

### 1. PRODUCT AND COMPANY IDENTIFICATION

Product name : Nickel

Supplier : United Nuclear Scientific  
125 N. 8th Street  
Klamath Falls, OR 97601

Telephone : (541) 205-6855

**24 HR Emergency Number** : (800) 255-3924 VelocityEHS (USA)

Preparation Information : United Nuclear Scientific  
(541) 205-6855

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview

##### OSHA Hazards

Flammable solid, Carcinogen, Target Organ Effect, Skin sensitiser

##### Target Organs

Lungs

##### GHS Classification

Flammable solids (Category 2)

Skin sensitization (Category 1)

Carcinogenicity (Category 2)

Specific target organ toxicity - repeated exposure, Inhalation (Category 1)

Acute aquatic toxicity (Category 1)

##### GHS Label elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H228

Flammable solid.

H317

May cause an allergic skin reaction.

H351

Suspected of causing cancer.

H372

Causes damage to organs through prolonged or repeated exposure if inhaled.

H400

Very toxic to aquatic life.

Precautionary statement(s)

P210

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

P273

Avoid release to the environment.

P280

Wear protective gloves.

P314

Get medical advice/ attention if you feel unwell.

#### HMIS Classification

Health hazard: 2  
Chronic Health Hazard: \*  
Flammability: 0  
Physical hazards: 3

#### NFPA Rating

Health hazard: 2  
Fire: 0  
Reactivity Hazard: 3

#### Potential Health Effects

**Inhalation** May be harmful if inhaled. May cause respiratory tract irritation.  
**Skin** May be harmful if absorbed through skin. May cause skin irritation.  
**Eyes** May cause eye irritation.  
**Ingestion** May be harmful if swallowed.

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### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Formula : Ni  
Molecular Weight : 58.69 g/mol

Component	Concentration
<b>Nickel, powder [particle diameter &lt; 1 mm]</b>	
CAS-No. 7440-02-0	-
EC-No. 231-111-4	
Index-No. 028-002-01-4	

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### 4. FIRST AID MEASURES

#### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

#### If inhaled

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

#### In case of skin contact

Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

#### In case of eye contact

Flush eyes with water as a precaution.

#### If swallowed

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

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### 5. FIREFIGHTING MEASURES

#### Suitable extinguishing media

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

#### Special protective equipment for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

#### Hazardous combustion products

Hazardous decomposition products formed under fire conditions. - Nickel/nickel oxides

#### Further information

Use water spray to cool unopened containers.

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### 6. ACCIDENTAL RELEASE MEASURES

#### Personal precautions

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### Methods and materials for containment and cleaning up

Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

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## 7. HANDLING AND STORAGE

### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

### Conditions for safe storage

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

Handle and store under inert gas. Keep in a dry place.

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Nickel, powder [particle diameter < 1 mm]	7440-02-0	TWA	1.5 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
Remarks	Dermatitis Pneumoconiosis Not suspected as a human carcinogen			
		TWA	1 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	1 mg/m <sup>3</sup>	USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000
		TWA	0.015 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
	Potential Occupational Carcinogen See Appendix A			

### Personal protective equipment

#### Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Hand 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.

#### Eye protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin and body protection

Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

#### Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### Appearance

Form	powder
Colour	white, silver, metallic

### Safety data

pH	no data available
Melting point/freezing point	Melting point/range: 1,453 °C (2,647 °F) - lit.
Boiling point	2,732 °C (4,950 °F) - lit.
Flash point	not applicable
Flammability (solid, gas)	The substance or mixture is a flammable solid with the category 2.
Ignition temperature	no data available
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Vapour pressure	1 hPa (1 mmHg) at 1,810 °C (3,290 °F)
Density	8.9 g/cm <sup>3</sup> at 25 °C (77 °F)
Water solubility	insoluble
Partition coefficient: n-octanol/water	no data available
Relative vapour density	no data available
Odour	no data available
Odour Threshold	no data available
Evaporation rate	no data available

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## 10. STABILITY AND REACTIVITY

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

no data available

### Conditions to avoid

Heat, flames and sparks. Extremes of temperature and direct sunlight.

### Materials to avoid

acids, Oxidizing agents, Sulphur compounds, Hydrogen gas, Oxygen, Methanol, organic solvents, Aluminium, Fluorine, Ammonia

### Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Nickel/nickel oxides  
Other decomposition products - no data available

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## 11. TOXICOLOGICAL INFORMATION

**Acute toxicity****Oral LD50**

no data available

**Inhalation LC50**

no data available

**Dermal LD50**

no data available

**Other information on acute toxicity**

no data available

**Skin corrosion/irritation**

no data available

**Serious eye damage/eye irritation**

no data available

**Respiratory or skin sensitization**

May cause allergic skin reaction.

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Limited evidence of carcinogenicity in animal studies

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Nickel, powder [particle diameter < 1 mm])

NTP: Reasonably anticipated to be a human carcinogen (Nickel, powder [particle diameter < 1 mm])

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

**Reproductive toxicity**

no data available

**Teratogenicity**

no data available

**Specific target organ toxicity - single exposure (Globally Harmonized System)**

no data available

**Specific target organ toxicity - repeated exposure (Globally Harmonized System)**

Inhalation - Causes damage to organs through prolonged or repeated exposure.

**Aspiration hazard**

no data available

**Potential health effects**

<b>Inhalation</b>	May be harmful if inhaled. May cause respiratory tract irritation.
<b>Ingestion</b>	May be harmful if swallowed.
<b>Skin</b>	May be harmful if absorbed through skin. May cause skin irritation.
<b>Eyes</b>	May cause eye irritation.

**Synergistic effects**

no data available

**Additional Information**

RTECS: Not available

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**12. ECOLOGICAL INFORMATION****Toxicity**

Toxicity to fish	LC50 - Cyprinus carpio (Carp) - 1.3 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 1 mg/l - 48 h

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

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**13. DISPOSAL CONSIDERATIONS****Product**

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

**Contaminated packaging**

Dispose of as unused product.

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**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 3089 Class: 4.1 Packing group: II  
Proper shipping name: Metal powders, flammable, n.o.s.  
Reportable Quantity (RQ): 100 lbs  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN number: 3089 Class: 4.1 Packing group: II EMS-No: F-G, S-G  
Proper shipping name: METAL POWDER, FLAMMABLE, N.O.S.  
Marine pollutant: No

**IATA**

UN number: 3089 Class: 4.1 Packing group: II  
Proper shipping name: Metal powder, flammable, n.o.s.

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## 15. REGULATORY INFORMATION

### OSHA Hazards

Flammable solid, Carcinogen, Target Organ Effect, Skin sensitiser

### SARA 302 Components

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

### SARA 313 Components

	CAS-No.	Revision Date
Nickel, powder [particle diameter < 1 mm]	7440-02-0	2007-07-01

### SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

### Massachusetts Right To Know Components

	CAS-No.	Revision Date
Nickel, powder [particle diameter < 1 mm]	7440-02-0	2007-07-01

### Pennsylvania Right To Know Components

	CAS-No.	Revision Date
Nickel, powder [particle diameter < 1 mm]	7440-02-0	2007-07-01

### New Jersey Right To Know Components

	CAS-No.	Revision Date
Nickel, powder [particle diameter < 1 mm]	7440-02-0	2007-07-01

### California Prop. 65 Components

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer.	7440-02-0	2007-09-28
Nickel, powder [particle diameter < 1 mm]		

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## 16. OTHER INFORMATION

### Further information

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