Safety Data Sheet

1. Product and Company Identification

Product Name: Nickel
Chemical Formula: Ni
CAS#: 7440-02-0

Contact Information:
MTI Corporation
860 South 19th Street
Richmond, CA 94804, USA
Tel: 510-525-3070
Fax: 510-525-4705
Email: info@mtixtl.com
Website: www.mtixtl.com

Non-emergency assistance:
1-888-525-3070

Emergency assistance:
Company: CHEMTHEL (MTI Contract# MIS2559467) Day or Night
Tel (Within USA and Canada): 1-800-255-3924
Tel (Outside USA and Canada): 1-813-248-0585

2. Hazards Identification

Emergency Overview: GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)
Skin sensitization (Category 1), H317
Carcinogenicity (Category 2), H351
Specific target organ toxicity - repeated exposure, Inhalation (Category 1), H372
Acute aquatic toxicity (Category 3), H402
Chronic aquatic toxicity (Category 3), H412

For the full text of the H-Statements mentioned in this Section, see Section 16.

HMIS Rating
Health hazard: 2
Chronic Health Hazard: *
Flammability: 0
Physical Hazard: 0

NFPA Rating
Health hazard: 2
Fire Hazard: 0
Reactivity Hazard: 0

GHS Label elements, including precautionary statements

Pictogram
Signal Danger
Hazard statement(s)
H317 May cause an allergic skin reaction.
H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure if inhaled.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statement(s)
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
Nickel

Composition/Information on Ingredients

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>Formula</th>
<th>Molecular Weight</th>
<th>CAS-No.</th>
<th>Hazardous Components</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>Ni</td>
<td>58.69 g/mol</td>
<td>7440-02-0</td>
<td>Skin Sens. 1; Carc. 2; STOT RE 1; Aquatic Acute 3; Aquatic Chronic 3; H317, H351, H372, H412</td>
</tr>
</tbody>
</table>

First Aid Measures

4.1 Description of 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**
Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11.

4.3 Indication of any immediate medical attention and special treatment needed
No data available.

Firefighting Measures

5.1 Extinguishing media

**Suitable extinguishing media**
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance mixture

**Nickel/ nickel oxides**

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further Information

No data available.
6. Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas. For personal protection see section 8.

6.2 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.

6.3 Methods and materials for containment and cleaning up
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections
For disposal see section 13.

7. Handling and Storage

7.1 Precautions for safe handling
Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Storage class (TRGS 510): Non-combustible, acute toxic Cat.3 / toxic hazardous materials or hazardous materials causing chronic effects.

7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated.

8. Exposure Control/ Personal Protection

8.1 Control parameters
Components with workplace control parameters

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control Parameters</th>
<th>Basis</th>
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</thead>
<tbody>
<tr>
<td>Nickel</td>
<td>7440-02-0</td>
<td>TWA</td>
<td>1.500000 mg/m³</td>
<td>USA. ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Dermatitis</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Pneumoconiosis</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Not suspected as a human carcinogen</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>1.000000 mg/m³</td>
<td>USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
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<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>0.015000 mg/m³</td>
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<tr>
<td></td>
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<td>Potential Occupational Carcinogen</td>
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</table>
8.2 Exposure controls

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

Personal protective equipment

Eye/face 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 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.

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

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multipurpose combination (US) or type ABEK (EN 14387) 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).

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

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

a) Appearance
Form: Foam
Color: silver, metallic

b) Odor
No data available

c) Odor Threshold
No data available

d) pH
No data available

e) Melting point/freezing point
1,453 °C (2,647 °F) - lit.

f) Initial boiling point and boiling range
2,732 °C (4,950 °F) - lit.

g) Flash point
26.1°C (79.0 °F)

h) Evaporation rate
Not applicable

i) Flammability (solid, gas)
No data available

j) Upper/lower flammability or explosive limits
No data available

k) Vapor pressure
1 hPa (1 mmHg) at 1,810 °C (3,290 °F)

l) Vapor density
No data available

m) Relative density
8.9 g/mL at 25 °C (77 °F)
9.2 Other safety information
No data available

10. Stability and Reactivity

10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
No data available.

10.4 Conditions to avoid
Exposure to moisture.

10.5 Incompatible materials
acids, Oxidizing agents, Sulphur compounds, Hydrogen gas, Oxygen, Methanol, organic solvents, Aluminum, Fluorine, Ammonia

10.6 Hazardous decomposition products
Other decomposition products - No data available
In the event of fire: see section 5

11. Toxicological Information

11.1 Information on toxicological effects
Acute toxicity
Inhalation: No data available
Dermal: No data available
No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
Limited evidence of carcinogenicity in animal studies

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Nickel)
1 - Group 1: Carcinogenic to humans (Nickel)
2B - Group 2B: Possibly carcinogenic to humans (Nickel)

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Nickel)
1 - Group 1: Carcinogenic to humans (Nickel)
2B - Group 2B: Possibly carcinogenic to humans (Nickel)
Nickel

Revision Date: Nov 2018

MTI Corporation

Safety Data Sheet

NTP: Reasonably anticipated to be a human carcinogen (Nickel)
Reasonably anticipated to be a human carcinogen (Nickel)

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

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
Inhalation - Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard
No data available

Additional Information
RTECS: QR5950000
Stomach - Irregularities - Based on Human Evidence

12. Ecological Information

12.1 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

12.2 Persistence and degradability
Not applicable

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Results of PBT and vPvB assessment PBT/vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects
An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

13. Disposal Considerations

13.1 Waste treatment methods
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

14. Transport Information

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods
15. Regulatory Information

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

SARA 313 Components
The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
<th>Chemical</th>
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SARA 311/312 Hazards
Acute Fire Hazard, Chronic Health Hazard

Massachusetts Right to Know Components
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Pennsylvania Right to Know Components
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New Jersey Right to Know Components
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California Prop. 65 Components
WARNING! This product contains a chemical known to the State of California to cause cancer.
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16. Other Information

Full text of H-Stations referred to under sections 2 and 3

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<th>Description</th>
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<td>Suspected of causing cancer.</td>
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<tr>
<td>H372</td>
<td>Causes damage to organs through prolonged or repeated exposure if inhaled.</td>
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<td>H402</td>
<td>Harmful to aquatic life.</td>
</tr>
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<td>H412</td>
<td>Harmful to aquatic life with long lasting effects.</td>
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</table>

The information above is believed to be accurate and represents the best information currently available to us. However, it does not represent any guarantee of the properties of the product. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we shall not be held liable for any damage resulting from handling or from contact with the above product. Users should make their own investigations to determine the suitability of the information for their particular purposes.