




<a href="#">Nanocrystalline Nickel Foil</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Balls</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Band</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Bars</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Blocks</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Chips</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Chunk</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Coil</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Concentrate</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Crucibles</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Cylinder</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Disc</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Electrode</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Flake</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Flange</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Foam</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Foil</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Gauze</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Granules</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Grids</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Honeycomb</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Ingot</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Ink</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Insulated Wire</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Lump</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Mesh</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Metal</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Microfoil</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Microleaf</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Nanoparticle Dispersion</a>	<a href="#">Pricing &gt;</a>

<a href="#">Nickel Nanoparticles</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Nanoprisms</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Nanorods</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Nanowires</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel on Silica/Alumina Catalyst</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Particles</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Parts</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Paste</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Pellets</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Pieces</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Plate</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Powder</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Puck</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Ribbon</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Ring</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Rod</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Rotatable Sputtering Target</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Samples</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Shavings</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Sheet</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Shot</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Single Crystal</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Sleeve</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Slugs</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Specimen</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Spheres</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Sponge</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Spring</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Sputtering Target</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Strip</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Tape</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Tube</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Wafer</a>	<a href="#">Pricing &gt;</a>
<a href="#">Nickel Wire</a>	<a href="#">Pricing &gt;</a>

<a href="#">Nickel Wool</a>	<a href="#">Pricing &gt;</a>
<a href="#">Silver-coated Nickel Spheres</a>	<a href="#">Pricing &gt;</a>
<a href="#">Ultra Thin Nickel Nanofilm</a>	<a href="#">Pricing &gt;</a>
<b>Linear Formula</b>	Ni
<b>Pubchem CID</b>	935
<b>MDL Number</b>	MFCD00011137
<b>EC No.</b>	231-111-4
<b>Beilstein/Reaxys No.</b>	N/A
<b>SMILES</b>	[Ni]
<b>Inchl Identifier</b>	InChI=1S/Ni
<b>Inchl Key</b>	PXHVJJICTQNCMI-UHFFFAOYSA-N
<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H228-H317-H351-H372
<b>Hazard Codes</b>	N/A
<b>Precautionary Statements</b>	P210-P260-P261-P363-P405-P501
<b>Flash Point</b>	Not applicable
<b>Risk Codes</b>	N/A
<b>Safety Statements</b>	N/A
<b>RTECS Number</b>	N/A
<b>Transport Information</b>	UN3089 - class 4.1 - PG 2 - EHS - Metal powders, flammable, n.o.s., Hi:A,S
<b>WGK Germany</b>	2
<b>GHS Pictograms</b>	<p><a href="#">GHS07 Exclamation Point</a></p>  <p><a href="#">GHS02 Flame</a></p>  <p><a href="#">GHS08 Health Hazard</a></p> 

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# SAFETY DATA SHEET

Date Accessed: 09/18/2021

Date Revised: 05/15/2015

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## SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #7440-02-0

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:  
Domestic, North America +1 800-424-9300  
International +1 703-527-3887

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## SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture  
Classification according to Regulation (EC) No 1272/2008  
GHS08 Health hazard  
Carc. 2 H351 Suspected of causing cancer.  
STOT RE 1 H372 Causes damage to the lung, the kidneys and the liver through prolonged or repeated exposure. Route of exposure: Inhalative.  
GHS07  
Skin Sens. 1 H317 May cause an allergic skin reaction.  
Classification according to Directive 67/548/EEC or Directive 1999/45/EC  
T; Toxic  
R48/23: Toxic: danger of serious damage to health by prolonged exposure through inhalation.  
Xn; Harmful  
R40: Limited evidence of a carcinogenic effect.  
Xi; Sensitizing  
R43: May cause sensitization by skin contact.  
Carc. Cat. 3  
Information concerning particular hazards for human and environment:  
N/A  
Hazards not otherwise classified  
No data available  
Label elements

Labelling according to Regulation (EC) No 1272/2008  
The substance is classified and labeled according to  
the CLP regulation.  
Hazard pictograms



GHS07 GHS08

Signal word: Danger

Hazard statements

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

H372 Causes damage to the lung, the kidneys and  
the liver through prolonged or repeated exposure.

Route of exposure: Inhalative.

Precautionary statements

P260 Do not breathe  
dust/fume/gas/mist/vapors/spray.

P261 Avoid breathing  
dust/fume/gas/mist/vapors/spray.

P280 Wear protective gloves/protective clothing/eye  
protection/face protection.

P363 Wash contaminated clothing before reuse.

P405 Store locked up.

P501 Dispose of contents/container in accordance  
with local/regional/national/international regulations.

WHMIS classification

D2A - Very toxic material causing other toxic effects

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH

FIRE

REACTIVITY

1

0

0

Health (acute effects) = 1

Flammability = 0

Physical Hazard = 0

Other hazards

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

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### **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Substances

CAS No. / Substance Name:

7440-02-0 Nickel

Identification number(s):

EC number: 231-111-4  
Index number: 028-002-00-7

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## **SECTION 4. FIRST AID MEASURES**

Description of first aid measures

General information

No special measures required.

If inhaled:

Supply fresh air and to be sure call for a doctor.

Seek medical treatment in case of complaints.

In case of skin contact:

Generally the product does not irritate the skin.

In case of eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

If swallowed:

If symptoms persist consult doctor.

Information for doctor

Most important symptoms and effects, both acute and delayed

No data available

Indication of any immediate medical attention and special treatment needed

No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

Extinguishing media

Suitable extinguishing agents

Special powder for metal fires. Do not use water.

For safety reasons unsuitable extinguishing agents

Water

Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Toxic metal oxide fume

Advice for firefighters

Protective equipment:

No special measures required.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures

Not required.

Environmental precautions:

Do not allow material to be released to the environment without official permits.

Do not allow product to enter drains, sewage systems, or other water courses.

Do not allow material to penetrate the ground or soil.

Methods and materials for containment and cleanup:

Dispose of contaminated material as waste according to section 13.

Prevention of secondary hazards:

No special measures required.

Reference to other sections

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

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## **SECTION 7. HANDLING AND STORAGE**

Handling

Precautions for safe handling

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

No special measures required.

Conditions for safe storage, including any incompatibilities

Requirements to be met by storerooms and receptacles:

No special requirements.

Information about storage in one common storage facility:

No data available

Further information about storage conditions:

Keep container tightly sealed.

Store in cool, dry conditions in well-sealed containers.

Specific end use(s)

No data available

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

Additional information about design of technical systems:

No further data; see section 7.

Control parameters

Components with limit values that require monitoring at the workplace:

7440-02-0 Nickel (100.0%)

PEL (USA) Long-term value: 1 mg/m<sup>3</sup>

REL (USA) Long-term value: 0.015 mg/m<sup>3</sup> as Ni; See Pocket Guide App. A

TLV (USA) Long-term value: 1.5\* mg/m<sup>3</sup> elemental,  
\*inhalable fraction

EL (Canada) Long-term value: 0.05 mg/m<sup>3</sup> as Ni;  
ACIGH A1, IARC 1

EV (Canada) Long-term value: 1\* 0.2\*\* 0.1\*\*\* mg/m<sup>3</sup>  
inh.;\*metal;\*\*insol. compds.;\*\*\*soluble compds.

Additional information: No data

Exposure controls

Personal protective equipment

Follow typical protective and hygienic practices for  
handling chemicals.

Maintain an ergonomically appropriate working  
environment.

Breathing equipment: Not required.

Protection of hands: Not required.

Penetration time of glove material (in minutes)

No data available

Eye protection: Safety glasses

Body protection: Protective work clothing.

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## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance:

Form: Solid in various forms

Color: Silver grey

Odor: Odorless

Odor threshold: No data available.

pH: N/A

Melting point/Melting range: 1455 °C (2651 °F)

Boiling point/Boiling range: 2732 °C (4950 °F)

Sublimation temperature / start: No data available

Flammability (solid, gas): No data available.

Ignition temperature: No data available

Decomposition temperature: No data available

Autoignition: No data available.

Danger of explosion: No data available.

Explosion limits:

Lower: No data available

Upper: No data available

Vapor pressure: N/A

Density at 20 °C (68 °F): 8.908 g/cm<sup>3</sup> (74.337 lbs/gal)

Relative density: No data available.

Vapor density: N/A

Evaporation rate: N/A

Solubility in Water (H<sub>2</sub>O): Insoluble

Partition coefficient (n-octanol/water): No data  
available.

Viscosity:

Dynamic: N/A



Kinematic: N/A  
Other information  
No data available

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## **SECTION 10. STABILITY AND REACTIVITY**

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Thermal decomposition / conditions to be avoided:

Decomposition will not occur if used and stored according to specifications.

Possibility of hazardous reactions

No dangerous reactions known

Conditions to avoid

No data available

Incompatible materials:

No data available

Hazardous decomposition products:

Toxic metal oxide fume

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

Information on toxicological effects

Acute toxicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this substance.

LD/LC50 values that are relevant for classification: No data

Skin irritation or corrosion:

Powder: irritant effect

Eye irritation or corrosion:

Powder: irritant effect

Sensitization:

May cause an allergic skin reaction.

Germ cell mutagenicity:

The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

Carcinogenicity:

Suspected of causing cancer.

IARC-2B: Possibly carcinogenic to humans: limited evidence in humans in the absence of sufficient evidence in experimental animals.

NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.

ACGIH A5: Not suspected as a human carcinogen:

Not suspected as a human carcinogen on the basis of

properly conducted epidemiologic studies in humans. Studies have sufficiently long follow-up, reliable exposure histories, sufficiently high dose, and adequate statistical power to conclude that exposure to the agent does not convey a significant risk of cancer to humans. Evidence suggesting a lack of carcinogenicity in experimental animals will be considered if it is supported by other relevant data. The Registry of Toxic Effects of Chemical Substances (RTECS) contains tumorigenic and/or carcinogenic and/or neoplastic data for this substance.

Reproductive toxicity:  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains reproductive data for this substance.

Specific target organ system toxicity - repeated exposure:  
Causes damage to the lung, the kidneys and the liver through prolonged or repeated exposure. Route of exposure: Inhalative.

Specific target organ system toxicity - single exposure: No effects known.

Aspiration hazard: No effects known.

Subacute to chronic toxicity:  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains multiple dose toxicity data for this substance.

Additional toxicological information:  
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

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## **SECTION 12. ECOLOGICAL INFORMATION**

### Toxicity

Aquatic toxicity:

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Additional ecological information:

Do not allow product to reach groundwater, water courses, or sewage systems.

Do not allow material to be released to the environment without official permits.

Danger to drinking water if even small quantities leak into the ground.

Avoid transfer into the environment.

Results of PBT and vPvB assessment

PBT: N/A

vPvB: N/A

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

Waste treatment methods

Recommendation

Consult official regulations to ensure proper disposal.

Uncleaned packagings:

Recommendation:

Disposal must be made according to official regulations.

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## **SECTION 14. TRANSPORT INFORMATION**

UN-Number

DOT, ADN, IMDG, IATA

N/A

UN proper shipping name

DOT, ADN, IMDG, IATA

N/A

Transport hazard class(es)

DOT, ADR, ADN, IMDG, IATA

Class

N/A

Packing group

DOT, IMDG, IATA

N/A

Environmental hazards:

N/A

Special precautions for user

N/A

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

N/A

Transport/Additional information:

DOT

Marine Pollutant (DOT):

No

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## **SECTION 15. REGULATORY INFORMATION**

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

National regulations

All components of this product are listed in the U.S.  
Environmental Protection Agency Toxic Substances  
Control Act Chemical substance Inventory.

All components of this product are listed on the  
Canadian Domestic Substances List (DSL).

SARA Section 313 (specific toxic chemical listings)  
7440-02-0 Nickel  
California Proposition 65  
Prop 65 - Chemicals known to cause cancer  
7440-02-0 Nickel  
Prop 65 - Developmental toxicity  
Substance is not listed.  
Prop 65 - Developmental toxicity, female  
Substance is not listed.  
Prop 65 - Developmental toxicity, male  
Substance is not listed.  
Information about limitation of use:  
For use only by technically qualified individuals.  
This product is subject to the reporting requirements  
of section 313 of the Emergency Planning and  
Community Right to Know Act of 1986 and  
40CFR372.  
Other regulations, limitations and prohibitive  
regulations  
Substance of Very High Concern (SVHC) according to  
the REACH Regulations (EC) No. 1907/2006.  
Substance is not listed.  
The conditions of restrictions according to Article 67  
and Annex XVII of the Regulation (EC) No 1907/2006  
(REACH) for the manufacturing, placing on the market  
and use must be observed.  
Substance is not listed.  
Annex XIV of the REACH Regulations (requiring  
Authorisation for use)  
Substance is not listed.  
REACH - Pre-registered substances  
Substance is listed.  
Chemical safety assessment:  
A Chemical Safety Assessment has not been carried  
out

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2016 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL

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