



Safety Data Sheet

Revised Date: 4/25/2018

FAWSDS-19

1. Identification

Product identifier:

Product name Nickel Plating.

Other means of identification:

SDS number FAWSDS -19

Recommended use and restrictions on use

Recommended use None known.

Restrictions on use None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier

Fisk Alloy Inc.,
PO Box 26,
10 Thomas Road,
Hawthorne, NJ 07507, USA.

General Assistance

Call Fisk Alloy at: 973 825 8500.

E-Mail

Fiskalloy.com

Contact Person

None known.

Emergency Telephone Number

FOR ALL TRANSPORTATION ACCIDENTS, CALL CHEMTREC AT
800-424-9300.

2. Hazard(s) identification

OSHA/HCS status

This material is not classified by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture

Physical Hazards Not classified.

Health Hazards Not classified.

Environment Hazards Not classified.

GHS Label elements

No labeling applicable.

Signal word

Not applicable.

Hazard statements

Not applicable.

Hazard(s) not otherwise classified (HNOC)

Metallic product which poses little or no immediate hazard in solid form. Exposure to the elements listed in Section 3 by inhalation, ingestion, and skin contact can occur during routine handling, material transfer, chemical processing or further processing. If this material is converted or becomes part of a solid shape, exposure can occur when melting, casting, gross handling, pickling, chemical cleaning, heat treating, abrasive cutting, welding, grinding, sanding, polishing, milling, crushing or otherwise heating or abrading the surface of this material in a manner which generates particulate. Exposure may also occur during repair or maintenance activities on contaminated equipment such as: furnace rebuilding, maintenance or repair of air cleaning equipment, structural renovation, welding, etc. Particulate depositing on hands, gloves, and clothing, can be transferred to the breathing zone and inhaled during normal hand to face motions such as rubbing of the nose or eyes, sneezing, coughing, etc.



Safety Data Sheet

Revised Date: 4/25/2018

FAWSDS-19

3. Composition/information on ingredients

Mixtures

Chemical name	CAS number	%
Nickel	7440-02-0	100

4. First-aid measures

Description of necessary first aid measures:

Inhalation

When symptoms occur: go into open air and ventilate suspected area. Keep at rest and in a position comfortable for breathing. If not breathing, give artificial respiration. Obtain medical attention if breathing difficulty persists.

Skin contact

Cool skin rapidly with cold water after contact with molten product. Removal of solidified molten material from skin requires medical assistance. Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Wash with plenty of soap and water. Wash contaminated clothing before reuse. Obtain medical attention if irritation persists.

Eye contact

Removal of solidified molten material from the eyes requires medical assistance. Immediately rinse with water for a prolonged period (at least 15 minutes) while holding the eyelids wide open. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.

Ingestion

Ingestion is unlikely due to physical state. Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

The most important symptoms and effects, both acute or delayed

Inhalation: Particulate containing those elements listed in acute and delayed. Nickel can cause irritation to the nose, throat, lungs, and mucous membranes. Inhalation of this particulate may cause metal fume fever (high temperature, metallic taste, nausea, coughing, general weakness, muscle aches, and exhaustion), bronchitis, chills, decreased pulmonary function and asthma like symptoms. Nickel: Can cause headaches, dizziness, and difficult breathing. Symptoms may include coughing, sore throat, and shortness of breath.

Skin Contact: Skin contact with this material may cause, in some sensitive individuals, an allergic dermal response. Skin contact may cause irritation. Symptoms include redness, itching and pain. Nickel: May cause allergic dermatitis. Nickel is a contact allergen and sensitizer.

Eye Contact: Exposure may result from direct contact with airborne particulate or contact to the eye with contaminated hands or clothing. Damage can result from irritation or mechanical injury to the eyes by particulate.

Ingestion: Ingestion is likely to be harmful or have adverse effects. Ingestion can occur from hand, clothing, food and drink contact with particulate during hand to mouth activities such as eating, drinking, smoking, nail biting, etc. Nickel: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. **Chronic Symptoms:** Nickel: Prolonged exposure to excessive concentrations of particulate may cause chronic



Safety Data Sheet

Revised Date: 4/25/2018

FAWSDS-19

Indication of immediate medical attention and special treatment needed

pulmonary disorders. Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration. In case of shortness of breath, give oxygen. Keep victim warm. Keep victim under observation. Symptoms may be delayed. Nickel: Skin contact with some nickel compounds in sensitive individuals may cause dermatitis (nickel itch).

General information

Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

5. Fire-fighting measures

Suitable extinguishing media Unsuitable extinguishing media Specific hazards arising from the chemical

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. No information available. In molten state: reacts violently with water (moisture). Do not use water to extinguish fires around operations involving molten metal due to the potential for steam explosions.

Special protective equipment and precautions for firefighters

Precautionary Measures Fire: Under fire conditions, hazardous fumes will be present.
Firefighting Instructions: Exercise caution when fighting any chemical fire.
Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection. If this material becomes airborne as a respirable particulate during a fire situation, pressure-demand self-contained breathing apparatus must be worn by firefighters or any other persons potentially exposed to the metal fumes.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

General measures: Do not handle until all safety precautions have been read and understood. Do not breathe vapors from molten product. Avoid all eye and skin contact and do not breathe dust, fumes, and vapors.

For non-emergency personnel: Use appropriate personal protection equipment (PPE). Evacuate unnecessary personnel.

For emergency personnel: Equip cleanup crew with proper protection. Ventilate area.

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.

Methods and materials for containment and cleaning up

Contain and collect as any solid. Clear up spills immediately and dispose of waste safely. For particulates and dust: Avoid actions that cause dust to become airborne during clean-up such as dry sweeping or using compressed air. Use PPE described in Section 8. Vacuum must be fitted with HEPA filter to prevent release of particulates during clean-up.

7. Handling and storage

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.



Safety Data Sheet

Revised Date: 4/25/2018

FAWSDS-19

Conditions for safe storage, including any incompatibilities

Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. Do not breathe vapors/dust.

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

Incompatible Materials: Strong acids, strong bases and strong oxidizers. Alkalis. Metal oxides. Water, humidity. Corrosive substances in contact with metals may produce flammable hydrogen gas.

8. Exposure controls/personal protection

Occupational exposure limits

Country	Type	Nickel Value (mg/m ³)
Belgium	TWA	0.2 (a), 0.1 (b), 1 (c)
Brazil	TWA	-
Canada-Alberta	TWA	0.2 (a), 0.1 (b), 1.5 (c)
Canada-British Columbia	TWA	0.05 (a, b, c)
Canada-Ontario	TWA	0.2 (a), 0.1 (b), 1 (c)
Canada-Quebec	TWA	1 (a, c), 0.1 (b)
China	TWA	1 (a, c), 0.5 (b)
Denmark	TWA	0.05 (d)
France	TWA	1 (c)
Germany	TWA	0.006 (c)
Hong Kong	TWA	0.2 (a), 0.1 (b), 1.5 (c)
India	TWA	-
Italy	TWA	-
Japan	TWA	0.1 (a), 0.01 (b), 1 (c)
Korea	TWA	0.5 (a), 0.1 (b), 1 (c)
Malaysia	TWA	0.2 (a), 0.1 (b), 1.5 (c)
Mexico	TWA	1.5 (c)
Poland	TWA	0.25
Portugal	TWA	-
Russia	TWA	-
Singapore	TWA	1 (a,c), 0.1 (b)

Sweden	TWA	0.5 (d)
Taiwan, R. O. C.	TWA	1 (a,c), 0.1 (b)
United Kingdom	TWA	0.5 (a), 0.1 (b)
USA ACGIH	TWA (TLV)	0.2 (a), 0.1 (b), 1.5 (c)
USA OSHA	TWA (PEL)	1 (c)
USA NIOSH	TWA (REL)	0.015 (c)

NOTE: a-insoluble inorganic compound, b-soluble inorganic compound, c-metal, d-metal-total dust

Appropriate engineering controls

Use local exhaust or general dilution ventilation or other suppression methods to maintain dust levels below exposure limits. Power equipment should be equipped with proper dust collection devices. Ensure all national/local regulations are observed.

Individual protection measures, such as personal protective equipment



Respiratory equipment

Respiratory protection not normally needed. If dusting occurs or fumes are generated above the established occupational exposure limits, use a NIOSH-approved half-face or full-face respirator equipped with High Efficiency Particulate (HEPA) filters cartridges.

Hand protection

Wear chemically resistant protective gloves. If material is hot, wear thermally resistant protective gloves.

Eye protection

Chemical goggles or safety glasses.

Other protection

Chemically resistant materials and fabrics. With molten material wear thermally protective clothing. If generating a dust, wash thoroughly after handling, especially before eating, drinking, or smoking. Wash contaminated clothing before reuse.

General hygiene considerations

Do not eat, drink, or smoke while using this product in dust form. Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. Physical and chemical properties

Appearance

Silver/Grey Metallic.

Physical state

Solid.

Form

Solid.

Color

Silver/Grey.

Odor

None.

Odor threshold

Not available.

pH

Not applicable.

Melting point

2651F.

Boiling point

No Data.

Flash point

Not applicable.

Evaporation rate

Not applicable.



Safety Data Sheet

Revised Date: 4/25/2018

FAWSDS-19

Flammability	Not applicable.
Lower explosive limit	Not applicable.
Upper explosive limit	Not applicable.
Vapor pressure	Not applicable.
Vapor density	Not applicable.
Relative density	Not available.
Solubility in Water (20°C)	Negligible.
Partition coefficient (n-octanol/water)	Not applicable.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity (cps)	Not applicable.
Others	
Molecular Weight	Not applicable - Mixture
Volatiles	Not applicable.
Specific Gravity (g/cc)	8.9
Bulk Density (g/cc)	8.9

10. Stability and reactivity

Reactivity	Hazardous reactions will not occur under normal conditions.
Chemical stability	Stable under recommended storage conditions and stable in solid form.
Possibility of hazardous reactions	Hazardous polymerization will not occur.
Conditions to avoid	Avoid contact with carbon monoxide, particularly at temperatures between 50°C and 300°C, to prevent formation of nickel carbonyl which is toxic and a carcinogen. Heat, flames and sparks. Extremes of temperature and direct sunlight.
Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Nickel oxides.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Inhalation of dusts and fumes can cause metal fume fever. Symptoms can include a metallic or sweet taste in the mouth, sweating, shivering, headache, throat irritation, fever, chills, thirstiness, muscle aches, nausea, vomiting, weakness, fatigue, and shortness of breath.
Ingestion	Ingestion is likely to be harmful or have adverse effects.
Skin contact	May cause an allergic skin reaction. Contact with fumes or metal powder will irritate skin. Contact with hot, molten metal will cause thermal burns. Dust may cause irritation in skin folds or by contact in combination with tight clothing. Mechanical damage via flying particles and chipped slag is possible.
Eye contact	Dust may cause mechanical irritation to eyes.
Symptoms related to the physical, chemical and toxicological characteristics	No information available.
Delayed and immediate effects and chronic effects from short- and long-term exposure	In massive form, no hazard exists. If physically altered to present slivers, ribbons, dusts or fumes from molten material: Nickel: May cause a form of



Safety Data Sheet

Revised Date: 4/25/2018

FAWSDS-19

dermatitis known as nickel itch and intestinal irritation, which may cause disorders, convulsions and asphyxia.

Numerical measures of toxicity

No information available.

Skin corrosion/irritation

Not Classified.

Serious eye damage/eye irritation

Not Classified.

Respiratory or skin sensitization

Respiratory sensitization

Not Classified.

Skin sensitization

May cause allergic skin reaction.

Germ cell mutagenicity

Not Classified. This product is not known or reported to be mutagenic. Nickel has been shown to be mutagenic in *in vitro* studies.

Carcinogenicity

Nickel: The International Agency for Research on Cancer (IARC) lists nickel as a Group 2B – Possibly Carcinogenic to Humans. However, IARC found there was inadequate evidence that metallic nickel is carcinogenic to humans but since there was sufficient evidence that it is carcinogenic to animals, IARC concluded that metallic nickel is possibly carcinogenic to humans. The National Toxicology Program (NTP) lists nickel as reasonably anticipated to be a human carcinogen based on sufficient evidence of carcinogenicity from studies in experimental animals. However, NTP reports that the available studies of the carcinogenicity of metallic nickel in humans are inadequate for an evaluation.

Reproductive toxicity

Not Classified. This product is not known or reported to cause reproductive or developmental effects. Exposure of male rats to high concentrations of nickel caused testicular degeneration. However, symptoms of systemic toxicity, including severe weight loss, were also observed at the same concentrations indicating that the testicular effects were secondary to the frank toxicity. Exposure at these levels is highly unlikely under normal working conditions.

Specific target organ toxicity – single exposure

Not Classified.

Specific target organ toxicity – repeated exposure

Nickel: Prolonged exposure to excessive concentrations of particulate may cause chronic pulmonary disorders. Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration.

Aspiration hazard

Not Classified.

12. Ecological information

Ecotoxicity

No information available.

Numerical measures of toxicity

Chemical Name	Test	Species	Test Results
Nickel (CAS# 7440-02-0)	Fish LC ₅₀	Striped Bass (<i>Morone saxatilis</i>)	3.9 mg/l, 96 Hours
	Crustacean EC ₅₀	Water Flea (<i>Daphnia magna</i>)	7.5 mg/l, 48 Hours

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.



Safety Data Sheet

Revised Date: 4/25/2018

FAWSDS-19

Mobility in soil	No data available.
Other adverse effects	No known significant effects or critical hazards.

13. Disposal considerations

Disposal instructions	BYPRODUCT RECYCLING when recycled (used in a process to recover metals), this material is not classified as hazardous waste under federal law. Seal particulate or particulate containing materials inside two plastic bags, place in a DOT approved container, and label appropriately. SOLID WASTE MANAGEMENT when spent products are declared solid wastes (no longer recyclable), they must be labeled, managed and disposed of, in accordance with federal, state and local requirements.
Contaminated packaging	None known.

14. Transport information

In accordance with DOT	Not regulated for transport.
In accordance with IMDG	Not regulated for transport.
In accordance with IATA	Not regulated for transport.

15. Regulatory information

United States

US federal regulations	This product is a "Non Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. Substance is on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Substance is not listed.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Substance is not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Nickel(CAS# 7440-02-0)	Listed
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Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard	-	No
	Delayed Hazard	-	No
	Fire Hazard	-	No
	Pressure Hazard	-	No
	Reactivity Hazard	-	No

SARA 302/304 Extremely hazardous substance

Substance is not listed.

SARA 311/312 Hazardous chemical	No
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SARA 313 (TRI reporting)

Name	CAS number	% by wt.
Nickel	7440-02-0	100

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Substance is not listed.



Safety Data Sheet

Revised Date: 4/25/2018

FAWSDS-19

Clean Air Act (CAA) Section 112® Accidental Release Prevention (40 CFR 68.130)

Substance is not listed.

Safe Drinking Water Act (SDWA)

Substance is not listed.

US State regulations WARNING: This product contains chemicals known to the State of California to cause cancer.

US. Massachusetts Worker and Community Right-to-Know Act

Nickel(CAS# 7440-02-0) Listed

US. New Jersey Worker and Community Right-to-Know Act

Nickel(CAS# 7440-02-0) Listed

US. Pennsylvania Worker and Community Right-to-Know Law

Nickel(CAS# 7440-02-0) Listed

US. California Proposition 65

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

Nickel(CAS# 7440-02-0) Listed

Canada regulations

This substance has not been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR).

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non- Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemical List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control ACT (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	-
Revision date	4/25/2018
Version #	-



Safety Data Sheet

Revised Date: 4/25/2018

FAWSDS-19

References

ACGIH: American Conference of Governmental Industrial Hygienist.
NIOSH: The National Institute for Occupational Safety and Health
OSHA: Occupational Safety and Health Administration
CAS: Chemical Abstracts Service (division of the American Chemical Society).
DOT: Department of Transportation.
IATA: International Air Transport Association.
IMDG: International Maritime Code for Dangerous Goods.
LC₅₀: Lethal concentration, 50 percent.
EC₅₀: The effective concentration of substance that causes 50% of the maximum response.
NOEC: No observed effect concentration.
TWA: Time-Weighted Average.
STEL: Short Term Exposure Limit.
REL: Recommended exposure limits
PEL: Permissible exposure limit.
TLV: Threshold Limit Values.

Disclaimer

The information, recommendations, and suggestions presented in this SDS are based upon test results and data believed to be reliable. The end user of the product has the responsibility for evaluating the adequacy of the data under the conditions of use, determining the safety, toxicity and suitability of the product under these conditions, and obtaining additional or clarifying information where uncertainty exists. No guarantee expressed or implied is made as to the effects of such use, the results to be obtained, or the safety and toxicity of the product in any specific application. Furthermore, the information herein is not represented as absolutely complete, since it is not practicable to provide all the scientific and study information in the format of this document, plus additional information may be necessary under exceptional conditions of use, or because of applicable laws or government regulations.