



# PRODUCT INFORMATION SHEET

**MATERION**

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1. Product identifier

**Name of the substance** Niobium Powder  
**Identification number** 231-113-5 (EC number)  
**Registration number** -  
**Document number** H06  
**Synonyms** C103  
**Issue date** 12-May-2022  
**Version number** 01

### 1.3. Details of the supplier of the product information sheet

#### Supplier

**Company name** Materion Newton Inc.  
**Address** 6070 Parkland Boulevard  
Mayfield, Heights, OH 44124  
United States  
**Division**  
**Telephone** 1+216.383.4019  
**e-mail** ehs@materion.com  
**Contact person** Theodore Knudson

**1.4. Emergency telephone number** See Section 16.

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Identified uses** Manufacture of computer, electronic and optical products, electrical equipment  
Scientific research and development  
Other: Manufacture of medical and defense equipment  
**Uses advised against** Professional uses: Public domain (administration, education, entertainment, services, craftsmen)  
Consumer uses: Private households (= general public = consumers)

### 1.3. Details of the supplier of the safety data sheet

#### Supplier

**Company name** Materion Newton Inc.  
**Address** 6070 Parkland Boulevard  
Mayfield, Heights, OH 44124  
United States  
**Division**  
**Telephone** 1+216.383.4019  
**e-mail** ehs@materion.com  
**Contact person** Theodore Knudson

**1.4. Emergency telephone number** See Section 16.

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 as amended

**Physical hazards**  
Flammable solids Category 2

**Hazard summary** Flammable solid.

### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

**Contains:** Niobium Powder

## Hazard pictograms



### Signal word

Danger

### Hazard statements

H228

Flammable solid.

### Precautionary statements

#### Prevention

P210

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P240

Ground and bond container and receiving equipment.

P241

Use explosion-proof electrical/ventilating/lighting/equipment.

P280

Wear protective gloves/eye protection/face protection.

#### Response

P370 + P378

Wash hands after handling.

In case of fire: Use appropriate media to extinguish.

#### Storage

Store away from incompatible materials.

#### Disposal

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

### Supplemental label information

For further information, please contact the Product Stewardship Department at +1.216.383.4019.

### 2.3. Other hazards

None known.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

#### General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Niobium Powder	100	7440-03-1 231-113-5	-	-	

**Classification:** Flam. Sol. 1;H228

## SECTION 4: First aid measures

#### General information

Consult a physician. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

#### 4.1. Description of first aid measures

##### Inhalation

If inhaled, remove to fresh air. If not breathing, give artificial respiration. Consult a physician for specific advice.

##### Skin contact

Wash off with soap and water. Get medical attention if irritation develops and persists.

##### Eye contact

Flush eyes with water as a precaution.

##### Ingestion

Do not induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth. Consult a physician.

#### 4.2. Most important symptoms and effects, both acute and delayed

None known.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5: Firefighting measures

#### General fire hazards

No unusual fire or explosion hazards noted.

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Water Spray, Fog, CO<sub>2</sub>, dry chemical, or Alcohol Resistant Foam

##### Unsuitable extinguishing media

None.

#### 5.2. Special hazards arising from the substance or mixture

Niobium oxides.

### 5.3. Advice for firefighters

**Special protective equipment for firefighters** Wear suitable protective equipment.

**Special firefighting procedures** In the event of fire, wear self-contained breathing apparatus.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Evacuate the area promptly. Avoid inhalation of dust and vapours. For personal protection, see section 8 of the SDS.

**For emergency responders** Keep unnecessary personnel away.

**6.2. Environmental precautions** Prevent further leakage or spillage if safe to do so. Do not allow to enter drains, sewers or watercourses.

**6.3. Methods and material for containment and cleaning up** Collect powder using special dust vacuum cleaner with particle filter or carefully sweep into closed container. For waste disposal, see section 13 of the SDS.

**6.4. Reference to other sections** Not available.

## SECTION 7: Handling and storage

**7.1. Precautions for safe handling** Avoid formation of dusts and aerosols. Combustible dust clouds may be created where operations produce fine material (dust). Observe good industrial hygiene practices.

**7.2. Conditions for safe storage, including any incompatibilities** Storage class (TRGS 510): 4.2 (Pyrophoric or self-heating substances)  
Keep container tightly closed in a cool, well-ventilated place. Keep container dry. Store away from incompatible materials (see Section 10 of the SDS).

**7.3. Specific end use(s)** Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational exposure limits** No exposure limits noted for ingredient(s).

**Biological limit values** No biological exposure limits noted for the ingredient(s).

**Recommended monitoring procedures** Follow standard monitoring procedures.

**Derived no effect levels (DNELs)** Not available.

**Predicted no effect concentrations (PNECs)** Not available.

**Exposure guidelines** This material does not have established exposure limits.

### 8.2. Exposure controls

**Appropriate engineering controls** Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

### Individual protection measures, such as personal protective equipment

**General information** Handle in accordance with good industrial hygiene and safety practices.

**Eye/face protection** Wear approved safety glasses, goggles, face shield and/or welder's helmet when risk of eye injury is present, particularly during operations that generate dust, mist or fume.

#### Skin protection

- **Hand protection** Wear gloves to prevent metal cuts and skin abrasions during handling.

- **Other** Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

**Respiratory protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**Thermal hazards** Wear appropriate thermal protective clothing, when necessary.

### Hygiene measures

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**Environmental exposure controls** Environmental manager must be informed of all major releases.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

#### Appearance

Physical state	Solid.
Form	Powder.
Colour	Grey.

**Odour** None.

**Odour threshold** Not applicable.

**pH** Not applicable.

**Melting point/freezing point** 2468 °C (4474.4 °F) / Not applicable.

**Initial boiling point and boiling range** Not applicable.

**Flash point** Not applicable.

**Evaporation rate** Not applicable.

**Flammability (solid, gas)** None known.

#### Upper/lower flammability or explosive limits

**Explosive limit - lower (%)** Not applicable.

**Explosive limit - lower (%) temperature** Not applicable.

**Explosive limit – upper (%)** Not applicable.

**Explosive limit - upper (%) temperature** Not applicable.

**Vapour pressure** Not applicable.

**Vapour density** Not applicable.

**Relative density** Not applicable.

#### Solubility(ies)

**Solubility (water)** Insoluble.

**Partition coefficient (n-octanol/water)** Not applicable.

**Auto-ignition temperature** Not applicable.

**Decomposition temperature** Not applicable.

**Viscosity** Not applicable.

**Explosive properties** Not available.

**Oxidising properties** Not available.

### 9.2. Other information

**Density** 8.57 g/cm<sup>3</sup> at 25°C

**Molecular formula** Nb

**Molecular weight** 92.91 g/mol

## SECTION 10: Stability and reactivity

**10.1. Reactivity** The product is stable and non-reactive under normal conditions of use, storage and transport.

**10.2. Chemical stability** Material is stable under normal conditions.

**10.3. Possibility of hazardous reactions** No dangerous reaction known under conditions of normal use.

**10.4. Conditions to avoid** Contact with incompatible materials.

**10.5. Incompatible materials** Strong bases. Strong oxidising agents. Halogens. Oxygen.

**10.6. Hazardous decomposition products** No hazardous decomposition products are known.

## SECTION 11: Toxicological information

**General information** Occupational exposure to the substance or mixture may cause adverse effects.

#### Information on likely routes of exposure

**Inhalation** Not likely, due to the form of the product.

<b>Skin contact</b>	Not likely, due to the form of the product.
<b>Eye contact</b>	Dust may irritate the eyes.
<b>Ingestion</b>	Expected to be a low ingestion hazard.
<b>Symptoms</b>	None known.
<b>11.1. Information on toxicological effects</b>	
<b>Acute toxicity</b>	None known.
<b>Skin corrosion/irritation</b>	Not classified.
<b>Serious eye damage/eye irritation</b>	Not likely, due to the form of the product.
<b>Respiratory sensitisation</b>	Not a respiratory sensitizer.
<b>Skin sensitisation</b>	Not a skin sensitizer.
<b>Germ cell mutagenicity</b>	Not classified.
<b>Carcinogenicity</b>	Not classified.
<b>Reproductive toxicity</b>	Not classified.
<b>Specific target organ toxicity - single exposure</b>	Not classified.
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not an aspiration hazard.
<b>Mixture versus substance information</b>	No information available.
<b>Other information</b>	This product has no known adverse effect on human health.

## SECTION 12: Ecological information

<b>12.1. Toxicity</b>	No toxicity data noted for the ingredient(s).
<b>12.2. Persistence and degradability</b>	No data is available on the degradability of this product.
<b>12.3. Bioaccumulative potential</b>	No data available.
<b>Partition coefficient n-octanol/water (log Kow)</b>	Not available.
<b>Bioconcentration factor (BCF)</b>	Not available.
<b>12.4. Mobility in soil</b>	No data available.
<b>12.5. Results of PBT and vPvB assessment</b>	Not a PBT or vPvB substance or mixture.
<b>12.6. Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

<b>Residual waste</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	Empty containers should be taken to an approved waste handling site for recycling or disposal.
<b>EU waste code</b>	Not available.
<b>Disposal methods/information</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site.
<b>Special precautions</b>	Dispose in accordance with all applicable regulations.

## SECTION 14: Transport information

### ADR

<b>14.1. UN number</b>	UN3089
<b>14.2. UN proper shipping name</b>	METAL POWDER, FLAMMABLE, N.O.S.
<b>14.3. Transport hazard class(es)</b>	
<b>Class</b>	4.1
<b>Subsidiary risk</b>	-
<b>Label(s)</b>	4.1

**Hazard No. (ADR)** 40  
**Tunnel restriction code** E  
**14.4. Packing group** II  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Not available.

#### RID

**14.1. UN number** UN3089  
**14.2. UN proper shipping name** METAL POWDER, FLAMMABLE, N.O.S.  
**14.3. Transport hazard class(es)**  
**Class** 4.1  
**Subsidiary risk** -  
**Label(s)** 4.1  
**14.4. Packing group** II  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Not available.

#### ADN

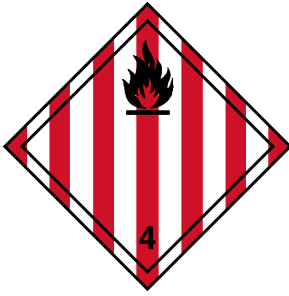
**14.1. UN number** UN3089  
**14.2. UN proper shipping name** METAL POWDER, FLAMMABLE, N.O.S.  
**14.3. Transport hazard class(es)**  
**Class** 4.1  
**Subsidiary risk** -  
**Label(s)** 4.1  
**14.4. Packing group** II  
**14.5. Environmental hazards** No.  
**14.6. Special precautions for user** Not available.

#### IATA

**14.1. UN number** UN3089  
**14.2. UN proper shipping name** Metal powder, flammable, n.o.s.  
**14.3. Transport hazard class(es)**  
**Class** 4.1  
**Subsidiary risk** -  
**14.4. Packing group** II  
**14.5. Environmental hazards** No.  
**ERG Code** 3L  
**14.6. Special precautions for user** Not available.  
**Other information**  
**Passenger and cargo aircraft** Allowed with restrictions.  
**Cargo aircraft only** Allowed with restrictions.

#### IMDG

**14.1. UN number** UN3089  
**14.2. UN proper shipping name** METAL POWDER, FLAMMABLE, N.O.S.  
**14.3. Transport hazard class(es)**  
**Class** 4.1  
**Subsidiary risk** -  
**14.4. Packing group** II  
**14.5. Environmental hazards**  
**Marine pollutant** No.  
**EmS** F-G, S-G  
**14.6. Special precautions for user** Not available.



## SECTION 15: Regulatory information

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

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EU) 2019/1021 On persistent organic pollutants (recast), as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### Authorisations

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

#### Restrictions on use

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

#### Other EU regulations

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

#### National regulations

Not available.

#### 15.2. Chemical safety assessment

Not available.

## SECTION 16: Other information

#### List of abbreviations

Not available.

#### References

Not available.

#### Information on evaluation method leading to the classification of mixture

Not applicable.

#### Training information

Follow training instructions when handling this material.

**Further information**

Transportation Emergency  
Call Chemtrec at:  
US: 800.424.9300  
International: 703.741.5970  
Spain: 900.868.538  
Switzerland: 0800.564.402  
Chemtrec's toll free, mobile-enabled number in Germany – 0800 1817059  
South Korea Toll-free Number – 080-880-0468

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