

# MATERIAL SAFETY DATA SHEET

24 HR. EMERGENCY PHONE # CHEM-TREC 1-800-424-9300

Manufacturer: ProChem, Inc.  
826 Roosevelt Road  
Rockford, IL 61109

Phone: (815) 398-1788  
Fax: (815) 398-1810  
E-Mail: Prochem1@aol.com

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## SECTION 1 Product Identification

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**CHEMICAL NAME:** Niobium powder  
**CAS #:** 7440-03-1  
**FORMULA:** Nb  
**SYNONYM:** Columbium

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## SECTION 2 Composition and Information on Ingredients

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INGREDIENT:	CAS #	%	ACGIH (TWA)	OSHA (PEL)
Title Compound	7440-03-1	100	no data	no data

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## SECTION 3 Hazards Identification

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**EMERGENCY OVERVIEW:** If dust is present, slight to mild irritation of eyes, skin, and nasal cavity may occur.  
**PRIMARY ROUTES OF EXPOSURE:** Inhalation (of dust or fume), ingestion  
**EYE CONTACT:** Dust, if present, may cause slight to mild irritation of the eyes.  
**SKIN CONTACT:** Dust, if present, may cause slight to mild irritation of the skin.  
**INHALATION:** Inhalation of any fine dust may be irritating to the nasal cavity, mucous membranes and respiratory tract.  
**INGESTION:** No specific information is available on the physiological effects of ingestion.  
**CHRONIC HEALTH EFFECTS:** No information available on health effects of prolonged or repeated exposure.  
**ACUTE HEALTH EFFECTS:** Dust, if present, may be irritating to skin, eyes and respiratory tract.

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## SECTION 4 First Aid Measures

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**EYE EXPOSURE:** Immediately flush the eyes with copious amounts of water for at least 15 minutes. Assure flushing under eyelids. A victim may need assistance in keeping their eyelids open. Get immediate competent medical attention.  
**SKIN EXPOSURE:** Wash affected area with water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.  
**INHALATION:** Remove the victim to fresh air. Closely monitor the victim for signs of respiratory problems, such as difficulty in breathing, coughing, wheezing, or pain. In such cases seek immediate medical assistance.  
**INGESTION:** Seek medical assistance immediately. Keep the victim calm. Give the victim water (only if conscious). Induce vomiting only if directed by medical personnel.

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## **SECTION 5                      Firefighting Measures**

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**FLASH POINT:** not applicable

**AUTO IGNITION TEMPERATURE:** not applicable

**EXPLOSION LIMITS:** not applicable

**EXTINGUISHING MEDIUM:** Dry chemical or Class D metal fire agent.

**SPECIAL FIREFIGHTING PROCEDURES:** If involved in a fire, fire fighters should be equipped with a NIOSH approved positive pressure self-contained breathing apparatus and full protective clothing.

**HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS:** If involved in a fire, burning metal may produce mildly irritating fumes of niobium oxide or carbonate.

**UNUSUAL FIRE OR EXPLOSION HAZARDS:** May burn with intense heat. Dust may form explosive mixtures with air.

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## **SECTION 6                      Accidental Release Measures**

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**SPILL AND LEAK PROCEDURES:** In the case of a spill, the fine powder should be covered with sodium carbonate or dolomite in order to reduce the formation of airborne dust. Sweep up the mixture.

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## **SECTION 7                      Handling and Storage**

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**HANDLING AND STORAGE:** Store material in a tightly sealed container. Handle fine powders in a well ventilated area.

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## **SECTION 8                      Exposure Controls and Personal Protection**

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**EYE PROTECTION:** Always wear approved safety glasses w/side shields, or safety goggles, face shield when handling a chemicals substance in the laboratory.

**SKIN PROTECTION:** Chemical-resistant.

**VENTILATION:** If possible, handle the material in an efficient fume hood.

**RESPIRATOR:** If in form of fine dust and ventilation is not available a respirator should be worn. The use of respirators requires a Respirator Protection Program to be in compliance with 29 CFR 19-10.134.

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## **SECTION 9                      Physical and Chemical Properties**

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**COLOR AND FORM:** -60 mesh

**MOLECULAR WEIGHT:** 92.91

**MELTING POINT (DEG. C.):** not applicable

**BOILING POINT:** 4742°

**VAPOR PRESSURE:** not applicable

**SPECIFIC GRAVITY:** 8.57

**SOLUBILITY IN WATER:** insoluble

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## **SECTION 10                    Stability and Reactivity**

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**STABILITY:** air and moisture stable solid

**HAZARDOUS POLYMERIZATION:** no hazardous polymerization  
**CONDITIONS TO AVOID:** Mixtures of fine dust with air. Contact with an ignition source.  
**INCOMPATIBILITY:** mineral acids, halogens and oxidizing agents.  
**DECOMPOSITION PRODUCTS:** none

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## **SECTION 11 Toxicological Information**

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**RTECS DATA:** Oral (rat); LD: >10 gm/kg. Intraperitoneal (rat); LD: >10 gm/kg. Oral (mouse); LD: >10 gm/kg. In-  
traperitoneal (mouse) LD: >10 gm/kg.  
**MUTAGENIC EFFECTS:** no data  
**TETRATOGENIC EFFECTS:** no data  
**CARCINOGENIC EFFECTS:** no data  
To the best of our knowledge the toxicological effects of this compound have not been fully investigated.

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## **SECTION 12 Ecological Information**

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**ECOLOGICAL INFORMATION:** No information available

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## **SECTION 13 Disposal Considerations**

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**DISPOSAL:** Dispose of in according to local state and federal regulations.

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## **SECTION 14 Transportation Information**

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Non-hazardous

Non-hazardous

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## **SECTION 15 Regulatory Information**

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**TSCA:** Listed in the TSCA inventory  
**SARA (TITLE 313):** Title compound not listed

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## **SECTION 16 Other Information**

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**DATE PREPARED:** 4/06