

## ***Material Safety Data Sheet***

Identity: Niobium Oxide

Formula: Nb<sub>2</sub>O<sub>5</sub>

### SECTION I - GENERAL INFORMATION

Manufacturer: [Stanford Advanced Materials](#) (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

### SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 265.8098

CAS #	OSHA PEL	ACGIH TLV	Other	%
1313-96-8	N/A	N/A		0-100%

### SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: N/A

Melting Point: 1480 °C-1490 °C

Evaporation Rate: N/A

Solubility in water: Insoluble

Vapor Pressure (vs. air or mmHg): N/A

Vapor Density(vs. air=1):

Percent Volatile:

Specific Gravity:(H<sub>2</sub>O=1): 4.47 gm/cc at 22 °C

Flash Point: N/A

*Appearance and odor:* White powder or pieces, no odor

### SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

*Method Used:* N/A

*Explosive Limits:* LEL: N/A

UEL: N/A

*Extinguishing Media:* Use class D or other metal extinguishing agent.

*Special Fire Fighting Procedures:* Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

*Unusual Fire and Explosion Hazards:* Niobium oxide may emit toxic fumes if involved in a fire..

SECTION V - REACTIVITY DATA

*Stability:* Stable

*Conditions to Avoid (stability):* None

*Incompatibility:* Strong acids and bases

*Hazardous Decomposition or Byproducts:* None recorded

*Hazardous Polymerization:* Will not occur

*Conditions to avoid (hazardous polymerization):* None

SECTION VI - HEALTH HAZARD DATA

*Routes of entry:* Inhalation? Yes      Skin? Yes      Eyes? Yes      Ingestion? No      Other? No

*Health Hazards (Acute and Chronic):*

*Inhalation:* May cause irritation to the nose and throat.

*Ingestion:* No acute or chronic health effects recorded.

*Skin:* May cause irritation.

*Eye:* May cause irritation.

*Target Organ:* May effect kidneys and lungs

*Carcinogenicity:* NTP? No      IARC Monographs? No      OSHA Regulated? No

*Medical Conditions Aggravated by Exposure:* Pre-existing respiratory disorders.

*Emergency and First Aid Procedures:*

*Inhalation:* Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention

*Ingestion:* Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person.

*Skin:* Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist.

*Eye:* Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention.

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

*Steps to be taken in case material is released or spilled:*

Wear appropriate respiratory and protective equipment specified in section VIII-Control Measures. Isolate spill area, provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust. USE NON-SPARKING TOOLS.

*Waste disposal method:* Dispose of in accordance with state, local, and federal regulations.

*Hazard Label Information:* Store in cool, dry area and in tightly sealed container. Wash thoroughly after handling. .

SECTION VIII - CONTROL MEASURES
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*Protective Equipment Summary (Hazard Label Information):*

NIOSH approved respirator, impervious gloves, safety glasses, clothes to prevent contact.

*Ventilation:*

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Not Recommended.

*Work/Hygienic/Maintenance Practices:*

Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established
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