

Safety Data Sheet

Product No. 29-28, 61-314, 91116, 91216, 91578, 9560 Nickel Products, Nickel Pellets, Nickel Powder and Nickel Targets

Issue Date (03-12-12)

Review Date (11-21-14)

Section 1: Product and Company Identification

Product Name: Nickel Products, Nickel Pellets, Nickel Powder and Nickel Targets

Synonym: NA

Company Name

Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477

Domestic Phone (800) 237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

International Phone (01) (530) 243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)

Chemtrec Emergency Number 1-800-424-9300 24 hrs a day.

Section 2: Hazard Identification

GHS Classification

Flammable solids (Category 2)

Skin sensitization (Category 1)

Carcinogenicity (Category 2)

Specific target organ toxicity - repeated exposure, Inhalation (Category 1)

Acute aquatic toxicity (Category 1)

GHS Label elements, including precautionary statements

GHS Pictograms



Signal Word: Danger

Flammable Health hazard Irritant Environ Damaging

Hazard statement(s)

H228: Flammable solid. Powder only

H317: May cause an allergic skin reaction.

H351: Suspected of causing cancer.

H372: Causes damage to organs through prolonged or repeated exposure if inhaled.

H400: Very toxic to aquatic life.

Precautionary statement(s)

P210: Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

P273: Avoid release to the environment.

P280: Wear protective gloves.

P314: Get medical advice/ attention if you feel unwell.

HMIS Hazard Rating: Health: 2; Flammability: 1 Physical Hazard: 0

NFPA Hazard Rating: Health: 2; Fire: 1 Reactivity: 0

(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Emergency overview

Appearance: Grey Pellets, Grey Powder, Silvery grey disc.

Immediate effects: OSHA Hazards: Flammable solid, Target Organ Effect, Skin sensitizer, Carcinogen. Target Organs Lungs

Potential health effects

Primary Routes of entry: Inhalation, skin contact, ingestion,

Signs and Symptoms of Overexposure: ND

Eyes: Powders; may cause slight eye irritation.

Skin: May cause allergic skin reaction in individuals sensitive to nickel.

Ingestion: Amounts ingested incidental to industrial handling are not likely to cause injury. Single dose oral toxicity is low.

Inhalation: Powders; may cause irritation to the upper respiratory tract. May cause asthma in individuals sensitive to nickel.

Chronic Exposure: ND

Chemical Listed As Carcinogen Or Potential Carcinogen: Yes

See Toxicological Information (Section 11)

Potential environmental effects

See Ecological Information (Section 12)

Section 3: Composition / Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m³	ACGIH TLV mg/m³	NTP	IARC	OSHA regulated
Nickel (7440-02-0)	~100	1	1.5*	Suspect	2B	NE

*As inhalable fraction

Section 4: First Aid Measures

If accidental overexposure is suspected

Eye(s) Contact: Flush eyes with water, occasionally lifting upper and lower lids.

Skin Contact: Remove contaminated clothing & wash affected area with soap and water.

Inhalation: Remove from exposed area to fresh air immediately.

Ingestion: Induce vomiting.

Note to physician

Treatment: ND

Medical Conditions generally Aggravated by Exposure: Persons sensitive to Nickel should avoid contact. Pre-existing lung disorders.

Section 5: Fire Fighting Measures

Flash Point: ND

Flammable Limits: ND

Auto-ignition point: ND

Fire Extinguishing Media: Agents for metal fires such as powdered limestone, sand, graphite, MET-L-X, or TEC.

Special Fire Fighting Procedures: DO NOT USE WATER. Smother fire with Class D fire extinguisher or allow to burn.

Unusual Fire and Explosion Hazards: Finely divided nickel dust and powders like most metal powders are potential explosion hazards when exposed to sparks, open flame or high heat source.

Hazardous combustion products:

DOT Class: Powders: 4.1, 9

Section 6: Accidental Release Measures

Steps to be Taken in Case Material is Released or Spilled: Collect spills by (1) wet sweeping, (2) dry sweeping, using sweeping compound, or (3) by vacuuming using vacuum cleaner equipped with an HEPA filter, (HEPA = high efficiency particulate air filter) and place in a container for proper disposal. Take care not to raise dust.

Waste Disposal Methods: Dispose of waste according to Federal, State and Local Regulations.

Section 7: Handling and Storage

Precautions to be taken in Handling and Storage: Do not inhale powder. Keep container closed when not in use. Ventilation is normally required when handling or using this product to keep exposure to airborne nickel below the exposure limit. If ventilation alone cannot so control exposure, use NIOSH-approved respirators selected according to OSHA 29 CFR 1910.134. Maintain airborne nickel levels as low as possible. Avoid repeated skin contact. Wear suitable gloves. Wash skin thoroughly after handling. Launder clothing and gloves as needed.

Storage temperature: Room Temperature.

Storage Pressure: NA

Section 8: Exposure Controls / Personal Protection

Engineering Controls

Ventilation required: Powders: Use chemical fume hood. Ventilation is normally required when handling or using this product to keep exposure to airborne nickel below the exposure limit. If ventilation alone cannot so control exposure, use NIOSH-approved respirators selected according to OSHA 29 CFR 1910.134. Maintain airborne nickel levels as low as possible

Personal Protection Equipment

Respiratory protection: NIOSH-approved respirators selected according to OSHA 29 CFR 1910.134

Protective gloves: Avoid repeated skin contact. Wear suitable gloves.

Skin protection: Wash skin thoroughly after handling. Launder clothing and gloves as

needed. Avoid repeated skin contact.
Eye protection: Wear goggles or face shield.
Additional clothing and/or equipment: Apron

Exposure Guidelines

See Composition/Information on Ingredients (Section 3)

Section 9 Physical and Chemical Properties

Appearance and Physical State: Solid. Grey Pellets, Grey Powder, Silvery grey Disc

Odor (threshold): None

Specific Gravity (H₂O=1):8.9

Vapor Pressure (mm Hg): NA

Vapor Density (air=1): NA

Percent Volatile by volume: NA

Evaporation Rate (butyl acetate=1): NA

Boiling Point: 2732 °C

Freezing point / melting point: 1453 °C

pH: NA

Solubility in Water: Insoluble

Molecular Weight: 58.71

Section 10: Stability and Reactivity

Stability: Stable.

Conditions to Avoid: Nickel is soluble in acids. Contact with mineral acids liberates hydrogen gas which may form explosive mixtures in air. Under the right conditions, (high pressure, high CO concentration), toxic nickel carbonyl gas may be formed. Metal powders heat treated in reducing atmospheres may become spontaneously combustible. Materials to Avoid (Incompatibility): Mineral acids, Nickel powder can react explosively or incandescently with ammonium nitrate, perchlorates, phosphorous, selenium, sulfur, etc. Nickel can react with carbon monoxides in reducing atmospheres to form nickel carbonyl Ni(CO)₄ a toxic gas.

Hazardous Decomposition Products: ND

Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information

Results of component toxicity test performed: The National Toxicology Program has listed nickel as reasonably anticipated to be a carcinogen based on the production of injection site tumors. The International Agency for Research on Cancer (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. In 1997, the ACGIH categorized elemental nickel as: A5 "Not Suspected as a Human Carcinogen".

The inhalation of nickel powder has not resulted in an increased incidence of malignant lung tumors in rodents. Repeated intratracheal instillation of nickel powder produced an increased incidence of malignant lung tumors in rats. Repeated intratracheal instillation of nickel powder did not produce an increased incidence of malignant lung tumors in

hamsters when administered at the maximum tolerated dose. Single intratracheal instillations of nickel powder in hamsters at doses near the LD50 produced an increased incidence of fibrosarcomas, mesotheliomas and rhabdomyosarcomas. Inhalation of nickel powder at concentrations 15 times the TLV irritated the respiratory tract in rodents.

Inhalation of nickel may induce asthma. This effect is rare, it has been reported in welders where exposures to nickel are often mixed with other chemical substances. Human experience: Persons with a known history of nickel sensitive asthma should avoid such contact. Epidemiological studies of workers exposed to nickel powder and to dust and fume generated in the production of nickel alloys and of stainless steel have not indicated the presence of a significant respiratory cancer hazard. Evidence for the association of nickel compound exposures and cancer risk comes mainly from workers in now obsolete nickel refining operations where very high concentrations of airborne nickel, mostly present as oxidic or sub-sulphidic species at up to 100mg/m³ or more, were associated with excess nasal and lung cancers.

This product **does not** contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

Section 12: Ecological Information

Ecological Information: Avoid release into environment.

Chemical Fate Information: ND

Section 13 Disposal Considerations

RCRA 40 CFR 261 Classification: Recycle metal.

Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14: Transportation Information

Nickel Powder only: The RQ for these hazardous substances is limited to those pieces of the metal having a diameter smaller than 100 micrometers (0.004 inches). 100 lb (45.4Kg)

US DOT Information: Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Nickel powder 1-5 µm)

Hazard Class: 9

Packaging group: III

UN Number: UN3077

Limitations: RQ = 100 lbs (45.4 Kg)

IATA: Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Nickel powder 1-5 µm)

Hazard Class: 9

Packing group: III

UN Number: UN3077

Marine Pollutant: No

Canadian TDG: Environmentally hazardous substances, solid, n.o.s. (Nickel powder 1-5 µm)

Section 15: Regulatory Information

United States Federal Regulations

MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.

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

SARA Title III: The following components are subject to reporting levels established by SARA Title III, Section 313: Nickel Powder (1-5 micron)

RCRA: ND

TSCA: ND

CERCLA: RQ: 100 lbs (45.4 Kg)

State Regulations

California Proposition 65: Warning! This product is or contains chemical(s) known to the state of California to cause cancer This product contains Nickel,(metallic), which is listed as a carcinogen.

International Regulations

Canada WHMIS: ND

Europe EINECS Numbers: ND

Section 16: Other Information

Label Information: ND

European Risk and Safety Phrases: ND

European symbols needed: ND

Canadian WHMIS Symbols: ND

Abbreviations used in this document

NE= Not established

NA= Not applicable

NIF= No Information Found

ND= No Data

Disclaimer

Ted Pella, Inc. makes no warranty of any kind regarding the information furnished herein. Users should independently determine the suitability and completeness of information from all sources. While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the user. It is the User's responsibility to assure the proper use and disposal of these materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.