



Grandview Materials Inc.

8598 Cotter Street
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Phone: (614) 488-6998 Fax: (614) 467-3000

MATERIAL SAFETY DATA SHEET

FOR NIOBIUM

ISSUED DATE: JULY 26, 2013

1. COMPOSITION INFORMATION

CHEMICAL: NIOBIUM (COLUMBIUM)
SYNOYM: Nb (Cb)
FAMILY: REFRACTORY METAL
CAS REGISTER: 7440-03-1

2. HAZARDS IDENTIFICATION

CLASS NAME OF HAZARDOUS CHEMICAL: N/A
PHYSICAL AND CHEMICAL HAZARDS: N/A
ADVERSE HUMAN HEALTH EFFECT: N/A
ENVIRONMENTAL EFFECTS: N/A

3. FIRST AID AND MEASURES

EYE CONTACT: RINSE WITH WATER
SKIN CONTACT: WASH WITH SOAP AND WATER
INHALATION: REFRESH WITH FRESH AIR
INGESTION: VOMIT AND OBTAIN MEDICAL ATTENTION

4. FIRE-FIGHTING MEASURES

EXTUNGISHING: DRY POWDER TYPE AGENTS SPECIFICALLY
DESIGNED FOR METAL POWDER FIRES
SPECIFIC HAZARD MEASURES: N/A

5. ACCIDENTAL RELEASE MEASURES

WIPE OFF WITH CLOTH

6. HANDLING AND STORAGE

HANDLING: AFTER CHECKING THE BOXES FOR DAMAGES AND LEAKES,
LOAD WITH CARE TO AVOID SHOCK, OVERTURN AND DROPPING
STORAGE: STORE AWAY FROM OXIDIZERS AND MINERAL ACIDS

7. EXPLOSION CONTROL/PERSONAL PROTECTION

CONTROL PARAMETERS: N/A
ENGINEERING MEASURES: N/A
PERSONAL PROTECTION EQUIPMENT: N/A
RESPIRATORY PROTECTION: N/A
EYE PROTECTION: CHEMICAL GOGLES
HAND, SKIN AND BODY PROTECTION: HAND: RUBBER GLOVES
CLOTHING: N/A



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FOOTWARE: RUBBER BOOTS

8. PHYSICAL AND CHEMICAL PROPERTIES

COLOR: GRAY/SILVER
MOLECULAR WEIGHT: 180.95
STATE: TUBE, BAR, WIRE, SHEET, DISC & FOIL
MELTING POINT: 4474°F (2468°C)
BOILING POINT: 8900°F (4927°C)
VAPOR PRESSURE: N/A
VOLATILE: N/A
DENSITY: 8.57
INITIAL BOILING: HIGH (REFER TO BOILING POINT)
SOLUBILITY IN WATER: N/A

9. PHYSICAL HAZARD (STABILITY AND REACTIVITY)

FLASHING POINT: N/A
AUTOIGNITION: N/A
UPPER & LOWER EXPLOSION POINT: N/A
FLAMMABILITY: N/A
SPONTANEOUS COMBUSTIBILITY: N/A
REACTIVITY: N/A
OXIDATION: N/A
SELF-REACTIVITY: N/A
STABILITY REACTIVITY: STABLE, HOWEVER, POWDER OR DUST
IN FINE SIZE MAY IGNITE DURING
INTENSIVE MECHANICAL TREATMENT

10. TOXICOLOGICAL INFORMATION

CORROSIVE AND IRRITANT PROPERTIES: N/A
ALLERGENIC AND SENSITIZING EFFECTS: SLIGHTLY IRRIGATIVE TO HUMAN
SKIN, EYES AND MUCOUSMEMBRANES
ACUTE TOXICITY: N/A
SUB-CHRONIC EFFECTS: N/A
CARCINOGENIC EFFECTS: N/A
MUTAGENIC EFFECTS: N/A
EFFECTS ON REPRODUCTIVITY SYSTEM: N/A
TERATOGENIC EFFECTS: N/A

11. ECOLOGICAL INFORMATION

BIODEGRADABILITY: N/A
BIOACCUMULATION: N/A
FISH TOXICITY: N/A
OTHER: N/A

12. DISPOSAL CONSIDERATION

IMPROPER DISPOSAL MAY BE ILLEGAL. REFER TO THE APPLICABLE
FEDERAL, STATE AND LOCAL REGULATIONS



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13. TRANSPORTATION INFORMATION

DOT PROPER SHIPPING NAME:	NOT REGULATED BY THE MODE OF TRANSPORTATION
DOT PSN CODE:	ZZZ
SYMBOL:	N/R
DOT PSN MODIFIER:	N/R
HAZARD CLASS:	N/R
UN ID NUMBER:	N/R
DOT PACKING GROUP:	N/R
LABEL:	N/R
SPECIAL PROVISION(S):	N/R
PACKING EXCEPTION:	N/R
NON-BULK PACKAGING:	N/R
BULK PACKAGING:	N/R
MAX QUANTITY IN PASSENGER AREA:	N/R
MAX QUANTITY IN CARGO AREA:	N/R
STOW IN VESSEL REQUIREMENTS:	N/R
REQUIREMENTS WATER/SP/OTHER:	N/R
LAND TRANSPORT ADR/RID &GGVS/GGVE:	N/R
SEA TRANSPORT IMDG/GGVSee:	N/R
AIR TRANSPORT ICAO-TI & IATA/DGR:	N/R
TRANSPORT/FURTHER INFORMATION:	NOT A HAZARDOUS PRODUCT PER THE TRANSPORT CLASSIFICATION

14. REGULATORY INFORMATION:

OSHA STATUS:	HAZARDOUS UNDER THE CRITERIA OF FEDERAL OSHA HAZARD COMMUNICATION STANDARD 29 CFR 1910.1200.
TSCA STATUS:	ON TSCA INVENTORY
CERCLA REPORTABLE QUANTITY:	NONE
SARA TITLE III:	SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES: NONE. SECTION 311/312 HAZARD CATEGORIES: Fire Hazard.
RCRA STATUS:	SECTION 313 TOXIC CHEMICALS: NONE GENERALLY NOT HAZARDOUS AT PURCHASED FORM, BUT UNDER RCRA, IT IS THE RESPONSIBILITY OF PRODUCT USERS TO DETERMINE WHETHER IT SHOULD BE CLASSIFIED AS HAZARDOUS AT DISPOSAL (40 CFR 261.20-24).

15. OTHER INFORMATION:	N/A
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Information mentioned here complies with data shown in various technical publications. To take the required safety handling measures, the user should decide to apply the information on his/her responsibility.

Information mentioned here were prepared based on the latest data obtained by our investigation at the time. It is subject to change with the amendment of laws and regulations, and the publication of new results of toxic test and the like.

*****End of Record*****