




Nanocrystalline Nickel Foil	Pricing >
Nickel Balls	Pricing >
Nickel Band	Pricing >
Nickel Bars	Pricing >
Nickel Blocks	Pricing >
Nickel Chips	Pricing >
Nickel Chunk	Pricing >
Nickel Coil	Pricing >
Nickel Concentrate	Pricing >
Nickel Crucibles	Pricing >
Nickel Cylinder	Pricing >
Nickel Disc	Pricing >
Nickel Electrode	Pricing >
Nickel Flake	Pricing >
Nickel Flange	Pricing >
Nickel Foam	Pricing >
Nickel Foil	Pricing >
Nickel Gauze	Pricing >
Nickel Granules	Pricing >
Nickel Grids	Pricing >
Nickel Honeycomb	Pricing >
Nickel Ingot	Pricing >
Nickel Ink	Pricing >
Nickel Insulated Wire	Pricing >
Nickel Lump	Pricing >
Nickel Mesh	Pricing >
Nickel Metal	Pricing >
Nickel Microfoil	Pricing >
Nickel Microleaf	Pricing >
Nickel Nanoparticle Dispersion	Pricing >

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

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

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SAFETY DATA SHEET

Date Accessed: 04/16/2024

Date Revised: 01/15/2022

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

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

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

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

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.

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.

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

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/m³

REL (USA) Long-term value: 0.015 mg/m³ as Ni; See Pocket Guide App. A

TLV (USA) Long-term value: 1.5* mg/m³ elemental,
*inhalable fraction

EL (Canada) Long-term value: 0.05 mg/m³ as Ni;
ACIGH A1, IARC 1

EV (Canada) Long-term value: 1* 0.2** 0.1*** mg/m³
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.

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/cm³ (74.337 lbs/gal)

Relative density: No data available.

Vapor density: N/A

Evaporation rate: N/A

Solubility in Water (H₂O): Insoluble

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

Viscosity:

Dynamic: N/A

Kinematic: N/A
Other information
No data available

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

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.

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

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.

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

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

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 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL

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