 99 %, p.a., ACS

article number: **HN32**

Following eye contact

Rinse cautiously with water for several minutes. In all cases of doubt, or when symptoms persist, seek medical advice.

Following ingestion

Rinse mouth with water (only if the person is conscious). In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

4.2 Most important symptoms and effects, both acute and delayed

Vomiting, Irritant effects, Poisoning effect on central nervous system can cause convulsions, laboured breathing and loss of consciousness, Methaemoglobinaemia

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!
water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Non-combustible.

Hazardous combustion products

In case of fire may be liberated: Nitrogen oxides (NO_x)

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains. Take up mechanically.

Advice on how to clean up a spill

Take up mechanically. Control of dust.

Other information relating to spills and releases

Place in appropriate containers for disposal.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid exposure. Avoid dust formation.

Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place. Keep container tightly closed. Store in a place accessible by authorized persons only.

Incompatible substances or mixtures

Observe hints for combined storage.

Consideration of other advice:

Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted. Use local and general ventilation.

Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [mg/m ³]	STEL [mg/m ³]	Ceiling-C [mg/m ³]	Notation	Source
EU	lead compounds		IOELV	0,15				2022/431/EU
GB	lead compounds		OEL-NIR	0,15			Pb	CLWR-NIR
GB	lead compounds		OEL	0,15			Pb	CLWR
GB	dust		WEL	10			i	EH40/2005
GB	dust		WEL	4			r	EH40/2005

Notation

Ceiling-C Ceiling value is a limit value above which exposure should not occur
 i Inhalable fraction
 Pb Calculated as Pb (lead)
 r Respirable fraction
 STEL Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
 TWA Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Biological limit values

Country	Name of agent	CAS No	Parameter	Notation	Identifier	Value	Material	Source
GB	lead compounds		lead	Pb-bio-2, Pb-med-2, wmn<45y	AL_NIR	250 µg/l	whole blood	CLWR-NIR
GB	lead compounds		lead	Pb-bio-2, Pb-med-2, wmn<45y	AL	250 µg/l	whole blood	CLWR
GB	lead compounds		lead	Pb-bio-2, Pb-med-3, wmn>45y, men	AL_NIR	400 µg/l	whole blood	CLWR-NIR
GB	lead compounds		lead	Pb-bio-2, Pb-med-3, wmn>45y, men	AL	400 µg/l	whole blood	CLWR

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate $\geq 99\%$, p.a., ACS

article number: **HN32**

Country	Name of agent	CAS No	Parameter	Notation	Identifier	Value	Material	Source
GB	lead compounds		lead	Pb-bio-2, Pb-med-4, young	AL_NIR	500 µg/l	whole blood	CLWR-NIR
GB	lead compounds		lead	Pb-bio-2, Pb-med-4, young	AL	500 µg/l	whole blood	CLWR

Notation

- Pb-bio-2 Biological monitoring: (a) in respect of an employee other than a young person or a woman of reproductive capacity, at least every 6 months, but where the results of the measurements for individuals or for groups of workers have shown on the previous two consecutive occasions on which monitoring was carried out a lead in air exposure greater than 0.075 mg/m³ but less than 0.100 mg/m³ and where the blood-lead concentration of any individual employee is less than 30 µg/dl, the frequency of monitoring may be reduced to once a year; or (b) in respect of any young person or a woman of reproductive capacity, at such intervals as the relevant doctor shall specify, being not greater than 3 months
- Pb-med-2 Medical surveillance: in respect of a woman of reproductive capacity, 20 g/dl (blood-lead concentration) or 20 g Pb/g creatinine (urinary lead concentration)
- Pb-med-3 Medical surveillance: in respect of any other employee, 35 µg/dl (blood-lead concentration) or 40 µg Pb/g creatinine (urinary lead concentration)
suspension level: in respect of a woman of reproductive capacity, 60 µg/dl (blood-lead concentration) or 110 µg Pb/g creatinine (urinary lead concentration)
- Pb-med-4 Medical surveillance: in respect of any other employee, 35 µg/dl (blood-lead concentration) or 40 µg Pb/g creatinine (urinary lead concentration)
suspension level: in respect of a young person, 50 µg/dl (blood-lead concentration) or 110 µg Pb/g creatinine (urinary lead concentration)
- wmn<45y Women of reproductive capacity (women < 45 years)
wmn>45y, men Women of non-reproductive capacity, men (women > 45 years)
young Adolescents (young person < 18 years)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**

- **type of material**

NBR (Nitrile rubber)

- **material thickness**

>0,11 mm

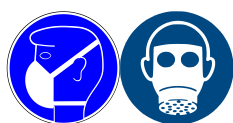
- **breakthrough times of the glove material**

>480 minutes (permeation: level 6)

- **other protection measures**

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

Respiratory protection



Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

Environmental exposure controls

Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	solid
Colour	white
Odour	odourless
Melting point/freezing point	458 – 459 °C at 1.023 hPa (ECHA)
Boiling point or initial boiling point and boiling range	>500 °C at 1.023 hPa (ECHA)
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not applicable
Auto-ignition temperature	400 °C at 1.023 hPa (ECHA)
Decomposition temperature	not relevant
pH (value)	4,3 (20 °C) (ECHA)
Kinematic viscosity	not relevant
<u>Solubility(ies)</u>	
Water solubility	486 g/l at 20 °C (ECHA)
<u>Partition coefficient</u>	
Partition coefficient n-octanol/water (log value):	not relevant (inorganic)

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**

Vapour pressure	not determined
<u>Density and/or relative density</u>	
Density	4,49 g/cm ³ at 20 °C
Relative vapour density	Information on this property is not available.
Bulk density	~1.850 kg/m ³
Particle characteristics	No data available.
<u>Other safety parameters</u>	
Oxidising properties	none

9.2 Other information

Information with regard to physical hazard classes:	hazard classes acc. to GHS (physical hazards): not relevant
Other safety characteristics:	There is no additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

Danger of explosion: Metal powder,
Violent reaction with: Ammonium compounds, Alcohols, Ester

10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

10.5 Incompatible materials

There is no additional information.

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Classification acc. to GHS

Acute toxicity

Harmful if swallowed. Harmful if inhaled.

GHS of the United Nations, annex 4. May be harmful in contact with skin.

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**

Acute toxicity					
Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	>2.000 mg/kg	rat		ECHA
dermal	LD50	>2.000 mg/kg	rat		ECHA

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

May damage the unborn child. Suspected of damaging fertility.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Causes damage to organs (blood, central nervous system, immune system, kidney) through prolonged or repeated exposure.

Hazard category	Target organ	Exposure route
1	blood	if exposed
1	central nervous system	if exposed
1	immune system	if exposed
1	kidney	if exposed

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

vomiting, nausea

• If in eyes

causes slight to moderate irritation

• If inhaled

Inhalation of dust may cause irritation of the respiratory system

• If on skin

Data are not available.

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥ 99 %, p.a., ACS

article number: HN32

• Other information

Other adverse effects: Blood pressure drop, Methaemoglobinaemia, Irreversible damage to internal organs, Central nervous system

11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

11.3 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute)				
Endpoint	Value	Species	Source	Exposure time
LC50	107 $\mu\text{g}/\text{l}$	fish	ECHA	96 h
ErC50	35,9 $\mu\text{g}/\text{l}$	algae	ECHA	48 h

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Properties of waste which render it hazardous

HP 5 specific target organ toxicity (STOT)/aspiration toxicity

HP 6 acute toxicity

HP 10 toxic for reproduction

HP 14 ecotoxic

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

SECTION 14: Transport information

14.1 UN number or ID number

ADRRID UN 1469

IMDG-Code UN 1469

ICAO-TI UN 1469

14.2 UN proper shipping name

ADRRID LEAD NITRATE

IMDG-Code LEAD NITRATE

ICAO-TI Lead nitrate

14.3 Transport hazard class(es)

ADRRID 5.1 (6.1)

IMDG-Code 5.1 (6.1)

ICAO-TI 5.1 (6.1)

14.4 Packing group

ADRRID II

IMDG-Code II

ICAO-TI II

14.5 Environmental hazards

hazardous to the aquatic environment

14.6 Special precautions for user

Provisions for dangerous goods (ADR) should be complied within the premises.

14.7 Maritime transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 Information for each of the UN Model Regulations

Safety data sheet Safety data sheet


acc. to Regulation (EC) No. 1907/2006 (REACH)




Lead(II) nitrate ≥ 99 %, p.a., ACS

article number: **HN32**


Agreement concerning the International Carriage of Dangerous Goods by Road (ADR) Additional information

Proper shipping name	LEAD NITRATE
Particulars in the transport document	UN1469, LEAD NITRATE, 5.1 (6.1), II, (E), environmentally hazardous
Classification code	OT2
Danger label(s)	5.1+6.1, "Fish and tree"
	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	802(ADN)
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg
Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	56
Emergency Action Code	1Y

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) Additional information

Classification code	OT2
Danger label(s)	5.1+6.1, "Fish and tree"
	
Environmental hazards	Yes Hazardous to water
Special provisions (SP)	802(ADN)
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg
Transport category (TC)	2
Hazard identification No	56

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name	LEAD NITRATE
Particulars in the shipper's declaration	UN1469, LEAD NITRATE, 5.1 (6.1), II, MARINE POLLUTANT
Marine pollutant	yes (P) (hazardous to the aquatic environment)
Danger label(s)	5.1+6.1, "Fish and tree"
	
Special provisions (SP)	-

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**

Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg
EmS	F-A, S-Q
Stowage category	A
Segregation group	7 - Heavy metals and their salts 9 - Lead and its compounds

International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name	Lead nitrate
Particulars in the shipper's declaration	UN1469, Lead nitrate, 5.1 (6.1), II
Environmental hazards	yes (hazardous to the aquatic environment)
Danger label(s)	5.1+6.1



Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Seveso Directive

2012/18/EU (Seveso III)				
No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements		Notes
E1	environmental hazards (hazardous to the aquatic environment, cat. 1)	100	200	56)

Notation

56) Hazardous to the Aquatic Environment in category Acute 1 or Chronic 1

Deco-Paint Directive

VOC content	0 %
VOC content	0 g/l

Industrial Emissions Directive (IED)

VOC content	0 %
VOC content	0 g/l

Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

not listed

Water Framework Directive (WFD)

List of pollutants (WFD)				
Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
Lead(II) nitrate	lead compounds		b)	
Lead(II) nitrate	lead compounds	7439-92-1	c)	
Lead(II) nitrate	Substances which contribute to eutrophication (in particular, nitrates and phosphates)		a)	
Lead(II) nitrate	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	
Lead(II) nitrate	Metals and their compounds		a)	

Legend

- a) Indicative list of the main pollutants
- b) List of priority substances in the field of water policy
- c) Environmental Quality Standards for Priority Substances and certain other pollutants

Regulation on the marketing and use of explosives precursors

not listed

Regulation on drug precursors

not listed

Regulation on substances that deplete the ozone layer (ODS)

not listed

Regulation concerning the export and import of hazardous chemicals (PIC)

chemicals subject to the international prior informed consent (PIC) procedure (the 'PIC procedure').

Name of substance	Name acc. to inventory	CAS No	Wt%	Category / subcategory	Use limitation
Lead(II) nitrate	lead compounds		100	i(2)	sr

Legend

- i(2) Sub-category: i(2) - industrial chemical for public use
- sr Use limitation: severe restriction (for the sub-category or sub-categories concerned) according to Union legislation

Regulation on persistent organic pollutants (POP)

not listed

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: HN32

National regulations(GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

Substance of Very High Concern (SVHC) acc. to GB REACH and HSE

Name of substance	CAS No	Listed in	Remarks
Lead(II) nitrate	10099-74-8	Candidate list	Repr. A57c

Legend

Candidate list Substances meeting the criteria referred to in Article 57 and for eventual inclusion in Annex XIV

Repr. A57c Toxic for reproduction (Article 57c)

Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)

Name of substance	Name acc. to inventory	CAS No	No
Lead(II) nitrate	toxic for reproduction		30
Lead(II) nitrate	Lead compounds		63
Lead(II) nitrate	Lead compounds		72

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TR	CICR	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)
VN	NCI	substance is listed

Legend

AIIC Australian Inventory of Industrial Chemicals
CICR Chemical Inventory and Control Regulation
CSCL-ENCS List of Existing and New Chemical Substances (CSCL-ENCS)
DSL Domestic Substances List (DSL)
ECSI EC Substance Inventory (EINECS, ELINCS, NLP)

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate $\geq 99\%$, p.a., ACS

article number: **HN32**

Legend

IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
KECI	Korea Existing Chemicals Inventory
NCI	National Chemical Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
2.2	Labelling of packages where the contents do not exceed 125 ml: Signal word: Danger		yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.2		Labelling of packages where the contents do not exceed 125 ml: change in the listing (table)	yes
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.	yes
14.8		Regulations concerning the International Carriage of Dangerous Goods by Rail (RID)Additional information	yes
14.8		Classification code: OT2	yes
14.8		Danger label(s): 5.1+6.1, "Fish and tree"	yes
14.8		Danger label(s): change in the listing (table)	yes
14.8		Environmental hazards: Yes Hazardous to water	yes
14.8		Special provisions (SP): 802(ADN)	yes
14.8		Excepted quantities (EQ): E2	yes
14.8		Limited quantities (LQ): 1 kg	yes
14.8		Transport category (TC): 2	yes

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
14.8		Hazard identification No: 56	yes
15.1	Restrictions according to REACH, Annex XVII		yes
15.1		Dangerous substances with restrictions (REACH, Annex XVII): change in the listing (table)	yes
15.1	List of substances subject to authorisation (REACH, Annex XIV)/SVHC - candidate list		yes
15.1		Substance of Very High Concern (SVHC): change in the listing (table)	yes
15.1	VOC content: 0 % 0 g/l	VOC content: 0 %	yes
15.1		VOC content: 0 g/l	yes
15.1		Regulation concerning the export and import of hazardous chemicals (PIC): change in the listing (table)	yes
15.1		National regulations(GB)	yes
15.1		List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list	yes
15.1		Substance of Very High Concern (SVHC) acc. to GB REACH and HSE: change in the listing (table)	yes
15.1		Restrictions according to GB REACH, Annex 17	yes
15.1		Dangerous substances with restrictions (GB REACH, Annex 17): change in the listing (table)	yes
15.1		Other information: Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.	yes
15.1		National inventories: change in the listing (table)	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
2022/431/EU	Directive (EU) 2022/431 of the European Parliament and of the Council of 9 March 2022 amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**

Abbr.	Descriptions of used abbreviations
CLWR	Control of Lead at Work Regulations
CLWR-NIR	Control of Lead at Work Regulations (Northern Ireland)
DGR	Dangerous Goods Regulations (see IATA/DGR)
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
ED	Endocrine disruptor
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GB CLP	The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended)
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HSE	Health and Safety Executive
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
IOELV	Indicative occupational exposure limit value
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
M-factor	Means a multiplying factor. It is applied to the concentration of a substance classified as hazardous to the aquatic environment acute category 1 or chronic category 1, and is used to derive by the summation method the classification of a mixture in which the substance is present
NLP	No-Longer Polymer
OEL	Workplace exposure limit
PBT	Persistent, Bioaccumulative and Toxic
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity

Safety data sheet Safety data sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)



Lead(II) nitrate ≥99 %, p.a., ACS

article number: **HN32**

Abbr.	Descriptions of used abbreviations
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H332	Harmful if inhaled.
H360Df	May damage the unborn child. Suspected of damaging fertility.
H372	Causes damage to organs (blood, central nervous system, immune system, kidney) through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.