

## SAFETY DATA SHEET

Revision Date 20-Feb-2020

Revision Number 4

### 1. Identification

**Product Name** Nickel powder

**Cat No. :** 10255

**CAS-No** 7440-02-0  
**Synonyms** No information available

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.  
**Details of the supplier of the safety data sheet**

**Company**

Alfa Aesar  
Thermo Fisher Scientific Chemicals, Inc.  
30 Bond Street  
Ward Hill, MA 01835-8099  
Tel: 800-343-0660  
Fax: 800-322-4757  
**Email:** tech@alfa.com  
www.alfa.com

**Emergency Telephone Number**

During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660.  
After normal business hours, call Carechem 24 at (866) 928-0789.

### 2. Hazard(s) identification

**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

|                                                      |             |
|------------------------------------------------------|-------------|
| Flammable solids                                     | Category 2  |
| Skin Sensitization                                   | Category 1  |
| Carcinogenicity                                      | Category 1B |
| Specific target organ toxicity - (repeated exposure) | Category 1  |
| Target Organs - Lungs.                               |             |

**Label Elements**

**Signal Word**

Danger

**Hazard Statements**

Flammable solid  
May cause an allergic skin reaction  
May cause cancer  
Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

Obtain special instructions before use  
 Do not handle until all safety precautions have been read and understood  
 Use personal protective equipment as required  
 Contaminated work clothing should not be allowed out of the workplace  
 Wear protective gloves  
 Do not breathe dust/fume/gas/mist/vapors/spray  
 Wash face, hands and any exposed skin thoroughly after handling  
 Do not eat, drink or smoke when using this product  
 Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 Ground/bond container and receiving equipment  
 Use explosion-proof electrical/ventilating/lighting/equipment

**Response**

IF exposed or concerned: Get medical attention/advice

**Skin**

IF ON SKIN: Wash with plenty of soap and water  
 If skin irritation or rash occurs: Get medical advice/attention  
 Wash contaminated clothing before reuse

**Fire**

In case of fire: Use CO<sub>2</sub>, dry chemical, or foam for extinction

**Storage**

Store locked up

**Disposal**

Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**

Harmful to aquatic life with long lasting effects  
 WARNING. Cancer - <https://www.p65warnings.ca.gov/>.

### 3. Composition/Information on Ingredients

| Component | CAS-No    | Weight % |
|-----------|-----------|----------|
| Nickel    | 7440-02-0 | <=100    |

### 4. First-aid measures

|                       |                                                                                                                   |
|-----------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>General Advice</b> | If symptoms persist, call a physician.                                                                            |
| <b>Eye Contact</b>    | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.   |
| <b>Skin Contact</b>   | Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician. |
| <b>Inhalation</b>     | Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.      |
| <b>Ingestion</b>      | Clean mouth with water and drink afterwards plenty of water. Get medical attention if                             |

symptoms occur.

**Most important symptoms and effects**

None reasonably foreseeable. May cause allergic skin reaction. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Notes to Physician**

Treat symptomatically

## 5. Fire-fighting measures

**Unsuitable Extinguishing Media** No information available

**Flash Point** No information available  
**Method -** No information available

**Autoignition Temperature** No information available

**Explosion Limits**

**Upper** No data available

**Lower** No data available

**Sensitivity to Mechanical Impact** No information available

**Sensitivity to Static Discharge** No information available

**Specific Hazards Arising from the Chemical**

Keep product and empty container away from heat and sources of ignition.

**Hazardous Combustion Products**

Nickel oxides.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**NFPA**

**Health**  
3

**Flammability**  
2

**Instability**  
0

**Physical hazards**  
-

## 6. Accidental release measures

**Personal Precautions** Ensure adequate ventilation. Use personal protective equipment as required. Avoid dust formation.

**Environmental Precautions** Do not flush into surface water or sanitary sewer system. Should not be released into the environment. Do not allow material to contaminate ground water system.

**Methods for Containment and Clean Up** Sweep up and shovel into suitable containers for disposal. Keep in suitable, closed containers for disposal.

## 7. Handling and storage

**Handling** Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

**Storage** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls / personal protection

**Exposure Guidelines**

| Component | ACGIH TLV                  | OSHA PEL                                                       | NIOSH IDLH                                                 | Mexico OEL (TWA)           |
|-----------|----------------------------|----------------------------------------------------------------|------------------------------------------------------------|----------------------------|
| Nickel    | TWA: 1.5 mg/m <sup>3</sup> | (Vacated) TWA: 1 mg/m <sup>3</sup><br>TWA: 1 mg/m <sup>3</sup> | IDLH: 10 mg/m <sup>3</sup><br>TWA: 0.015 mg/m <sup>3</sup> | TWA: 1.5 mg/m <sup>3</sup> |

*Legend*

ACGIH - American Conference of Governmental Industrial Hygienists  
 OSHA - Occupational Safety and Health Administration  
 NIOSH IDLH: NIOSH - National Institute for Occupational Safety and Health

**Engineering Measures** Ensure adequate ventilation, especially in confined areas.

### Personal Protective Equipment

**Eye/face Protection** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin and body protection** Wear appropriate protective gloves and clothing to prevent skin exposure.

**Respiratory Protection** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Hygiene Measures** Handle in accordance with good industrial hygiene and safety practice.

## 9. Physical and chemical properties

|                                               |                          |
|-----------------------------------------------|--------------------------|
| <b>Physical State</b>                         | Solid                    |
| <b>Appearance</b>                             | Silver Grey              |
| <b>Odor</b>                                   | Odorless                 |
| <b>Odor Threshold</b>                         | No information available |
| <b>pH</b>                                     | Not applicable           |
| <b>Melting Point/Range</b>                    | 1455 °C / 2651 °F        |
| <b>Boiling Point/Range</b>                    | 2732 °C / 4949.6 °F      |
| <b>Flash Point</b>                            | No information available |
| <b>Evaporation Rate</b>                       | Not applicable           |
| <b>Flammability (solid,gas)</b>               | No information available |
| <b>Flammability or explosive limits</b>       |                          |
| <b>Upper</b>                                  | No data available        |
| <b>Lower</b>                                  | No data available        |
| <b>Vapor Pressure</b>                         | No information available |
| <b>Vapor Density</b>                          | Not applicable           |
| <b>Specific Gravity</b>                       | 8.908 g/cm <sup>3</sup>  |
| <b>Solubility</b>                             | No information available |
| <b>Partition coefficient; n-octanol/water</b> | No data available        |
| <b>Autoignition Temperature</b>               | No information available |
| <b>Decomposition Temperature</b>              | No information available |
| <b>Viscosity</b>                              | Not applicable           |
| <b>Molecular Formula</b>                      | Ni(core)/NiO(shell)      |
| <b>Molecular Weight</b>                       | 58.71                    |

## 10. Stability and reactivity

**Reactive Hazard** None known, based on information available

**Stability** Stable under normal conditions.

**Conditions to Avoid** Incompatible products.

**Incompatible Materials** Strong oxidizing agents

**Hazardous Decomposition Products** Nickel oxides

**Hazardous Polymerization** Hazardous polymerization does not occur.

**Hazardous Reactions** None under normal processing.

## 11. Toxicological information

### Acute Toxicity

#### Product Information

##### Component Information

| Component | LD50 Oral                 | LD50 Dermal | LC50 Inhalation              |
|-----------|---------------------------|-------------|------------------------------|
| Nickel    | LD50 > 9000 mg/kg ( Rat ) | Not listed  | LC50 > 10.2 mg/L ( Rat ) 1 h |

**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Irritation** No information available

**Sensitization** May cause sensitization by skin contact

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No    | IARC     | NTP                    | ACGIH      | OSHA | Mexico     |
|-----------|-----------|----------|------------------------|------------|------|------------|
| Nickel    | 7440-02-0 | Group 2B | Reasonably Anticipated | Not listed | X    | Not listed |

*IARC (International Agency for Research on Cancer)*

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*Group 1 - Carcinogenic to Humans*

*Group 2A - Probably Carcinogenic to Humans*

*Group 2B - Possibly Carcinogenic to Humans*

*NTP: (National Toxicity Program)*

*Known - Known Carcinogen*

*Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen*

*NTP: (National Toxicity Program)*

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** Lungs

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

The product contains following substances which are hazardous for the environment. Contains a substance which is: Very toxic to aquatic organisms. May cause long-term adverse effects in the environment. Do not allow material to contaminate ground water system.

| Component | Freshwater Algae                        | Freshwater Fish                              | Microtox   | Water Flea                                    |
|-----------|-----------------------------------------|----------------------------------------------|------------|-----------------------------------------------|
| Nickel    | EC50: 0.174 - 0.311 mg/L,<br>96h static | LC50: > 100 mg/L, 96h<br>(Brachydanio rerio) | Not listed | EC50: = 1 mg/L, 48h Static<br>(Daphnia magna) |

|  |                                                                                                  |                                                                                                              |  |                                          |
|--|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--|------------------------------------------|
|  | (Pseudokirchneriella subcapitata)<br>EC50: = 0.18 mg/L, 72h<br>(Pseudokirchneriella subcapitata) | LC50: = 1.3 mg/L, 96h<br>semi-static (Cyprinus carpio)<br>LC50: = 10.4 mg/L, 96h<br>static (Cyprinus carpio) |  | EC50: > 100 mg/L, 48h<br>(Daphnia magna) |
|--|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|--|------------------------------------------|

**Persistence and Degradability** Insoluble in water May persist

**Bioaccumulation/ Accumulation** No information available.

**Mobility** Is not likely mobile in the environment due its low water solubility.

### 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

### 14. Transport information

#### DOT

**UN-No** UN3089  
**Proper Shipping Name** METAL POWDERS, FLAMMABLE, N.O.S.  
**Technical Name** (Nickel powder)  
**Hazard Class** 4.1  
**Packing Group** II

#### TDG

**UN-No** UN3089  
**Proper Shipping Name** Metal powder, flammable, n.o.s.  
**Hazard Class** 4.1  
**Packing Group** II

#### IATA

**UN-No** UN3089  
**Proper Shipping Name** Metal powder, flammable, n.o.s.  
**Hazard Class** 4.1  
**Packing Group** II

#### IMDG/IMO

**UN-No** UN3089  
**Proper Shipping Name** Metal powder, flammable, n.o.s.  
**Hazard Class** 4.1  
**Packing Group** II

### 15. Regulatory information

#### United States of America Inventory

| Component | CAS-No    | TSCA | TSCA Inventory notification - Active/Inactive | TSCA - EPA Regulatory Flags |
|-----------|-----------|------|-----------------------------------------------|-----------------------------|
| Nickel    | 7440-02-0 | X    | ACTIVE                                        | -                           |

#### Legend:

**TSCA** - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

'-' - Not Listed

**TSCA 12(b)** - Notices of Export Not applicable

#### International Inventories

Canada (DSL/NDSL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Australia (AICS), China (IECSC), Korea (ECL).

| Component | CAS-No | DSL | NDSL | EINECS | PICCS | ENCS | AICS | IECSC | KECL |
|-----------|--------|-----|------|--------|-------|------|------|-------|------|
|-----------|--------|-----|------|--------|-------|------|------|-------|------|

|        |           |   |   |           |   |   |   |   |          |
|--------|-----------|---|---|-----------|---|---|---|---|----------|
| Nickel | 7440-02-0 | X | - | 231-111-4 | X | X | X | X | KE-25818 |
|--------|-----------|---|---|-----------|---|---|---|---|----------|

**U.S. Federal Regulations****SARA 313**

| Component | CAS-No    | Weight % | SARA 313 - Threshold Values % |
|-----------|-----------|----------|-------------------------------|
| Nickel    | 7440-02-0 | <=100    | 0.1                           |

**SARA 311/312 Hazard Categories** See section 2 for more information

**CWA (Clean Water Act)**

| Component | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|-----------|----------------------------|-----------------------------|------------------------|---------------------------|
| Nickel    | -                          | -                           | X                      | X                         |

**Clean Air Act**

| Component | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|-----------|-----------|-------------------------|-------------------------|
| Nickel    | X         |                         | -                       |

**OSHA - Occupational Safety and Health Administration** Not applicable

**CERCLA** Not applicable

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|-----------|--------------------------|----------------|
| Nickel    | 100 lb                   | -              |

**California Proposition 65** This product contains the following Proposition 65 chemicals.

| Component | CAS-No    | California Prop. 65 | Prop 65 NSRL | Category   |
|-----------|-----------|---------------------|--------------|------------|
| Nickel    | 7440-02-0 | Carcinogen          | -            | Carcinogen |

**U.S. State Right-to-Know Regulations**

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------|---------------|------------|--------------|----------|--------------|
| Nickel    | X             | X          | X            | X        | -            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): N  
 DOT Marine Pollutant N  
 DOT Severe Marine Pollutant N

**U.S. Department of Homeland Security** This product does not contain any DHS chemicals.

**Other International Regulations**

**Mexico - Grade** No information available

## 16. Other information

**Prepared By** Health, Safety and Environmental Department  
 Email: tech@alfa.com  
 www.alfa.com

**Revision Date** 20-Feb-2020  
**Print Date** 20-Feb-2020  
**Revision Summary** SDS authoring systems update, replaces ChemGes SDS No. 7440-02-0/1.

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**