

date of compilation: 2018-01-08

Revision: 2022-09-29

Lanthanum(III) nitrate hexahydrate ≥99,99%, p.a.

article number: **8358** Version: **2.1 en** Replaces version of: 2022-05-10 Version: (2)

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

1.1 Product identifier

Identification of the substance	Lanthanum(III) nitrate hexahydrate ≥99,99%, p.a.
Article number	8358
EC number	600-351-5
CAS number	10277-43-7

(household).

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	

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 :Department Health, Safety and Environment sheet:

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

Classification acc. to GHS

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

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Section	Hazard class		Hazard class and category	Hazard statement
2.14	2.14 Oxidising solid		Ox. Sol. 2	H272
3.3	3.3 Serious eye damage/eye irritation		Eye Dam. 1	H318
4.1A	4.1A Hazardous to the aquatic environment - acute hazard		Aquatic Acute 1	H400
4.1C	4.1C Hazardous to the aquatic environment - chronic hazard		Aquatic Chronic 1	H410

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling

Signal word Danger

Pictograms



Hazard statements

H272	May intensify fire; oxidiser
H318	Causes serious eye damage
H410	Very toxic to aquatic life with long lasting effects

Precautionary statements

Precautionary statements - prevention

P220	Keep/store away from combustible materials
P273	Avoid release to the environment
P280	Wear protective gloves/eye protection

Precautionary statements - response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact
	lenses, if present and easy to do. Continue rinsing
P310	Immediately call a POISON CENTER/doctor

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.

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

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SECTION 3: Composition/information on ingredients

3.1	Substances	
	Name of substance	Lanthanum(III) nitrate hexahydrate
	Molecular formula	$La(NO_3)_3 \cdot 6 H_2O$
	Molar mass	433 ^g / _{mol}
	CAS No	10277-43-7
	EC No	600-351-5

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

Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion

Rinse mouth. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Risk of blindness, Risk of serious damage to eyes

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

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

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5.2 Special hazards arising from the substance or mixture

Oxidising property. Non-combustible.

Hazardous combustion products

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

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.

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. Ventilate affected area.

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 dust formation.

Measures to prevent fire as well as aerosol and dust generation

Keep away from combustible material.

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. Hygroscopic.

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Incompatible substances or mixtures

Observe hints for combined storage. Keep/store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles.

Consideration of other advice:

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

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

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 consider-able 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.

• type of material

NBR (Nitrile rubber)

material thickness

>0,11 mm

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

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

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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). P1 (filters at least 80 % 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
Form	crystalline
Colour	white
Odour	faintly perceptible
Melting point/freezing point	>40 °C
Boiling point or initial boiling point and boiling range	126 °C
Flammability	non-combustible
Lower and upper explosion limit	not determined
Flash point	not applicable
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	3 – 4 (in aqueous solution: 50 ^g / _l , 25 °C)
Kinematic viscosity	not relevant
Solubility(ies)	
Water solubility	>1.200 ^g / _l at 25 °C
Partition coefficient	
Partition coefficient n-octanol/water (log value):	not relevant (inorganic)
Vapour pressure	not determined
Density and/or relative density	
Density	not determined
Relative vapour density	information on this property is not available

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

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Bulk density	~1.300 ^{kg} / _{m³}
article characteristics	No data available.
Other safety parameters	
Dxidising properties	oxidiser
Other information	
nformation with regard to physical hazard lasses:	There is no additional information.
Other safety characteristics:	There is no additional information.
	article characteristics <u>other safety parameters</u> <u>oxidising properties</u> other information information with regard to physical hazard asses:

SECTION 10: Stability and reactivity

10.1 Reactivity

It's a reactive substance. Oxidising property.

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

Violent reaction with: Reducing agents, Strong acid, Organic substances

10.4 Conditions to avoid

Protect from moisture. Keep away from heat.

10.5 Incompatible materials

combustible materials

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

Shall not be classified as acutely toxic.

Acute toxicity

Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	4.500 ^{mg} / _{kg}	rat	anhydrous	

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Causes serious eye damage.

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

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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

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

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

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Symptoms related to the physical, chemical and toxicological characteristics

If swallowed

gastrointestinal complaints

• If in eyes

Causes serious eye damage, risk of blindness

• If inhaled

Inhalation of dust may cause irritation of the respiratory system

• If on skin

Frequently or prolonged contact with skin may cause dermal irritation

• Other information

none

11.2 Endocrine disrupting properties

Not listed.

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	1 ^{mg} / _l	rainbow trout (Onco- rhynchus mykiss)		96 h

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

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Aquatic toxicity (acute)				
Endpoint	Value	Species	Source	Exposure time
EC50	2,1 ^{mg} / _l	Pseudokirchneriella sub- capitata		72 h

Biodegradation

The methods for determining the biological degradability are not applicable to inorganic substances.

12.2 Process of 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** Not listed.
- 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.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used.

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

- **HP2** oxidising
- **HP 4** irritant skin irritation and eye damage
- 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.

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

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SEC	SECTION 14: Transport information			
14.1	UN number or ID number			
	ADRRID	UN 1477		
	IMDG-Code	UN 1477		
	ICAO-TI	UN 1477		
14.2	UN proper shipping name			
	ADRRID	NITRATES, INORGANIC, N.O.S.		
	IMDG-Code	NITRATES, INORGANIC, N.O.S.		
	ICAO-TI	Nitrates, inorganic, n.o.s.		
14.3	Transport hazard class(es)			
	ADRRID	5.1		
	IMDG-Code	5.1		
	ICAO-TI	5.1		
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

Transport of dangerous goods by road, rail and inland waterway (ADR/RID/ADN) - Additional information Proper shipping name NITRATES INORGANIC NOS

Proper shipping hame	NITRATES, INORGANIC, N.O.S.
Particulars in the transport document	UN1477, NITRATES, INORGANIC, N.O.S., 5.1, II, (E), environmentally hazardous
Classification code	02
Danger label(s)	5.1, "Fish and tree"
Environmental hazards	YES (hazardous to the aquatic environment)
Special provisions (SP)	511
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg

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



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Transport category (TC)	2
Tunnel restriction code (TRC)	E
Hazard identification No	50
Emergency Action Code	1Y
Regulations concerning the International Ca information	arriage of Dangerous Goods by Rail (RID)Additional
Classification code	02
Danger label(s)	5.1 Fish and tree
Environmental hazards	Yes Hazardous to water
Special provisions (SP)	511
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg
Transport category (TC)	2
Hazard identification No	50
International Maritime Dangerous Goods Co	de (IMDG) - Additional information
Proper shipping name	NITRATES, INORGANIC, N.O.S.
Particulars in the shipper's declaration	UN1477, NITRATES, INORGANIC, N.O.S., 5.1, II, MARINE POLLUTANT
Marine pollutant	Yes (hazardous to the aquatic environment)
Danger label(s)	5.1, "Fish and tree"
Special provisions (SP)	-
Excepted quantities (EQ)	E2
Limited quantities (LQ)	1 kg
EmS	F-A, S-Q
Stowage category	A
International Civil Aviation Organization (IC	AO-IATA/DGR) - Additional information
Proper shipping name	Nitrates, inorganic, n.o.s.
Particulars in the shipper's declaration	UN1477, Nitrates, inorganic, n.o.s., 5.1, II
Environmental hazards	Yes (hazardous to the aquatic environment)
Danger label(s)	5.1

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



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Special provisions (SP)	A3
Excepted quantities (EQ)	E2
Limited quantities (LQ)	2,5 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)					
Νο	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the ap- plication of lower and upper-tier re- quirements		Notes	
P8	oxidising liquids and solids	50	200	55)	

Notation

55) Oxidising liquids, category 1, 2 or 3, or oxidising solids, category 1, 2 or 3

Deco-Paint Directive

VOC content	0 %
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Industrial Emissions Directive (IED)

VOC content	0 %
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Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

not listed

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
Lanthanum(III) nitrate hexahy- drate	Substances which contribute to eutrophication (in particular, ni- trates and phosphates)		a)	
Lanthanum(III) nitrate hexahy- drate	Metals and their compounds		a)	

Legend

A) Indicative list of the main pollutants

Regulation on the marketing and use of explosives precursors

not listed

Regulation on drug precursors

not listed

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

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Regulation on substances that deplete the ozone layer (ODS)

not listed

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

not listed

Regulation on persistent organic pollutants (POP)

not listed

National regulations(GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list not listed

Restrictions according to GB REACH, Annex 17

not listed

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
CN	IECSC	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TW	TCSI	substance is listed

Legend

AIIC Australian Inventory of Industrial Chemicals IECSC Inventory of Existing Chemical Substances Produced or Imported in China NZIOC New Zealand Inventory of Chemicals PICCS Philippine Inventory of Chemicals and Chemical Substances (PICCS) TCSI Taiwan Chemical Substance Inventory

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)

Alignment to regulation: Restructuring: section 9, section 14

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1		The most important adverse physicochemical, human health and environmental effects: Spillage and fire water can cause pollution of watercourses.	yes

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

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Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.2		Pictograms: change in the listing (table)	yes
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	Other hazards: There is no additional information.	Other hazards	yes
2.3		Results of PBT and vPvB assessment: According to the results of its assessment, this substance is not a PBT or a vPvB.	yes

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations	
ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de naviga- tion intérieures (European Agreement concerning the International Carriage of Dangerous Goods by In- land Waterways)	
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concern- ing the International Carriage of Dangerous Goods by Road)	
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)	
DGR	Dangerous Goods Regulations (see IATA/DGR)	
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval	
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identi- fier of substances commercially available within the EU (European Union)	
EINECS	European Inventory of Existing Commercial Chemical Substances	
ELINCS	European List of Notified Chemical Substances	
EmS	Emergency Schedule	
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 Na- tions	
ΙΑΤΑ	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	

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

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Abbr.	Descriptions of used abbreviations	
IMDG-Code	International Maritime Dangerous Goods Code	
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	
NLP	No-Longer Polymer	
PBT	Persistent, Bioaccumulative and Toxic	
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals	
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regula- tions concerning the International carriage of Dangerous goods by Rail)	
VOC	Volatile Organic Compounds	
vPvB	Very Persistent and very Bioaccumulative	

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
H272	May intensify fire; oxidiser.
H318	Causes serious eye damage.
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.