

Printing date 07/21/2021

Reviewed on 07/21/2021

## 1 Identification

- **Product name**
- **Trade name:** Praseodymium chips (99.9% REO)
- **Item number:** 93-5941
- **CAS Number:**  
7440-10-0
- **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

- **Classification of the substance or mixture**



GHS02 Flame

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**



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.

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



Health = 0  
Fire = 0  
Reactivity = 2

*The substance demonstrates unusual reactivity with water.*

- **HMIS-ratings (scale 0 - 4)**



Health = 0  
Fire = 0  
Reactivity = 2

- **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.  
CO<sub>2</sub>, 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**

|                 |           |
|-----------------|-----------|
| · <b>PAC-1:</b> | 1.2 mg/m3 |
| · <b>PAC-2:</b> | 13 mg/m3  |
| · <b>PAC-3:</b> | 79 mg/m3  |

**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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· **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:** Safety glasses

**9 Physical and chemical properties**

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

· **General Information**

· **Appearance:**

|                          |                 |
|--------------------------|-----------------|
| · <b>Form:</b>           | Solid           |
| · <b>Color:</b>          | Grey            |
| · <b>Odor:</b>           | Odorless        |
| · <b>Odor threshold:</b> | Not determined. |

· **pH-value:** Not applicable.

· **Change in condition**

|                                       |                  |
|---------------------------------------|------------------|
| · <b>Melting point/Melting range:</b> | 935 °C (1715 °F) |
| · <b>Boiling point/Boiling range:</b> | 3.127 °C (38 °F) |

· **Flash point:** Not applicable.

· **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:**

|                 |                 |
|-----------------|-----------------|
| · <b>Lower:</b> | Not determined. |
| · <b>Upper:</b> | Not determined. |

· **Vapor pressure:** Not applicable.

· **Density at 20 °C (68 °F):** 6.782 g/cm<sup>3</sup> (56.59579 lbs/gal)

· **Relative density** Not determined.

· **Vapor density** Not applicable.

· **Evaporation rate** Not applicable.

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- |   |   |
|---|---|
| · <b>Solubility in / Miscibility with Water:</b>  | <i>Insoluble.</i>                                 |
| · <b>Partition coefficient (n-octanol/water):</b> | <i>Not determined.</i>                            |
| · <b>Viscosity:</b>                               |   |
| <b>Dynamic:</b>                                   | <i>Not applicable.</i>                            |
| <b>Kinematic:</b>                                 | <i>Not applicable.</i>                            |
| · <b>Solvent content:</b>                         |   |
| <b>Organic solvents:</b>                          | <i>0.0 %</i>                                      |
| <b>VOC content:</b>                               | <i>0.0 g/l / 0.00 lb/gl</i>                       |
| · <b>Solids content:</b>                          | <i>100.0 %</i>                                    |
| · <b>Other information</b>                        | <i>No further relevant information available.</i> |

**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.

### 14 Transport information

- |   |   |
|---|---|
| · <b>UN-Number</b>                          |   |
| · <b>DOT, IMDG, IATA</b>                    | UN2813  |
| · <b>UN proper shipping name</b>            |   |
| · <b>DOT</b>                                | Water-reactive solid, n.o.s.  |
| · <b>IMDG, IATA</b>                         | WATER-REACTIVE SOLID, N.O.S.  |
| · <b>Transport hazard class(es)</b>         |   |
| · <b>DOT</b>                                |   |
|   |  |
| · <b>Class</b>                              | 4.3 Substances which, in contact with water, emit flammable gases                   |
| · <b>Label</b>                              | 4.3   |
| <hr style="border-top: 1px dashed black;"/> |   |
| · <b>IMDG, IATA</b>                         |   |
|   |  |
| · <b>Class</b>                              | 4.3 Substances which, in contact with water, emit flammable gases                   |
| · <b>Label</b>                              | 4.3   |
| · <b>Packing group</b>                      |   |
| · <b>DOT, IMDG, IATA</b>                    | III   |
| · <b>Environmental hazards:</b>             |   |
| · <b>Marine pollutant:</b>                  | No  |
| · <b>Special precautions for user</b>       | Not applicable.   |
| · <b>EMS Number:</b>                        | F-G,S-N   |
| · <b>Stowage Category</b>                   | E   |
| · <b>Stowage Code</b>                       | SW2 Clear of living quarters.   |

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

**15 Regulatory information**

|   |
|---|
| · <b>Safety, health and environmental regulations/legislation specific for the substance or mixture</b> |
| · <b>Sara</b>   |
| · <b>Section 355 (extremely hazardous substances):</b>  |
| <i>Substance is not listed.</i>   |
| · <b>Section 313 (Specific toxic chemical listings):</b>  |
| <i>Substance is not listed.</i>   |
| · <b>TSCA (Toxic Substances Control Act):</b>   |
| <i>Substance is listed.</i>   |
| · <b>Proposition 65</b>   |
| · <b>Chemicals known to cause cancer:</b>   |
| <i>Substance is not listed.</i>   |
| · <b>Chemicals known to cause reproductive toxicity for females:</b>                                    |
| <i>Substance is not listed.</i>   |
| · <b>Chemicals known to cause reproductive toxicity for males:</b>                                      |
| <i>Substance is not listed.</i>   |
| · <b>Chemicals known to cause developmental toxicity:</b>   |
| <i>Substance is not listed.</i>   |
| · <b>Carcinogenic categories</b>  |
| · <b>EPA (Environmental Protection Agency)</b>  |
| <i>Substance is not listed.</i>   |
| · <b>TLV (Threshold Limit Value established by ACGIH)</b>   |
| <i>Substance is not listed.</i>   |
| · <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b>                               |
| <i>Substance is not listed.</i>   |

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· **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