

Product name: Solid Nickel, 99.99% pure in various forms
Document Nr.: SDS00170NI5703

Date: October 5th 2022
Version: 4.0 Page 1 of 11

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

1.1. Product Identifier

Solid Nickel (Ni), 99.99% pure in various manufactured forms. EC #: 231-111-4 CAS #: 7440-02-0
Index number in CLP Annex VI: 028-002-00-7
The substance is not subject to registration according to REACH

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
Tappersweg 91
2031ET 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 according to Regulation EC Nr. 1272/2008

Physical:	Not classified
Health:	Skin sensitisation, category 1, H317 Carcinogenicity, category 2, H351 Specific target organ toxicity (repeated exposure), category 1, H372
Flammability:	0
Environment:	Not classified
Other hazards:	None

(Contd. on page 2)



Micro to Nano
Innovative Microscopy Supplies

Tappersweg 91
2031ET Haarlem
The Netherlands

T +31-85-2013155
E info@microtonano.com
I www.microtonano.com

Product name: Solid Nickel, 99.99% pure in various forms
Document Nr.: SDS00170NI5703

Date: October 5th 2022
Version: 4.0 Page 2 of 11

(Contd. of page1)

2.2 Labeling elements

Labelling accordance to Regulation EC. Nr 1272/2008



Hazard pictogram(s):

GHS08

GHS07

Signal word:

Danger

Hazard statements:

H317: May cause an allergic skin reaction

H351: Suspected of causing cancer

H372: Causes damage to organs (respiratory system, skin) through prolonged or repeated exposure

Precautionary statement(s)

Prevention:

P280: Wear eye protection, face protection, protective clothing, protective gloves

P302+P352: If on skin: Wash with plenty of water

P308+P340: If exposed or concerned: Get medical advice/attention:

P333+P313: If skin irritation or rash occurs: Get medical advice/attention

2.3 Other hazards

Results of PBT and vPvB assessment

According to the results of its assessment, the substance is not a PBT or a vPvB

(Contd. on page 3)



Micro to Nano

Innovative Microscopy Supplies

Tappersweg 91
2031ET Haarlem
The Netherlands

T +31-85-2013155
E info@microtonano.com
I www.microtonano.com

Product name: Solid Nickel, 99.99% pure in various forms
Document Nr.: SDS00170NI5703

Date: October 5th 2022
Version: 4.0 Page 3 of 11

(Contd. of page 2)

Section 3: Composition / information on components

3.1. Substances

Solid Nickel (Ni), 99.99% pure in various manufactured forms. EC #: 231-111-4 CAS #: 7440-02-0

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

Skin contact: May an allergic skin reaction, rash.

4.3. Indication of any immediate medical attention and special treatment

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

(Contd. on page 4)



Micro to Nano
Innovative Microscopy Supplies

Tappersweg 91
2031ET Haarlem
The Netherlands

T +31-85-2013155
E info@microtonano.com
I www.microtonano.com

Product name: Solid Nickel, 99.99% pure in various forms
Document Nr.: SDS00170NI5703

Date: October 5th 2022
Version: 4.0 **Page 4 of 11**

(Contd. of page 3)

Section 5: Firefighting Measures

5.1. Extinguishing media

Water, foam, dry extinguishing powder, ABC powder. Do not use water jet

5.2 Special hazards arising from the substance or mixture

None

5.3 Advice to firefighters

Fight fire from a safe distance, with adequate cover
Do not move the load if exposed to heat.
In case of fire: do not breathe fumes
Wear self-contained breathing apparatus for fire fighting

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. Control dust. Place in appropriate container for disposal.

6.4 Reference to other sections

For further information see section 7, 8 and 13.

(Contd. on page 5)



Micro to Nano
Innovative Microscopy Supplies

Tappersweg 91
2031ET Haarlem
The Netherlands

T +31-85-2013155
E info@microtonano.com
I www.microtonano.com

Product name: Solid Nickel, 99.99% pure in various forms
Document Nr.: SDS00170NI5703

Date: October 5th 2022
Version: 4.0 Page 5 of 11

(Contd. of page 4)

Section 7: Handling and storage

7.1. Precautions for safe handling

Avoid creating or accumulating dust or fine particles
Avoid exposure
Wash hands before breaks and after work
Keep away from food, drink and animal feeding stuffs.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated place
Keep away from magnets
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

Occupational exposure limits (OEL)

Ingredient	Material Name	Source	TWA	STEL	Ceiling -C	Notes
Nickel	Nickel (Ni)	EU	0.5 mg/m ³		Not available	Not available

8.2 Exposure controls

Control procedures: Avoid creating or accumulating dust or fine particles
Wash hands before breaks and at the end of the work
Maintain appropriate working environment

Personal protection: Protective work clothing

(Contd. on page 6)



Micro to Nano
Innovative Microscopy Supplies

Tappersweg 91
2031ET Haarlem
The Netherlands

T +31-85-2013155
E info@microtonano.com
I www.microtonano.com

Product name: Solid Nickel, 99.99% pure in various forms
Document Nr.: SDS00170NI5703

Date: October 5th 2022
Version: 4.0 Page 6 of 11

Inhalation: Use breathing protection with high concentrations (Contd. of page 5)
Hands and skin: Suitable gloves
Eyes: Wear safety goggles with side protection or full-face protection

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance/physical state: Solid in various forms
Colour: Gray metallic
Odour: None
pH: Not applicable
Melting point/range: 1455°C
Boiling point/range: 2832°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: 8.9 g/cm³ @ 20°C
Solubility in water: 2.94mg/l @ 20°C
Auto-ignition: Not determined
Viscosity: Not applicable

9.2 Other information

There is no additional information

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

(Contd. on page 7)

Product name: Solid Nickel, 99.99% pure in various forms
Document Nr.: SDS00170NI5703

Date: October 5th 2022
Version: 4.0 Page 7 of 11

(Contd. of page 6)

10.3 Possibility of hazardous reactions

Violent reactions with strong oxidizer, strong acid, oxygen, nitric acid, carbon monoxide (CO)

10.4 Conditions to avoid

There is no specific conditions known which have to be avoided

10.5 Incompatible materials

Strong oxidizer, strong acid, oxygen, nitric acid, carbon monoxide (CO)

10.6 Hazardous decomposition products

Metal oxide fume

Section 11: Toxicological information

11.1. Information on toxicological effects

Information hazard classes as defined in Regulation (EC) Nr. 1272/2008

- Inhalation:** Shall not be classified as aspiration hazard
Skin contact: May cause an allergic skin reaction
Eye contact: Shall not be classified as seriously damaging to the eye or eye irritant
Sensitisation: May cause an allergic reaction in sensitized individuals
Germ cell mutagenicity: Shall not be classified as germ cell mutagenic
Carcinogenicity: Suspected of causing cancer
Reproductive toxicity: Shall not be classified as reproductive toxicant
Specific target organ toxicity – single exposure: Shall not be classified as specific organ toxicant
Specific target organ toxicity – repeated exposure: Causes damage to organs (respiratory system, skin) through prolonged or repeated exposure

Toxicological data:

Ingredient	Toxicity	Irritation
Nickel (Ni)	Oral (rat) LD50: >9000 mg/kg	Not classified

(Contd. on page 8)

Product name: Solid Nickel, 99.99% pure in various forms
Document Nr.: SDS00170NI5703

Date: October 5th 2022
Version: 4.0 Page 8 of 11

(Contd. of page 7)

Symptoms related to the physical, chemical and toxicological characteristics:

If swallowed: data are not available
If in eyes: data are not available
If inhaled: data are not available
If on skin: May produce an allergic reaction, pruritis, localized redness

Other information: none

11.2. Endocrine disrupting properties

Not listed

11.3. Information on other hazards

There is no additional information

Section 12: Ecological information

12.1. Aquatic toxicity

Shall not be classified as hazardous to the aquatic environment.

12.2 Persistence and degradability

No information available

12.3 Bio-accumulative potential

Does not significantly accumulate in organisms.
BCF: 45 (ECHA)

12.4 Mobility in soil

Data are not available

12.5 Results of PBT and vPvB assessment

Data are not available

(Contd. on page 9)



Micro to Nano
Innovative Microscopy Supplies

Tappersweg 91
2031ET Haarlem
The Netherlands

T +31-85-2013155
E info@microtonano.com
I www.microtonano.com

Product name: Solid Nickel, 99.99% pure in various forms
Document Nr.: SDS00170NI5703

Date: October 5th 2022
Version: 4.0 Page 9 of 11

(Contd. of page 8)

12.6 Endocrine disrupting properties

Not listed

12.7 Other adverse effects

Data are not available

Section 13: Disposal considerations

13.1. Waste treatment methods

Product: This material and its container must be disposed of as hazardous waste. 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: not subject to transport regulations

14.2 UN proper shipping name

Proper shipping name: Not assigned

14.3 Transport hazard class(es)

Class: None
ADR/RID-Classification code: None

14.4 Packing group

Packing: Not assigned

14.5 Environmental Hazards

Non-environmentally hazardous according to dangerous goods regulations.

(Contd. on page 10)



Micro to Nano
Innovative Microscopy Supplies

Tappersweg 91
2031ET Haarlem
The Netherlands

T +31-85-2013155
E info@microtonano.com
I www.microtonano.com

Product name: Solid Nickel, 99.99% pure in various forms
Document Nr.: SDS00170NI5703

Date: October 5th 2022
Version: 4.0 Page **10** of **11**

(Contd. of page 9)

14.6 Special precautions for user

There is no additional information

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

Not applicable

14.8 Information for each of the UN Model Regulations

Transport of dangerous goods by road, rail and inland waterways: Not subject to ADR, RID and AND
International maritime dangerous goods code (IMDG): Not subject to IMDG
International civil aviation organization (ICAO-IATA/DGR): Not subject to ICAO-IATA

Section 15: Regulatory information

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

Nickel: Dangerous substance with restrictions (REACH, Annex VXII) R27

15.2 Chemical safety assessment

List of substances to authorization (REACH, Annex XIV)/SVHC – candidate list: not listed

Section 16: Other information

RoHS Directive Compliant

This product is fully compliant with the directive 2100/65/EU Annex II (RoHS). It does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's or PBDE's.

WEEE

This product is not a piece of electrical or electronic equipment, and it therefore not governed by Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)

(Contd. on page 11)



Micro to Nano
Innovative Microscopy Supplies

Tappersweg 91
2031ET Haarlem
The Netherlands

T +31-85-2013155
E info@microtonano.com
I www.microtonano.com

Product name: Solid Nickel, 99.99% pure in various forms
Document Nr.: SDS00170NI5703**Date:** October 5th 2022
Version: 4.0 Page **11** of **11**

(Contd. of page 10)

Abbreviations:

Asp. Tox	Aspiration hazard
Carc.	Carcinogenicity
ErC50	Concentration resulting in a 50% reduction in growth rate with 72 hrs exposure
EC50	Half maximal concentration which induces a response halfway between baseline and maximum effect
Exp.	Exposure
Flam.	Flammable
GHS	Global Harmonised System of Classification of Labelling Chemicals
Irrit.	Irritant
N/A	Not applicable
N/E	Not estimated
NOEC	No observed effect concentration
LC50	Lethal dose single exposure to causing 50% lethality
LD50	Lethal dose 50% corresponds to causing 50% lethality during a specific time
PBT	Persistent Bio-accumulative and Toxic
WEL	Workplace Exposure Limit
Repr.	Reproductive toxicant
RoHS	Restriction of Hazardous Substance
SVHC	Substance of very high concern
VOC	Volatile organic compound
vPvB	very Persistent and very Bio-accumulative
WEEE	Waste Electrical and Electronic Equipment

Relevant phrases

- H317 - May cause an allergic skin reaction
- H351 – Suspected of causing cancer
- H372 – Causes damage to organs (respiratory system, skin) through prolonged or repeated Exposure

This product 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.

End of document

**Micro to Nano**
Innovative Microscopy SuppliesTappersweg 91
2031ET Haarlem
The NetherlandsT +31-85-2013155
E info@microtonano.com
I www.microtonano.com