

Safety Data Sheet

Regulation EC Nr. 1907/2006 Art.31

Product name: Solid Niobium in various forms
Document Nr.: SDS00170NB5710

Date: November 17th 2015
Version: 1.0

Section 1: Identification of the substance or mixture and the company

1.1. Product Identifier

Name: Solid Niobium (Nb) in various manufactured forms EC #: 231-113-5 CAS #: 7440-03-1

1.2 Relevant applications of the material and uses advised against

Target material for vacuum deposition (sputtering and evaporation)

1.3. Company details

Vof Micro to Nano
Wateringweg 79
2031EK Haarlem
Netherlands
Tel: +31(0)85-2013155
E: info@microtonano.com

1.4 Emergency telephone number

+31(0)85-2013155 (office hours) Vof Micro to Nano, Netherlands

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Physical:	0
Health:	1
Flammability:	0
Environment:	None
Other hazards:	None

Classification according to Regulation EC Nr. 1272/2008

The substance is not classified as hazardous to health or to the environment according to CLP regulation.



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Classification according to 67/548/EEC of 1999/45/EC

Not applicable

2.2 Labeling elements

Not applicable

2.3 Other hazards

Not applicable

Section 3: Composition / information on components

3.1. Substances

Solid niobium in various forms. EC #: 231-113-5 CAS #: 7440-03-1

3.2 Mixtures

Not applicable

Section 4: First aid measures

4.1. Description of first aid measures

Contact with eyes:	Rinse cautiously with water for several minutes. If possible, remove contact lenses. Continue rinsing.
Contact with skin:	Wash with water and soap. Seek medical attention if irritation persists.
Inhalation:	Fresh air, keep warm and at rest. Seek medical attention if ill effects occur
Ingestion:	If swallowed, do not induce vomiting Seek immediate medical advice

4.2. Important symptoms and effects, either immediate or delayed

Inhalation:	No information available
Ingestion:	No information available



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Skin contact: Generally not a skin irritant
Eye contact: Generally not irritating to eyes

4.3. Indication of any immediate medical attention and special treatment

General advise: If you feel unwell, seek medical advice; show product label if possible
If symptoms persist, always call a doctor

Section 5: Firefighting Measures

5.1. Extinguishing media

Dry agent

5.2 Special hazards arising from the substance or mixture

Metal oxide fumes

5.3 Advice to firefighters

Wear self-contained breathing apparatus
Wear full protective suit.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear protective equipment
Keep unprotected persons away
Ensure adequate ventilation

6.2 Environmental precautions

Do not allow to enter public sewers and waterways

6.3 Methods and material for containment and clean up

Pick up mechanically



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6.4 Reference to other sections

For further information see section 7, 8 and 13.

Section 7: Handling and storage

7.1. Precautions for safe handling

Avoid creating or accumulating dust or fine particles
Provide adequate ventilation
Avoid breathing dust or fumes

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed, in a cool, well ventilated place
Keep away from oxidising agents
Keep out of reach of children

7.3 Specific end uses(s)

Not required

Section 8: Exposure control and personal protection

8.1. Control parameters

This material does not have critical values which need to be monitored in the workplace.

8.2 Exposure controls

Control procedures:	Avoid creating or accumulating dust or fine particles Keep sources of ignition away Wash hands before breaks and at the end of the work Maintain appropriate working environment
Personal protection:	Protective work clothing
Inhalation:	Use breathing protection with high concentrations
Hands and skin:	Suitable gloves
Eyes:	Wear safety goggles or full face protection



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Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance/physical state:	Solid in various forms
Colour:	Silver gray metallic
Odour:	None
pH	Not applicable
Melting point/range:	2468°C
Boiling point/range:	5127°C
Flash point:	Not determined
Evaporation rate:	Not available
Explosion limits: upper limit:	Not determined
lower limit:	Not determined
Vapour pressure:	Not applicable
Relative density:	8.57 g/cm ³ @ 20°C
Solubility in water:	Not soluble in water
Auto-ignition:	Not determined
Viscosity:	Not applicable

9.2 Other information

None

Section 10: Stability and reactivity

10.1. Reactivity

No hazardous reactions known if used for its intended purposes

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

Niobium dust or fine particles will burn when exposed to an ignition source



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10.4 Conditions to avoid

Avoid creating dust or accumulating dust or fine particles

10.5 Incompatible materials

Acids, oxidising agents, halogens, bromine trifluorine, fluorine, chlorine

10.6 Hazardous decomposition products

Metal oxide fume

Section 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure:

Inhalation:	May cause irritation
Skin contact:	Powder – irritant effect
Eye contact:	Powder – irritant effect
Sensitisation:	No effects known
Carcinogenicity:	No effects known
Toxicological data:	No data for LD/LC 50 values

Section 12: Ecological information

12.1. Aquatic toxicity

No information available

12.2 Persistence and degradability

No information available

12.3 Bio-accumulative potential

No information available



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12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

Not applicable

12.6 Hazardous decomposition products

No information available

Section 13: Disposal considerations

13.1. Waste treatment methods

Product: This material and its container must be disposed of in a safe way.
Do not discharge into drains or the environment, dispose to an authorised waste collection point.

National regulations: Disposal should be in accordance with local, state or national legislation.

Section 14: Transport information

14.1. UN number

UN-number: N/A

14.2 UN proper shipping name

Proper shipping name: N/A

14.3 Transport hazard class(es)

Class: N/A
ADR/RID-Classification code: N/A



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14.4 Packing group

Packing: N/A

14.5 Incompatible materials

ADR/RID- Environmentally hazardous: N/A
IMDG-Marine pollutant: N/A
IATA/ICAO-Environmentally hazardous: N/A

14.6 Special precautions for user

ADR/RID-Tunnelcode: N/A
IMDG-Ems: N/A
IATA/ICAO-PAX: N/A
IATA/ICAO-CAO: N/A

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Not applicable

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

TSCA: All components are listed

15.2 Chemical safety assessment

No information available



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Section 16: Other information

This products should be stored, handled and used in accordance with good industrial hygiene practices and in accordance with any legal regulation.

The information contained herewith is based on the present state of our knowledge and is intended to describe the product from the point of view of safety requirements. It does not guarantee any specific properties.

It is the responsibility of the user to query and verify any information seeming suspect or where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, state, federal and international regulations.



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