

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

**Date:** October 5th 2022  
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## 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

Rave Scientific  
100 Franklin Square Dr.  
Suite 101  
Somerset, NJ 08873  
Telephone: 1-732-898-3828  
Email: [info@ravescientific.com](mailto:info@ravescientific.com)  
Web: [www.ravescientific.com](http://www.ravescientific.com)

### 1.4 Emergency telephone number

Rave Scientific: 1-732-898-3828

## Section 2: Hazards identification

### 2.1. Classification of the substance or mixture according to Regulation EC Nr. 1272/2008

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

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## 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

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## 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

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## 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.

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## 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 <sup>3</sup>		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

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## 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

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## 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

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## 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.

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#### 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)

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# Safety Data Sheet

Regulation EC Nr. 1907/2006 Art.31

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## 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.

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