



Safety Data Sheet

According to 29 CFR 1910.1200 (OSHA HCS)

SDS No. 1535

Review date: March 1, 2019

1 Identification of substance and company

Product name: **Nickel metal, coarse powder, pieces, pellets, rods, wire**
Product code: 11324, 11406, 12048, 12964, 13429, 13599, 13959, 14270, 14757, 15330, 16089, 17980, 90332
90413, 90540, 90732, C2668
Relevant identified uses of the substance: Research and product development
Manufacturer/Supplier: Noah Technologies Corporation
1 Noah Park
San Antonio, Texas 78249-3419
Phone: 210-691-2000
Fax: 210-691-2600
Web site: www.noahtech.com
Emergency information: CHEMTREC
800-424-9300

2 Hazards identification

Hazard designation: None
Information pertaining to particular dangers for man and environment: Not applicable
HMIS ratings (scale 0-4): Health: 1
Flammability: 0
Physical hazard: 0

3 Composition/Information on ingredients

Chemical name: Nickel metal
Designation: (CAS#): 7440-02-0
EC Number: 231-111-4
Formula: Ni
Synonyms: None known

4 First aid measures

After inhalation: Seek immediate medical advice
Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
After skin contact: Instantly wash with water and soap and rinse thoroughly
If irritation persists, consult a physician
After eye contact: Rinse opened eye for at least 15 minutes under running water. Assure adequate flushing by separating the eyelids with fingers. Consult a physician.
After ingestion: If conscious, rinse mouth out with water and seek medical attention
Information for doctor: Show this safety data sheet to the doctor in attendance
Immediate medical attention and special treatment needed: May cause irritation to the eyes, skin, and/or respiratory system

5 Fire-fighting measures

Suitable extinguishing agents: Smother and cool with a suitable dry extinguishing agent (Class D fires) such as dry powder (Ansul Met-L-X) or dry sand
Special hazards caused by the material, its products of combustion or resulting gases: In case of fire, the following can be released:
Nickel oxide, nickel fume
Special fire fighting procedures: Wear self-contained breathing apparatus
Wear fully protective fire fighting equipment/clothing in fire situations
Don't spread burning material. Smother and allow fire to go out. Dry nickel dust won't ignite spontaneously but once ignited may burn readily in air.
Unusual fire and explosion hazard: Contact with mineral acids liberates hydrogen gas which may form explosive mixtures with air

6 Accidental release measures

Person-related safety precautions: Wear personal protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

Measures for environmental protection:	Do not allow material to be released to the environment without proper governmental permits
Measures for cleaning/collecting:	Dispose of contaminated material as waste according to item 13 Place in a suitable container for proper disposal Ventilate and wash spill site after material removal is complete
Additional information:	See Section 7 for information on safe handling See Section 8 for information on personal protective equipment See Section 13 for information on disposal

7 Handling and storage

Information for safe handling:	Keep containers tightly sealed Store in cool, dry place in tightly closed containers Ensure good ventilation/exhaustion at the workplace
Information about protection against explosions and fires:	Contact with mineral acids liberates hydrogen gas which may form explosive mixtures with air
Storage requirements to be met by storerooms and containers:	Keep dry away from moisture
Incompatibility (avoid contact with):	Strong acids and oxidizers, fluorine, hydrazine, phosphorus, selenium, sulfur, chlorine, nitril fluoride, ammonium nitrate, ammonia
Further information about storage conditions:	Keep container tightly sealed Store in cool, dry conditions in well sealed containers

8 Exposure controls/personal protection

Ventilation requirements:	Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute
Components with critical values that require monitoring at the workplace:	OSHA PEL: TWA 1 mg/m3 for metallic nickel and insoluble compounds ACGIH TLV: TWA 1.5 mg/m3 for metallic nickel
Additional information:	None
Personal protective equipment:	
General protective and hygienic measures:	The usual precautionary measures should be adhered to in handling the chemicals Keep away from foodstuffs, beverages and food Instantly remove any soiled and impregnated garments Wash hands during breaks and at the end of the work Avoid contact with the eyes and skin
Personal protective equipment:	
Respiratory protection:	Use suitable respirator when high concentrations are present
(Use only NIOSH or CEN approved Equipment)	Use only NIOSH/MESA or CEN approved dust mask type N95 or TYPE P1 (EN 143)
Hand protection:	Impervious gloves
Eye protection:	Safety glasses
Skin protection:	Protective work clothing
Additional protective equipment:	Sufficient to prevent contact Emergency eyewash and safety shower
Precautionary labeling:	Wash thoroughly after handling Do not get in eyes, on skin or on clothing Do not breathe dust, vapor, mist, gas Store in tightly closed containers Store in a cool, dry place. Irritant.

9 Physical and chemical properties

Physical state:	Coarse powder, pieces, pellets, rods, wire
Color:	Silvery grey
Odor:	Odorless
Odor threshold:	No data available
Molecular Weight (Calculated):	58.69
pH (5% solution)	No data available
Melting point/freezing point/range:	1453 C
Boiling point/range:	2730 C
Sublimation temperature/start:	No data available
Decomposition temperature:	No data available
Flammability (solid, gas):	Very fine nickel powders can burn
Flash point:	No data available
Autoignition temperature:	No data available
Danger of explosion:	Contact with mineral acids liberates hydrogen gas which may form explosive mixtures with air
Flammable limits:	
Lower:	No data available
Upper:	No data available
Evaporation rate:	No data available
Vapor pressure (mm Hg):	1 mmHg @ 1810 C

Vapor density:	No data available
Specific gravity:	8.9
Bulk density:	No data available
Solubility in/Miscibility with water:	Insoluble
Partition coefficient n-octanol/water:	No data available
Viscosity:	No data available
Other information:	No additional information

10 Stability and reactivity

Reactivity:	No data available
Chemical stability:	Stable
Possibility of hazardous reactions:	No data available
Conditions to be avoided:	No decomposition if used and stored according to specifications See section 7 for information on proper handling and storage
Materials to be avoided:	Strong acids and oxidizing agents Fluorine, hydrazine, phosphorus, selenium, sulfur, chlorine, nitryl fluoride, ammonium nitrate, ammonia
Dangerous reactions:	Contact with mineral acids liberates hydrogen gas which may form explosive mixtures with air
Hazardous decomposition products: (thermal and other)	Nickel fumes, nickel oxides

11 Toxicological information

Acute toxicity:	
LD/LC50 values that are relevant for classification:	oral-rat LD ₅₀ : >9000 mg/kg
Primary irritant or corrosive effect:	
on the skin:	Prolonged exposure may cause contact dermatitis or other allergic reactions especially in sensitive individuals
on the eye:	May cause mild irritation
Sensitization:	Respiratory sensitization is possible in susceptible individuals
Potential health effects:	No data available
Inhalation:	May be harmful
Ingestion:	May be harmful
Skin:	May cause mild irritation
Eyes:	May cause mild irritation
Signs and symptoms of exposure:	Nickel metal is a possible cancer hazard because NTP has determined that it may reasonably be anticipated to be a carcinogen and IARC found limited evidence for carcinogenicity to humans. Studies by Godbold et al and Cragle et al did not demonstrate any excess respiratory cancer risk in workers exposed to it in refining and to dust fume in alloy production. Also increased risk has not been shown. An experimental neoplastigen, tumorigen, teratogen and reproductive effects. To the best of our knowledge the acute and chronic toxicity of the substance is not fully known
Carcinogenicity:	IARC Group 2B - Possibly carcinogenic to humans ACGIH Category A5 - Not suspected as a human carcinogen NIOSH - No evidence of carcinogenicity NTP - Reasonably anticipated to be a human carcinogen

12 Ecological information

Toxicity:	
Toxicity to fish:	Carp LC ₅₀ : 1.3 mg/L:96H
Toxicity to daphnia and other aquatic invertebrates:	Daphnia magna EC ₅₀ : 1 mg/L:48H
Toxicity to algae:	No data available
Persistence and degradability:	
Biodegradability:	No data available
Bioaccumulative potential:	No data available
Bioaccumulation:	No data available
Mobility in soil:	No data available
Other adverse effects:	No data available

13 Disposal considerations

Recommendation:	Consult state, local or national regulation for proper disposal Allow professional disposal company to handle waste Must be specially treated under adherence to official regulations
Unclean packaging recommendation:	Disposal must be made according to official regulations

14 Transport information

Land transport DOT	
Proper shipping name:	Chemicals Non-Hazardous
Technical name:	Nickel metal

Air transport ICAO-TI and IATA-DGR:

Proper shipping name: Chemicals Non-Hazardous
Technical name: Nickel metal

UPS Ground / FedEx Ground

Proper shipping name: Chemicals Non-Hazardous
Technical name: Nickel metal

UPS Air

Proper shipping name: Chemicals Non-Hazardous
Technical name: Nickel metal

15 Regulatory information

SARA Section 302 Extremely Hazardous

components and corresponding TPQs:

Not subject to reporting requirements

SARA Section 311 / 312 hazards:

Acute Health Hazard, Chronic Health Hazard

SARA Section 313 components:

This product contains chemical(s) subject to the reporting requirements of Section 313 of the Emergency Planning & Community Right-to-know Act of 1986 and 40CFR372

California Proposition 65 components:

This product contains a chemical known to the State of California to cause cancer

TSCA:

This product is listed in the TSCA inventory

16 Other information

The above information is accurate to the best of our knowledge. However, since data, safety standards and government regulation are subject to change and the conditions of handling and use, or misuse are beyond our control. NOAH MAKES NO WARRANTY, EITHER EXPRESSED OR IMPLIED, WITH RESPECT TO THE COMPLETENESS OR CONTINUING ACCURACY OF THE INFORMATION CONTAINED HEREIN AND DISCLAIMS ALL LIABILITY FOR RELIANCE THEREON. User should satisfy himself that he has all current data relevant to his particular use.