

SAFETY DATA SHEET: Niobium(V) Oxide

Version: 2.2

Revision Date: 05/05/2020

Section 1: Identification

1.1) Product identifier:

Product Name : Niobium(V) Oxide
Synonyms : Niobium Pentoxide, Diniobium Pentoxide
Product Number : PO2401, PO2402, PO2403
CAS Number : 1313-96-8

v1.2) Company information:

Address: MSE Supplies, LLC
4400 E Broadway Blvd, Suite 600
Tucson, AZ 85711, USA
Telephone: +1 520-789-6673
Email: info@mse Supplies.com
Emergency Telephone : +1-703-527-3887

1.3) Relevant identified uses of the substance or mixture and uses advised against:

Identifies uses: Laboratory chemicals, Synthesis of substances

Section 2: Hazard(s) Identification

2.1) Classification of the substance or mixture GHS classification in accordance with 29 CFR 1910 (OSHA HCS):

Skin irritation (Category 2), H315
Eye irritation (Category 2A), H319
Specific target organ toxicity - single exposure (Category 3), Respiratory system,
H335

2.2) GHS Label elements, including precautionary statements:

Pictograms:



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Single word Warning

Hazard Statement(s)

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Precautionary Statement(s)

P261	Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear eye protection/ face protection.
P281	Wear protective gloves.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P362	Take off contaminated clothing and wash before reuse.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

2.3) Hazards not otherwise classified (HNOC) or covered by GHS:

None

Section 3: Composition/Information on Ingredients

3.1) Substances:

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Formula: Nb₂O₅
Molecular Weight: 265.81 g/mol
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Component	Classification	Concentration
Diniobium pentoxide	Skin Irrit. 2; Eye Irrit. 2A; STOT SE 3; H315, H319, H335	<=100%

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

Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

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: Fire-Fighting Measures

5.1) Suitable extinguishing media:

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Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2) Special hazards arising from the substance or mixture:

Niobium Oxides

5.3) Advise for firefighters:

Wear self-contained breathing apparatus for firefighting if necessary.

5.4) Further information:

No data available

Section 6: Accidental Release Measures

6.1) Personal precautions, protective equipment, and emergency procedures:

Avoid dust formation. Avoid breathing vapors, mist or gas.

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:

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4) Reference to other sections:

For disposal see section 13.

Section 7: Handling and Storage

7.1) Precautions for safe handling:

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs.

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Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2) Conditions for safe storage, including any incompatibilities:

Keep container tightly closed in a dry and well-ventilated place.

Keep in a dry place.

Storage class (TRGS 510): 13: Non Combustible Solids

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:

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2) Exposure controls:

Appropriate engineering controls:

General industrial hygiene practice.

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).

Skin protection:

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection:

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type

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of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection:

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure:

Do not let product enter drains.

Section 9: Physical and Chemical Properties

9.2) Information on basic physical and chemical properties:

a) Appearance (physical state, color, etc.)	White Powder
b) Upper/lower flammability or explosive limits	No data available
c) Odor	No data available
d) Odor threshold	No data available
e) Vapor pressure	No data available
f) Vapor density	No data available
g) pH	No data available
h) Density	4.47 g/cm ³ at 25 °C (77 °F)
i) Melting point/freezing point	1,512 °C (2,754 °F)
j) Solubility(ies)	Insoluble in water
k) Initial boiling point and boiling range	No data available
l) Flash point	No data available
m) Evaporation rate	No data available
n) Flammability (solid, gas)	No data available

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o) Partition coefficient: n-octanol/water	No data available
q) Auto-ignition temperature	No data available
r) Decomposition temperature	No data available
s) Viscosity	No data available
t) Explosive properties	No data available
u) Oxidizing properties	No data available

9.2) Other Safety information:

No data available

Section 10: Stability and Reactivity

10.1) Reactivity:

No data available

10.2) Chemical Stability:

Stable under recommended storage conditions.

10.3) Possibility of hazardous reactions:

No data available

10.4) Conditions to avoid:

No data available

10.5) Incompatible materials:

Strong oxidizing agents

10.6) Hazardous decomposition products:

Hazardous decomposition products formed under fire conditions. - Niobium Oxides
Other decomposition products - No data available

In the event of a fire: see section 5.

Section 11: Toxicological Information

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11.1) Information on toxicological effects:

Acute toxicity:

LD50 Oral - Rat - female - 5,000 mg/kg
LC50 Inhalation - Rat - male and female - 4 h - 5.45 mg/l
(OECD Test Guideline 403)
LD50 Dermal - Rat - male and female - > 2,000 mg/kg
(OECD Test Guideline 402)

Skin corrosion/irritation:

Skin - Rabbit
Result: No skin irritation - 4 h
(OECD Test Guideline 404)

Serious eye damage/ eye irritation:

Eyes - Rabbit
Result: No eye irritation
(OECD Test Guideline 405)

Respiratory or skin sensitization:

Mouse
Result: Does not cause skin sensitization.
(OECD Test Guideline 429)

Germ cell mutagenicity:

Hamster
Lungs
Result: negative

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity:

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No data available

Specific target organ toxicity – single exposure:

No data available

Specific target organ toxicity – repeated exposure:

No data available

Aspiration hazard:

No data available

Additional information:

Repeated dose toxicity - Rat - male and female - Oral - No observed adverse effect level - 1,000 mg/kg

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

12.1) Toxicity:

No data available

12.2) Persistence and degradability:

No data available

12.3) Bioaccumulative potential:

No data available

12.4) Mobility in soil:

No data available

12.5) Results of PBT and vPvB assessment:

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6) Other adverse effects:

No data available

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Section 13: Disposal Considerations

13.1) Waste treatment methods:

Product:

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging:

Dispose of as unused product.

Section 14: Transport Information

DOT (US):

Not dangerous goods

IMDG:

Not dangerous goods

IATA:

Not dangerous goods

Section 15: Regulatory Information

SARA 302 Components:

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components:

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313



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SARA 311/312 Hazards:

No SARA Hazards.

Massachusetts Right To Know Components:

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components:

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New Jersey Right To Know Components:

	CAS#	Revision Date
Dinobium pentoxide	1313-96-8	

California Prop. 65 Components:

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Section 16: Other Information

Further information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. MSE Supplies LLC and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.

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