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MATERIAL SAFETY DATA SHEET (MSDS)

SECTION 1: Product identifiers

Product Name : Praseodymium powder, 5-10 $\mu m,$ 99.9% Product Code: P 5707 CAS-No.: 7440-10-0

1.2. Relevant identified uses of the substance or mixture and uses advised against Use : Industrial. For professional use only.

1.3. Details of the supplier of the safety data sheet
Company identification
OTTO CHEMIE PVT LTD
101, Aarkay Ruby Industrial Estate(1B), Opp Shree Narayan Industrial Estate, Chinchpada, Vasai East, Waliv, Maharashtra 401208.
Email info@ottokemi.com

1.4. Emergency telephone number Phone no. : + 91 22 2207 0099 (9:00am - 6:00 pm)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture Pyrophoric solids, (Category 1) H250: Catches fire spontaneously if exposed to air. Skin irritation, (Category 2) H315: Causes skin irritation. Eye irritation, (Category 2) H319: Causes serious eye irritation. Long-term (chronic) aquatic hazard, (Category 4) H413: May cause long lasting harmful effects to aquatic life. 2.2 Label elements Labelling according Regulation (EC) No 1272/2008 Pictogram Signal Word Danger Hazard Statements H250 Catches fire spontaneously if exposed to air. H315 Causes skin irritation. H319 Causes serious eye irritation. May cause long lasting harmful effects to aquatic life. H413 **Precautionary Statements** P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P231 + P232 Handle and store contents under inert gas. Protect from moisture. P273 Avoid release to the environment. P302 + P352 IF ON SKIN: Wash with plenty of water. P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. Supplemental Hazard none Statements Reduced Labeling (<= 125 ml) Pictogram Signal Word Danger Hazard Statements H250 Catches fire spontaneously if exposed to air. May cause long lasting harmful effects to aquatic life. H413 **Precautionary Statements**

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other ignition sources. No smoking.

Keep away from heat, hot surfaces, sparks, open flames and

Handle and store contents under inert gas. Protect from moisture. In case of fire: Use dry sand, dry chemical or alcohol-resistant

P210

P231 + P232 P370 + P378

Supplemental Hazard Statements

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. Ecological information:

none

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. Toxicological information:

foam to extinguish.

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.1 Substances Formula : Pr Molecular weight : 140,91 g/mol CAS-No. : 7440-10-0 FC-No. : 231-120-3

LO-INU 201-120-0				
Component		Classification	Concentration	
Praseodymium powder				
CAS-No. 7440-10-0	har - c	Pyr. Sol. 1; Skin Irrit. 2;	<= 100 %	
EC-No.231-120-3		Eye Irrit. 2; Aquatic		
		Chronic 4; H250, H315,	5 5 5 5	
		H319, H413		

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures General advice Show this material safety data sheet to the doctor in attendance. If inhaled After inhalation: fresh air. In case of skin contact In case of skin contact; Take off immediately all contaminated clothing. Rinse skin with water/ shower. In case of eve contact After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses. If swallowed After swallowing: immediately make victim drink water (two glasses at most). Consult a physician. 4.2 Most important symptoms and effects, both acute and delayed The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11 4.3 Indication of any immediate medical attention and special treatment needed No data available

SECTION 5: Firefighting measures

5.1 Extinguishing media Suitable extinguishing media Water Foam Carbon dioxide (CO2) Dry powder Unsuitable extinguishing media For this substance/mixture no limitations of extinguishing agents are given.

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5.2 Special hazards arising from the substance or mixture praseodymium oxides Combustible.
Development of hazardous combustion gases or vapours possible in the event of fire.
5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.
5.4 Further information
Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.
SECTION 6: Accidental release measures
6.1 Personal precautions, protective equipment and emergency procedures Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

6.4 Reference to other sections

For disposal see section 13.

SECTION 7: Handling and storage 7.1 Precautions for safe handling Advice on safe handling Work under hood. Do not inhale substance/mixture. Advice on protection against fire and explosion Keep away from open flames, hot surfaces and sources of ignition. Hygiene measures Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance. For precautions see section 2.2. 7.2 Conditions for safe storage, including any incompatibilities Storage conditions Tightly closed. Keep away from heat and sources of ignition. Storage class Storage class (TRGS 510): 4.2: Pyrophoric and self-heating hazardous materials 7.3 Specific end use(s) Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters Ingredients with workplace control parameters 8.2 Exposure controls Personal protective equipment Eye/face protection Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses Skin protection This recommendation applies only to the product stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de). Full contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm

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Break through time: 480 min Material tested:KCL 741 Dermatril® L Splash contact Material: Nitrile rubber Minimum layer thickness: 0,11 mm Break through time: 480 min Material tested:KCL 741 Dermatril® L **Body Protection** Flame retardant antistatic protective clothing. Respiratory protection required when dusts are generated. Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system. Recommended Filter type: Filter type P2 The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented. Control of environmental exposure Do not let product enter drains.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties a) Physical state b) Color c) Odor d) Melting point/freezing point e) Initial boiling point and boiling range f) Flammability (solid,gas) g) Upper/lower flammability or explosive limits h) Flash point i) Autoignition temperature j) Decomposition temperature k) pH I) Viscosity m) Water solubility n) Partition coefficient: n-octanol/water o) Vapor pressure p) Density Relative density q) Relative vapor density r) Particle characteristics s) Explosive properties t) Oxidizing properties 9.2 Other safety information

No data available

powder dark gray No data available Melting point: 931 °C at 1.013 hPa

3.520 °C at 1.013 hPa

No data available No data available

Not applicable The substance or mixture is pyrophoric with the category 1.

No data available

No data available Viscosity, kinematic: No data available Viscosity, dynamic: No data available at 25 °C soluble Not applicable for inorganic substances

No data available 6,710 g/cm3 No data available No data available

No data available

No data available none

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SECTION 10: Stability and reactivity

10.1 Reactivity The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed. 10.2 Chemical stability Sensitive to air. 10.3 Possibility of hazardous reactions No data available 10.4 Conditions to avoid Air sensitive. Exposure to air. 10.5 Incompatible materials Strong acids, Strong oxidizing agents, Halogens 10.6 Hazardous decomposition products In the event of fire: see section 5 **SECTION 11: Toxicological information** 11.1 Information on toxicological effects Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Toxicity to Animals: Oral LD50 Rat: 1500 mg/kg; Dermal LD50 Rabbit: 2000mg/kg Inhalation LC50 Rat: > 50mg/L. Chronic Effects on Humans: CARCINOGENIC EFFECTS: Classified None. by NTP, None. by OSHA, None. by NIOSH. Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of inhalation (lung irritant). Special Remarks on Toxicity to Animals: Not available. Special Remarks on Chronic Effects on Humans: Not available. Special Remarks on other Toxic Effects on Humans: Not available. **SECTION 12: Ecological information** 12.1 Toxicity No data available 12.2 Persistence and degradability The methods for determining biodegradability are not applicable to inorganic substances. 12.3 Bioaccumulative potential No data available 12.4 Mobility in soil No data available 12.5 Results of PBT and vPvB assessment This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher. 12.6 Endocrine disrupting properties Product: Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher. 12.7 Other adverse effects No data available **SECTION 13: Disposal considerations** 13.1 Waste treatment methods

No data available

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SECTION 14: Transport information

14.1 UN number							
ADR/RID: 1383		IMDG: 1383	IATA: 1383				
14.2 UN proper s	hipping name						
ADR/RID:	PYROPHORIC METAL, N.O.S. (Praseodymium powder)						
IMDG:	PYROPHORIC METAL, N.O.S. (Praseodymium powder)						
IATA:	Pyrophoric metal, n.o.s. (Praseodymium powder)						
Passenger Aircra	ft: Not permitted for transport						
Cargo Aircraft: No	ot permitted for transport						
14.3 Transport ha	azard class(es)						
ADR/RID: 4.2		IMDG: 4.2	IATA: 4.2				
14.4 Packaging g	Iroup						
ADR/RID: I		IMDG: I	IATA: -				
14.5 Environmental hazards							
ADR/RID: no		IMDG Marine pollutant: no	IATA: no				
14.6 Special precautions for user							
Tunnel restriction code : (B/E)							
Further information	on : No data available						
SECTION 15: Regulatory information							
15.1 Safety, health and environmental regulations/legislation specific for the							
substance or mixture							
This material safety data sheet complies with the requirements of Regulation (EC) No.							
1907/2006.							
National legislation							
Seveso III: Directive 2012/18/EU of the							
European Parliament and of the Council							
	major-accident hazards						
involving dangero							
P7 PYROPHORI	C LIQUIDS AND						
SOLIDS			10				
Other regulations							
	94/33/EC on the protection of yo	bung people at work.					
	afety Assessment						
For this product a chemical safety assessment was not carried out							
Section 16: Ot	her Information						

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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