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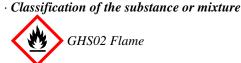
1 Identification

- · Product name
- · Trade name: Praseodymium ingot (99.9% REO)
- Item number: 93-5942
- · CAS Number:
- 7440-10-0 • **EC number:**
- EC number 231-120-3
- 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



Water-react. 3 H261 In contact with water releases flammable gas.

· Label elements

- · GHS label elements
- *The substance is classified and labeled according to the Globally Harmonized System (GHS). Hazard pictograms*



· Signal word Warning

• Hazard statements

H261 In contact with water releases flammable gas.

· Precautionary statements

P231+P232 Handle under inert gas. Protect from moisture.

P222 Do not allow contact with air.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

- *P312 Call a POISON CENTER/doctor if you feel unwell.*
- 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. (Contd. on page 2)

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• Classification system: • NFPA ratings (scale 0 - 4)

$$\begin{array}{c} 0 \\ 0 \\ 0 \\ \psi \end{array}$$
Health = 0
Fire = 0
Reactivity = 2

The substance demonstrates unusual reactivity with water. • *HMIS-ratings (scale 0 - 4)*

· 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
- 7440-10-0 Praseodymium powder (99.9% REO)
- Identification number(s) • EC number: 231-120-3

4 First-aid measures

- · Description of first aid measures
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.
- After eye contact: Rinse opened eye for several minutes under running water.
- 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:
- Sand. Do not use water.
- CO2, sand, extinguishing powder. Do not use water.
- Use fire fighting measures that suit the environment.
- · For safety reasons unsuitable extinguishing agents: Water
- Special hazards arising from the substance or mixture No further relevant information available.

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- · Advice for firefighters
- · Protective equipment: No special measures required.

6 Accidental release measures

- *Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away.*
- 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.

Do not flush with water or aqueous cleansing agents

- · 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:

· PAC-2:

· PAC-3:

7 Handling and storage

- · Handling: Handle under inert gas.
- · Precautions for safe handling No special precautions are necessary if used correctly.
- · Information about protection against explosions and fires: Keep ignition sources away Do not smoke.
- · Conditions for safe storage, including any incompatibilities
- Storage: Store contents under inert gas.
- 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: Wash hands before breaks and at the end of work.

· Breathing equipment: Not required.

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1.2 mg/m3

13 mg/m3

79 mg/m3

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· 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 \cdot *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: Safety glasses

9 Physical and chemical properties

General Information	
Appearance:	
Form:	Solid
Color:	Grey
Odor: Odor threshold:	Odorless Not determined.
pH-value:	Not applicable.
Change in condition	
Melting point/Melting range:	935 °C (1715 °F)
Boiling point/Boiling range:	3.127 °C (38 °F)
Flash point:	Not applicable.
Fush point:	
Flammability (solid, gaseous):	Flammable.
	Contact with water liberates extremely flammable gases.
Ignition temperature:	
Decomposition temperature:	Not determined.
Auto igniting:	Not determined.
Danger of explosion:	Not determined.
Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
Vapor pressure:	Not applicable.
Density at 20 °C (68 °F):	6.782 g/cm ³ (56.59579 lbs/gal)
Relative density	Not determined.
Vapor density	Not applicable.
Evaporation rate	Not applicable.

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· Solubility in / Miscibility with		
Water:	Insoluble.	
· Partition coefficient (n-octano	l/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 Contact with water releases flammable gases.
- · 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: No irritant effect.
- on the eye: No 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.

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.

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- · 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.

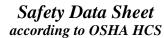
13 Disposal considerations

· 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.

UN-Number	
DOT, IMDG, IATA	UN2813
UN proper shipping name	
DOT	Water-reactive solid, n.o.s.
IMDG, IATA	WATER-REACTIVE SOLID, N.O.S.
Transport hazard class(es)	
DOT	
DANGERGUS TO	
Class	4.3 Substances which, in contact with water, emit flammable gases
Label	4.3
· Class	4.3 Substances which, in contact with water, emit flammable gases
Label	4.3
Packing group	
DOT, IMDG, IATA	III
Environmental hazards:	
Marine pollutant:	No
Special precautions for user	Not applicable.
• EMS Number:	F-G,S-N
Stowage Category	E





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• Handling Code • Segregation Code	H1 Keep as dry as reasonably practicable SG26 In addition: from goods of classes 2.1 and 3 when stowed of deck of a containership a minimum distance of two container space athwartship shall be maintained, when stowed on ro-ro ships of distance of 6 m athwartship shall be maintained.
• Transport in bulk according to Annex I MARPOL73/78 and the IBC Code	I of Not applicable.
· Transport/Additional information:	
·DOT	
· Quantity limitations	On passenger aircraft/rail: 25 kg On cargo aircraft only: 100 kg
· IMDG	
\cdot Limited quantities (LQ)	1 kg
\cdot Excepted quantities (EQ)	Code: E1
	Maximum net quantity per inner packaging: 30 g
	Maximum net quantity per outer packaging: 1000 g
· UN "Model Regulation":	UN 2813 WATER-REACTIVE SOLID, N.O.S., 4.3, III

15 Regulatory information

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

· Sara

 \cdot Section 355 (extremely hazardous substances):

Substance is not listed.

• Section 313 (Specific toxic chemical listings): Substance is not listed.

· TSCA (Toxic Substances Control Act):

Substance is listed.

· Proposition 65

· Chemicals known to cause cancer:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for females:

Substance is not listed.

· Chemicals known to cause reproductive toxicity for males:

Substance is not listed. • Chemicals known to cause developmental toxicity:

Substance is not listed.

· 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.

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(Contd. of page 7) · GHS label elements The substance is classified and labeled according to the Globally Harmonized System (GHS). · Hazard pictograms GHS02 · Signal word Warning · Hazard statements H261 In contact with water releases flammable gas. · Precautionary statements P231+P232 Handle under inert gas. Protect from moisture. P222 Do not allow contact with air. P280 Wear protective gloves/protective clothing/eye protection/face protection. P312 Call a POISON CENTER/doctor if you feel unwell. 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

EINECS: European Inventory of Existing Commercial Chemical Substances

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)

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

Water-react. 3: Substances and mixtures which in contact with water emit flammable gases – Category 3

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