

Printing date 07/21/2021

Reviewed on 07/21/2021

1 Identification

- **Product name**
- **Trade name:** Neodymium(III) nitrate hexahydrate (99.999%-Nd) (REO) PURATREM
- **Item number:** 93-6024
- **CAS Number:**
16454-60-7
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Strem Chemicals, Inc.
7 Mulliken Way
NEWBURYPORT, MA 01950
USA
info@strem.com
- **Information department:** Technical Department
- **Emergency telephone number:**
EMERGENCY: CHEMTREC: + 1 (800) 424-9300
During normal opening times: +1 (978) 499-1600

2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS03 Flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidizer.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

STOT SE 3 H335 May cause respiratory irritation.

- **Label elements**

- **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

- **Hazard pictograms**



GHS03



GHS07

- **Signal word** Danger

- **Hazard-determining components of labeling:**

Neodymium(III) nitrate hexahydrate (99.9%-Nd) (REO)

- **Hazard statements**

H272 May intensify fire; oxidizer.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

(Contd. on page 2)

Safety Data Sheet
according to OSHA HCS

Printing date 07/21/2021

Reviewed on 07/21/2021

Trade name: Neodymium(III) nitrate hexahydrate (99.999%-Nd) (REO) PURATREM

(Contd. of page 1)

· Precautionary statements

- P210 *Keep away from heat/sparks/open flames/hot surfaces. No smoking.*
- P221 *Take any precaution to avoid mixing with combustibles.*
- 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.*
- P403+P233 *Store in a well-ventilated place. Keep container tightly closed.*
- P501 *Dispose of contents/container in accordance with local/regional/national/international regulations.*

· Classification system:

· NFPA ratings (scale 0 - 4)



Health = 1
Fire = 3
Reactivity = 0

The substance possesses oxidizing properties.

· HMIS-ratings (scale 0 - 4)



Health = 1
Fire = 3
Reactivity = 0

· Other hazards

· Results of PBT and vPvB assessment

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· Chemical characterization: Substances

· CAS No. Description

16454-60-7 Neodymium(III) nitrate hexahydrate (99.9%-Nd) (REO)

4 First-aid measures

· Description of first aid measures

- **After inhalation:** *In case of unconsciousness place patient stably in side position for transportation.*
- **After skin contact:** *Immediately wash with water and soap and rinse thoroughly.*
- **After eye contact:**
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- **After swallowing:** *If symptoms persist consult doctor.*
- **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** *No further relevant information available.*
- **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· Extinguishing media

- **Suitable extinguishing agents:** *Use fire fighting measures that suit the environment.*

(Contd. on page 3)

Safety Data Sheet
according to OSHA HCS

Printing date 07/21/2021

Reviewed on 07/21/2021

Trade name: Neodymium(III) nitrate hexahydrate (99.999%-Nd) (REO) PURATREM

(Contd. of page 2)

- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** No special measures required.
- **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
- **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

Substance is not listed.

· **PAC-2:**

Substance is not listed.

· **PAC-3:**

Substance is not listed.

7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:**
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:** Not required.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.

(Contd. on page 4)

Safety Data Sheet
according to OSHA HCS

Printing date 07/21/2021

Reviewed on 07/21/2021

Trade name: Neodymium(III) nitrate hexahydrate (99.999%-Nd) (REO) PURATREM

(Contd. of page 3)

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

· **Breathing equipment:** A NIOSH approved respirator in accordance with 29 CFR 1910.134.

· **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**



Tightly sealed goggles

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Crystalline
Color:	Violet
· Odor:	Odorless
· Odor threshold:	Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· **Flash point:** Not applicable.

· **Flammability (solid, gaseous):** Not determined.

· **Ignition temperature:**

Decomposition temperature: Not determined.

· **Auto igniting:** Not determined.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

(Contd. on page 5)

Safety Data Sheet
according to OSHA HCS

Printing date 07/21/2021

Reviewed on 07/21/2021

Trade name: Neodymium(III) nitrate hexahydrate (99.999%-Nd) (REO) PURATREM

(Contd. of page 4)

· Vapor pressure:	Not applicable.
· Density:	Not determined.
· Relative density	Not determined.
· Vapor density	Not applicable.
· Evaporation rate	Not applicable.
· Solubility in / Miscibility with Water:	Insoluble.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· Solvent content:	
Organic solvents:	0.0 %
VOC content:	0.0 g/l / 0.00 lb/gl
· Solids content:	100.0 %
· Other information	No further relevant information available.

10 Stability and reactivity

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**
- **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**

Substance is not listed.

· **NTP (National Toxicology Program)**

Substance is not listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

Substance is not listed.

US

(Contd. on page 6)

Safety Data Sheet
according to OSHA HCS

Printing date 07/21/2021

Reviewed on 07/21/2021

Trade name: Neodymium(III) nitrate hexahydrate (99.999%-Nd) (REO) PURATREM

(Contd. of page 5)

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Not known to be hazardous to water.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

- **UN-Number**
- **DOT, IMDG, IATA** UN1477
- **UN proper shipping name**
- **DOT** Nitrates, inorganic, n.o.s.
- **IMDG, IATA** NITRATES, INORGANIC, N.O.S.

· **Transport hazard class(es)**

· **DOT**



- **Class** 5.1 Oxidizing substances
- **Label** 5.1

· **IMDG, IATA**



- **Class** 5.1 Oxidizing substances
- **Label** 5.1

(Contd. on page 7)

Safety Data Sheet
according to OSHA HCS

Printing date 07/21/2021

Reviewed on 07/21/2021

Trade name: Neodymium(III) nitrate hexahydrate (99.999%-Nd) (REO) PURATREM

(Contd. of page 6)

· Packing group · DOT, IMDG, IATA	<i>II</i>
· Environmental hazards: · Marine pollutant:	<i>No</i>
· Special precautions for user · EMS Number: · Stowage Category · Segregation Code	<i>Not applicable.</i> <i>F-A,S-Q</i> <i>A</i> <i>SG38 Stow "separated from" ammonium compounds.</i> <i>SG49 Stow "separated from" cyanides</i>
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	<i>Not applicable.</i>
· Transport/Additional information: · DOT · Quantity limitations	<i>On passenger aircraft/rail: 5 kg</i> <i>On cargo aircraft only: 25 kg</i>
· IMDG · Limited quantities (LQ) · Excepted quantities (EQ)	<i>5 kg</i> <i>Code: E1</i> <i>Maximum net quantity per inner packaging: 30 g</i> <i>Maximum net quantity per outer packaging: 1000 g</i>
· UN "Model Regulation":	<i>UN 1477 NITRATES, INORGANIC, N.O.S., 5.1, II</i>

15 Regulatory information

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

· Section 355 (extremely hazardous substances):	<i>Substance is not listed.</i>
· Section 313 (Specific toxic chemical listings):	<i>Substance is listed.</i>
· TSCA (Toxic Substances Control Act):	<i>Substance is not listed.</i>
· Proposition 65	
· Chemicals known to cause cancer:	<i>Substance is not listed.</i>
· Chemicals known to cause reproductive toxicity for females:	<i>Substance is not listed.</i>
· Chemicals known to cause reproductive toxicity for males:	<i>Substance is not listed.</i>
· Chemicals known to cause developmental toxicity:	<i>Substance is not listed.</i>

(Contd. on page 8)

Safety Data Sheet
according to OSHA HCS

Printing date 07/21/2021

Reviewed on 07/21/2021

Trade name: Neodymium(III) nitrate hexahydrate (99.999%-Nd) (REO) PURATREM

(Contd. of page 7)

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**

Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**

Substance is not listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**

Substance is not listed.

· **GHS label elements**

The substance is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS03 GHS07

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

Neodymium(III) nitrate hexahydrate (99.9%-Nd) (REO)

· **Hazard statements**

H272 May intensify fire; oxidizer.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P221 Take any precaution to avoid mixing with combustibles.

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.

P403+P233 Store in a well-ventilated place. Keep container tightly closed.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Technical Department.

· **Contact:** Technical Director

· **Date of preparation / last revision** 07/21/2021 / -

· **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

(Contd. on page 9)

Safety Data Sheet
according to OSHA HCS

Printing date 07/21/2021

Reviewed on 07/21/2021

Trade name: Neodymium(III) nitrate hexahydrate (99.999%-Nd) (REO) PURATREM

(Contd. of page 8)

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Ox. Sol. 2: Oxidizing solids – Category 2

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

US