# Safety Data Sheet
according to OSHA HCS

Printing date 02/15/2022 Reviewed on 02/06/2016

## 1 Identification

· **Product name**

· **Trade name: Nickel powder (99.5%)**

· **Item number:** 93-2883
· **CAS Number:**
7440-02-0
· **EC number:**
231-111-4
· **Index number:**
028-002-00-7

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Strem Chemicals, Inc.
7 Mulliken Way
NEWBURYPORT, MA 01950
USA
info@strem.com

· **Information department:** Technical Department
· **Emergency telephone number:**
EMERGENCY: CHEMTREC: + 1 (800) 424-9300
During normal opening times: +1 (978) 499-1600

## 2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS02 Flame

Flam. Sol. 1 H228 Flammable solid.

GHS08 Health hazard

Carc. 2 H351 Suspected of causing cancer.
STOT RE 1 H372 Causes damage to organs through prolonged or repeated exposure.

GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

· **Label elements**
· **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** Danger

(Contd. on page 2)

# Safety Data Sheet
according to OSHA HCS



**Trade name: Nickel powder (99.5%)**

(Contd. of page 1)

· **Hazard-determining components of labeling:**
nickel
· **Hazard statements**
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.
· **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P240 Ground/bond container and receiving equipment.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**


Health = 3
Fire = 2
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**


Health = *3
Fire = 0
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

· **Chemical characterization: Substances**
· **CAS No. Description**
7440-02-0 nickel
· **Identification number(s)**
· **EC number:** 231-111-4
· **Index number:** 028-002-00-7

## 4 First-aid measures

· **Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
· **After inhalation:**
Supply fresh air and to be sure call for a doctor.
In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:** Immediately wash with water and soap and rinse thoroughly.
· **After eye contact:** Rinse opened eye for several minutes under running water.

(Contd. on page 3)

# Safety Data Sheet
according to OSHA HCS



**Trade name: Nickel powder (99.5%)**

(Contd. of page 2)

· **After swallowing:** If symptoms persist consult doctor.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

## 5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:** Mouth respiratory protective device.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:** No special measures required.
· **Methods and material for containment and cleaning up:**
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **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.
· **Protective Action Criteria for Chemicals**

| · **PAC-1:** |
|---|
| 4.5 mg/m3 |

| · **PAC-2:** |
|---|
| 50 mg/m3 |

| · **PAC-3:** |
|---|
| 99 mg/m3 |

## 7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.
· **Information about protection against explosions and fires:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.

(Contd. on page 4)

**Safety Data Sheet**
**according to OSHA HCS**

Printing date 02/15/2022 Reviewed on 02/06/2016

**Trade name: Nickel powder (99.5%)**

(Contd. of page 3)

· **Information about storage in one common storage facility:** Store away from foodstuffs.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

| · **Components with limit values that require monitoring at the workplace:** | |
|---|---|
| **7440-02-0 nickel** | |
| PEL | Long-term value: 1 mg/m³ |
| REL | Long-term value: 0.015 mg/m³<br>as Ni; See Pocket Guide App. A |
| TLV | Long-term value: 1.5* mg/m³<br>elemental, *inhalable fraction |

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
· **Breathing equipment:** A NIOSH approved respirator in accordance with 29 CFR 1910.134.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles



(Contd. on page 5)

# Safety Data Sheet
according to OSHA HCS



**Trade name: Nickel powder (99.5%)**

(Contd. of page 4)

## 9 Physical and chemical properties

| | |
|---|---|
| · **Information on basic physical and chemical properties** | |
| · **General Information** | |
| · **Appearance:** | |
| **Form:** | Powder |
| **Color:** | Grey |
| · **Odor:** | Odorless |
| · **Odor threshold:** | Not determined. |
| · **pH-value:** | Not applicable. |
| · **Change in condition** | |
| **Melting point/Melting range:** | Undetermined. |
| **Boiling point/Boiling range:** | Undetermined. |
| · **Flash point:** | Not applicable. |
| · **Flammability (solid, gaseous):** | Flammable. |
| · **Ignition temperature:** | |
| **Decomposition temperature:** | Not determined. |
| · **Auto igniting:** | Not determined. |
| · **Danger of explosion:** | Not determined. |
| · **Explosion limits:** | |
| **Lower:** | Not determined. |
| **Upper:** | Not determined. |
| · **Vapor pressure:** | Not applicable. |
| · **Density at 20 °C (68 °F):** | 8.9 g/cm³ (74.2705 lbs/gal) |
| · **Relative density** | Not determined. |
| · **Vapor density** | Not applicable. |
| · **Evaporation rate** | Not applicable. |
| · **Solubility in / Miscibility with** | |
| **Water:** | Insoluble. |
| · **Partition coefficient (n-octanol/water):** | Not determined. |
| · **Viscosity:** | |
| **Dynamic:** | Not applicable. |
| **Kinematic:** | Not applicable. |
| · **Solvent content:** | |
| **Organic solvents:** | 0.0 % |
| **VOC content:** | 0.0 g/l / 0.00 lb/gl |
| **Solids content:** | 100.0 % |
| · **Other information** | No further relevant information available. |

## 10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.

(Contd. on page 6)

**Safety Data Sheet**
**according to OSHA HCS**

Printing date 02/15/2022 Reviewed on 02/06/2016

**Trade name: Nickel powder (99.5%)**

(Contd. of page 5)

· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**
· **Primary irritant effect:**
· **on the skin:** No irritant effect.
· **on the eye:** No irritating effect.
· **Sensitization:** Sensitization possible through skin contact.
· **Additional toxicological information:**

· **Carcinogenic categories**

| · **IARC (International Agency for Research on Cancer)** |
|---|
| 2B |

| · **NTP (National Toxicology Program)** |
|---|
| R |

| · **OSHA-Ca (Occupational Safety & Health Administration)** |
|---|
| Substance is not listed. |

## 12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:** Not known to be hazardous to water.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.



(Contd. on page 7)

**Safety Data Sheet**
**according to OSHA HCS**

Printing date 02/15/2022 Reviewed on 02/06/2016

**Trade name: Nickel powder (99.5%)**

(Contd. of page 6)

## 14 Transport information

· **UN-Number**
· **DOT, IMDG, IATA** UN3089

· **UN proper shipping name**
· **DOT** Metal powders, flammable, n.o.s.
· **IMDG, IATA** METAL POWDER, FLAMMABLE, N.O.S.

· **Transport hazard class(es)**

· **DOT**

· **Class** 4.1 Flammable solids, self-reactive substances and solid desensitised explosives
· **Label** 4.1

· **IMDG, IATA**

· **Class** 4.1 Flammable solids, self-reactive substances and solid desensitised explosives
· **Label** 4.1

· **Packing group**
· **DOT, IMDG, IATA** II

· **Environmental hazards:**
· **Marine pollutant:** No

· **Special precautions for user** Not applicable.
· **EMS Number:** F-G,S-G
· **Segregation groups** Heavy metals and their salts (including their organometallic compounds), powdered metals
· **Stowage Category** B
· **Handling Code** H1 Keep as dry as reasonably practicable
· **Segregation Code** SG17 Stow "separated from" class 5.1
SG25 Stow "separated from" goods of classes 2.1 and 3.
SG26 In addition: from goods of classes 2.1 and 3 when stowed on deck of a containership a minimum distance of two container spaces athwartship shall be maintained, when stowed on ro-ro ships a distance of 6 m athwartship shall be maintained.

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

· **Transport/Additional information:**

· **DOT**
· **Hazardous substance:** 100 lbs, 45.4 kg

(Contd. on page 8)

# Safety Data Sheet
according to OSHA HCS



**Trade name: Nickel powder (99.5%)**

(Contd. of page 7)

| | |
|---|---|
| · **IMDG** | |
| · **Limited quantities (LQ)** | 1 kg |
| · **Excepted quantities (EQ)** | Code: E2<br>Maximum net quantity per inner packaging: 30 g<br>Maximum net quantity per outer packaging: 500 g |
| · **UN "Model Regulation":** | UN 3089 METAL POWDERS, FLAMMABLE, N.O.S., 4.1, II |

## 15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**
Substance is not listed.

· **Section 313 (Specific toxic chemical listings):**
Substance is listed.

· **TSCA (Toxic Substances Control Act):**
Substance is listed.

· **Proposition 65** WARNING. Proposition 65 - https://www.p65warnings.ca.gov/

· **Chemicals known to cause cancer:**
Substance is listed.

· **Chemicals known to cause reproductive toxicity for females:**
Substance is not listed.

· **Chemicals known to cause reproductive toxicity for males:**
Substance is not listed.

· **Chemicals known to cause developmental toxicity:**
Substance is not listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
Substance is not listed.

· **TLV (Threshold Limit Value established by ACGIH)**
A5

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
Substance is listed.

· **GHS label elements**
The substance is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS02 GHS07 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
nickel

(Contd. on page 9)

# Safety Data Sheet
## according to OSHA HCS



**Trade name: Nickel powder (99.5%)**

(Contd. of page 8)

· **Hazard statements**
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.
· **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P260 Do not breathe dust/fume/gas/mist/vapors/spray.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P240 Ground/bond container and receiving equipment.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Technical Department.
· **Contact:** Technical Director
· **Date of preparation / last revision** 02/15/2022 / -
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Sol. 1: Flammable solids – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Carc. 2: Carcinogenicity – Category 2
STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1