



Safety Data Sheet

Revised Date: 11-09-2017

FAWSDS-14

1. Identification

Product identifier:

Product name Nickel 201, UNS N02201

Other means of identification:

SDS number FAWSDS-14

Recommended use and restrictions on use

Recommended use None known.

Restrictions on use None known.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer/Supplier

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

General Assistance

Call Fisk Alloy at: 973 825 8500.

E-Mail

info@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.

3. Composition/information on ingredients



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Substances:

Chemical name	CAS number	%
Nickel	7440-02-0	99.0-100

4. First-aid measures

Description of necessary first aid measures:

Inhalation

Breathing difficulty caused by inhalation of particulate requires immediate removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical help.

Skin contact

Thoroughly, wash skin cuts or wounds to remove all particulate debris from the wound. Seek medical attention for wounds that cannot be thoroughly cleansed. Treat skin cuts and wounds with standard first aid practices such as cleansing, disinfecting and covering to prevent wound infection and contamination before continuing work. Obtain medical help for persistent irritation. Material accidentally implanted or lodged under the skin must be removed.

Eye contact

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Ingestion

Ingestion is unlikely due to physical state. Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

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 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 pulmonary disorders. Prolonged or repeated skin contact may cause sensitization dermatitis and possible destruction and/or ulceration.

Indication of immediate medical attention and special treatment needed

Persons with impaired pulmonary function, airway diseases, or conditions such as asthma, emphysema, chronic bronchitis, etc. may incur further



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impairment if particulate is inhaled. If prior damage or disease to the neurologic (nervous), circulatory, hematologic (blood), or urinary (kidney) systems has occurred, proper screening or examinations should be conducted on individuals who may be exposed to further risk where handling and use of this material may cause exposure. Nickel: Skin contact with some nickel compounds in sensitive individuals may cause dermatitis (nickel itch).

5. Fire-fighting measures

Suitable extinguishing media

This material is non-combustible. Use extinguishing media appropriate to the surrounding fire.

Unsuitable extinguishing media

Not applicable.

Specific hazards arising from the chemical

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: 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

AMBIENT AIR EMISSIONS: Most process air emission sources will require an air permit from a local and/or state air pollution control agency. The use of air cleaning equipment may be necessary to achieve the permissible emission. Tempered makeup air should be provided to prevent excessive negative pressure in a building. Direct recycling of cleaned process exhaust air is not recommended. Plant exhausts should be located so as not to re-enter the plant through makeup air or other inlets. Regular maintenance and inspection of air cleaning equipment and monitoring of operating parameters is recommended to ensure adequate efficiency is maintained.

WASTEWATER: Wastewater regulations can vary considerably. Contact your local and state governments to determine their requirements.

TOXIC SUBSTANCES CONTROL ACT: Component(s) of this material is/are listed on the TSCA Chemical Substance Inventory of Existing Chemical Substances.



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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

Particulate may enter the body through cuts, abrasions or other wounds on the surface of the skin. Wear gloves when handling parts with loose surface particulate or sharp edges.

Conditions for safe storage, including any incompatibilities

Storage conditions: Store 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	1
Brazil	TWA	-
Canada-Alberta	TWA	1.5
Canada-British Columbia	TWA	0.05
Canada-Ontario	TWA	1
Canada-Quebec	TWA	1
China	TWA	1
Denmark	TWA	0.05
France	TWA	1
Germany	TWA	-
Hong Kong	TWA	1.5
India	TWA	-
Italy	TWA	-
Japan	TWA	1
Korea	TWA	1(c)
Malaysia	TWA	1.5(d)
Mexico	TWA	1
Poland	TWA	0.25
Portugal	TWA	-
Russia	TWA	-
Singapore	TWA	1

Sweden	TWA	0.5(c)
Taiwan, R. O. C.	TWA	1
United Kingdom	TWA	0.1
USA ACGIH	TWA	1.5
USA OSHA	TWA	1
USA NIOSH	TWA	0.015

NOTE: a- fume, b-dust, c-total dust, d-inhalable fraction, e-inhalable dust, f-respirable dust, g-inhalable fume, h-respirable fume, i-mist, j-smoke, k-fog, l-aerosol, m-inhalable aerosol, n-respirable aerosol, o-respirable fraction.

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) filter 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.

9. Physical and chemical properties

Appearance	Silvery solid.
Color	Not available.
Odor	None.
Odor threshold	Not available.
pH	Not applicable.
Melting point/freezing point	2615°F (Melting point)
Initial boiling point/Boiling range	Not available.
Flash point	Not applicable.
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Lower flammability/explosive limit	Not available.
Upper flammability/explosive limit	Not available.
Vapor pressure	Not applicable.
Vapor density	Not applicable.



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Relative density	8.89
Solubility	Negligible.
Partition coefficient - n-octanol/water	Unknown.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not applicable.
Viscosity	Not applicable.

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.
Incompatible materials	Acetylene, chlorine.
Hazardous decomposition products	Inhalation of fumes may cause metal fume fever. Oxides of iron and carbon.

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

Numerical measures of toxicity

Chemical Name	Oral LD ₅₀	Dermal LD ₅₀	Inhalation LC ₅₀
Nickel(CAS#7440-02-0)	>9 g/kg (Rat)	-	-

Skin corrosion/irritation	Not Classified.
Serious eye damage/eye irritation	Not Classified.
Respiratory or skin sensitization	
Respiratory sensitization	Not Classified.
Skin sensitization	Not Classified.



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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. Not Classified.

Specific target organ toxicity – single exposure

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	Rock bass (<i>Ambloplites rupestris</i>)	2.48 mg/l, 96 Hours
	Crustacea LC ₅₀	Water Flea (<i>Daphnia magna</i>)	0.51 mg/l, 48 Hours

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

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.



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Contaminated packaging

None known.

14. Transport information

In accordance with DOT
In accordance with IMDG
In accordance with IATA

Not regulated for transport.
Not regulated for transport.
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.

All components are on the U.S. EPA TSCA Inventory List.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

None of the ingredients of this product are listed.

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

Nickel(CAS#7440-02-0) Listed

CERCLA Hazardous Substance List (40 CFR 302.4)

Nickel(CAS#7440-02-0) Listed

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

None of the ingredients of this product are listed.

SARA 311/312 Hazardous chemical

No

SARA 313 (TRI reporting)

Name	CAS number	% by wt.
Nickel	7440-02-0	99.0-100

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

None of the ingredients of this product are listed.

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

None of the ingredients of this product are listed.

Safe Drinking Water Act (SDWA)

None of the ingredients of this product are 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)

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

Nickel(CAS#7440-02-0)

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

Nickel(CAS#7440-02-0)

US. California Proposition 65



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US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance Nickel(CAS#7440-02-0)

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)	Yes
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	-
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References	ACGIH: Documentation of the Threshold Limit Values and Biological Exposure indices ECHA: European Chemicals Agency HSDB: Hazardous Substances Data Bank GESTIS : Information system on hazardous substances of the German Social Accident Insurance IARC: International Agency for Research on Cancer NIOSH: The National Institute for Occupational Safety and Health NTP: National Toxicology Program NLM: Hazardous Substances Data Base OECD : Organization for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration



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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.