

# SAFETY DATA SHEET

LaserForm Ni718 (A)

## Section 1. Identification

- GHS product identifier** : LaserForm Ni718 (A)
- Other means of identification** : Not available.
- Product use** : For use with 3D Systems' Direct Metal Printing equipment.
- Supplier's details** : 3D Systems, Inc.  
333 Three D Systems Circle  
Rock Hill, South Carolina, USA
- Phone: +1 803 326 3900 or  
Toll-free Phone: +1 800 793 3669
- e-mail address of person responsible for this SDS** : moreinfo@3dsystems.com
- Emergency telephone number (with hours of operation)** : + 1 703 527 3887 (Chemtrec, worldwide)

## Section 2. Hazards identification

- OSHA/HCS status** : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).
- Classification of the substance or mixture** :  RESPIRATORY SENSITIZATION - Category 1  
 SKIN SENSITIZATION - Category 1  
 GERM CELL MUTAGENICITY - Category 2  
 CARCINOGENICITY - Category 1B  
 TOXIC TO REPRODUCTION - Category 1B  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

### GHS label elements

#### Hazard pictograms



#### Signal word

: Danger

#### Hazard statements

- :  May cause an allergic skin reaction.  
May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
Suspected of causing genetic defects.  
May cause cancer.  
May damage fertility or the unborn child.  
Causes damage to organs through prolonged or repeated exposure.

### Precautionary statements

#### Prevention

- :  Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing and eye or face protection. Wear respiratory protection. Do not breathe dust or mist. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace.

## Section 2. Hazards identification

- Response** : If exposed or concerned: Get medical advice or attention. IF INHALED: Remove person to fresh air and keep comfortable for breathing. If experiencing respiratory symptoms: Call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Other means of identification** : Not available.

Ingredient name	%	CAS number
Nickel powder	≥50 - ≤75	7440-02-0
chromium	≥10 - ≤25	7440-47-3
iron	≥10 - ≤25	7439-89-6
molybdenum	≤5	7439-98-7
tantalum	≤3	7440-25-7
cobalt	≤1	7440-48-4
manganese	≤1	7439-96-5

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

## Section 4. First aid measures

- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
irritation  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use approved Class D extinguisher or smother with dry sand, dry clay or dry ground limestone. Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : CO<sub>2</sub>, water, ABC powder and foam.

**Specific hazards arising from the chemical** : No specific fire or explosion hazard.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Remark** : Non-flammable.

**Remark (Explosibility)** : Not considered to be a product presenting a risk of explosion.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** :  No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Avoid dust generation. Do not dry sweep. Use only vacuum cleaners equipped with a wet separator system and a grounding cable (ATEX, Hazardous locations certified / Suitable for use with Group E (IIIC) Conductive Dusts / Suitable for use in Class 2, Division II (Zone 22) locations or better). Place spilled material in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid dust generation. Do not dry sweep. Use only vacuum cleaners equipped with a wet separator system and a grounding cable (ATEX, Hazardous locations certified / Suitable for use with Group E (IIIC) Conductive Dusts / Suitable for use in Class 2, Division II (Zone 22) locations or better). Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe dust. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
nickel powder	<p><b>ACGIH TLV (United States, 3/2020).</b> TWA: 1.5 mg/m<sup>3</sup> 8 hours. Form: Inhalable fraction</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 1 mg/m<sup>3</sup>, (as Ni) 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 0.015 mg/m<sup>3</sup>, (as Ni) 10 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b> TWA: 1 mg/m<sup>3</sup>, (as Ni) 8 hours.</p>
chromium	<p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 1 mg/m<sup>3</sup> 8 hours.</p> <p><b>ACGIH TLV (United States, 3/2020).</b> TWA: 0.5 mg/m<sup>3</sup>, (measured as Cr) 8 hours. Form: Inhalable fraction</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 0.5 mg/m<sup>3</sup> 8 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b> TWA: 1 mg/m<sup>3</sup>, (as Cr) 8 hours.</p>
iron	None.
molybdenum	<p><b>ACGIH TLV (United States, 3/2020).</b> TWA: 10 mg/m<sup>3</sup>, (as Mo) 8 hours. Form: Inhalable fraction TWA: 3 mg/m<sup>3</sup>, (as Mo) 8 hours. Form: Respirable fraction</p>
tantalum	<p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Dust</p>

## Section 8. Exposure controls/personal protection

cobalt	<p><b>OSHA PEL (United States, 5/2018).</b> TWA: 5 mg/m<sup>3</sup> 8 hours.</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 5 mg/m<sup>3</sup>, (as Ta) 10 hours. Form: METAL AND OXIDE DUST STEL: 10 mg/m<sup>3</sup>, (as Ta) 15 minutes. Form: METAL AND OXIDE DUST</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 0.05 mg/m<sup>3</sup>, (as Co) 10 hours. Form: Dust and fumes</p> <p><b>ACGIH TLV (United States, 3/2020). Skin sensitizer. Inhalation sensitizer.</b> TWA: 0.02 mg/m<sup>3</sup>, (as Co) 8 hours. TWA: 0.005 mg/m<sup>3</sup> 8 hours. Form: Thoracic fraction</p> <p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 0.05 mg/m<sup>3</sup>, (as Co) 8 hours.</p> <p><b>OSHA PEL (United States, 5/2018).</b> TWA: 0.1 mg/m<sup>3</sup>, (as Co) 8 hours.</p>
manganese	<p><b>OSHA PEL 1989 (United States, 3/1989).</b> TWA: 1 mg/m<sup>3</sup>, (as Mn) 8 hours. Form: Fume STEL: 3 mg/m<sup>3</sup>, (as Mn) 15 minutes. Form: Fume</p> <p><b>NIOSH REL (United States, 10/2016).</b> TWA: 1 mg/m<sup>3</sup>, (as Mn) 10 hours. Form: Fume STEL: 3 mg/m<sup>3</sup>, (as Mn) 15 minutes. Form: Fume</p> <p><b>OSHA PEL (United States, 5/2018).</b> CEIL: 5 mg/m<sup>3</sup>, (as Mn) Form: Fume</p> <p><b>ACGIH TLV (United States, 3/2020).</b> TWA: 0.1 mg/m<sup>3</sup>, (as Mn) 8 hours. Form: Inhalable fraction TWA: 0.02 mg/m<sup>3</sup>, (as Mn) 8 hours. Form: Respirable fraction</p>

- Appropriate engineering controls** :  Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Individual protection measures**
- Hygiene measures** : Do not blow dust off clothing or skin with compressed air. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.

## Section 8. Exposure controls/personal protection

### Skin protection

#### Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

#### Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

#### Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

#### Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

**Recommended:** Ensure an MSHA/NIOSH-approved respirator or equivalent is used. (Class N99)

## Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

#### Physical state

: Solid. [Powder. particle size: 100% <100 µm ]

#### Color

: Gray.

#### Odor

: Odorless.

#### Odor threshold

: Not applicable.

#### pH

: Not applicable.

#### Melting point/freezing point

: 1354 to 1413°C (2469.2 to 2575.4°F)

#### Boiling point, initial boiling point, and boiling range

: Not available.

#### Flash point

: Closed cup: >200°C (>392°F)

#### Evaporation rate

: Not available.

#### Flammability

: Non-flammable.

#### Lower and upper explosion limit/flammability limit

:  Not applicable.

#### Vapor pressure

: Not available.

#### Relative vapor density

:  Not applicable.

#### Relative density

: Not available.

#### Density

: 8.19 g/cm<sup>3</sup>

#### Solubility

: Not available.

#### Solubility in water

: Insoluble.

#### Partition coefficient: n-octanol/water

: Not applicable.

#### Auto-ignition temperature

: Not self-ignitable.

#### Decomposition temperature

: Not applicable.

#### Viscosity

: Not applicable.

#### Explosive properties

: Not considered to be a product presenting a risk of explosion.

### Particle characteristics

#### Median particle size

:  Not available.

## Section 10. Stability and reactivity

- Reactivity** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Keep away from heat, sparks and flame.
- Incompatible materials** : Reactive or incompatible with the following materials: alkalis, acids, oxidizing materials, halogenated hydrocarbons, combustible materials.
- Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

**Conclusion/Summary** : Based on available data, the classification criteria are not met.

#### Irritation/Corrosion

**Conclusion/Summary** : Not available.

#### Sensitization

**Conclusion/Summary**

**Skin** : May cause an allergic skin reaction.

**Respiratory** : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

#### Mutagenicity

**Conclusion/Summary** : Suspected of causing genetic defects.

#### Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
nickel powder	Positive - Inhalation	Rat - Male, Female	0.4 mg/m <sup>3</sup> NOAEL	24 months; 6 hours per day

**Conclusion/Summary** : May cause cancer.

#### Classification

Product/ingredient name	OSHA	IARC	NTP
nickel powder	-	2B	-
chromium	-	3	-
cobalt	-	2B	Reasonably anticipated to be a human carcinogen.

#### Reproductive toxicity

**Conclusion/Summary** : May damage fertility.

#### Teratogenicity

**Conclusion/Summary** : Not available.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
nickel powder	Category 1	-	-



## Section 11. Toxicological information

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Not available.

### Potential acute health effects

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
irritation  
redness
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing  
wheezing and breathing difficulties  
asthma  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations
- Ingestion** : Adverse symptoms may include the following:  
reduced fetal weight  
increase in fetal deaths  
skeletal malformations

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

#### Long term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

### Potential chronic health effects

Product/ingredient name	Result	Species	Dose	Exposure
nickel powder	Chronic LOAEL Inhalation Dusts and mists	Rat - Male, Female	0.1 mg/m <sup>3</sup>	24 months; 6 hours per day

- Conclusion/Summary** : Not available.
- General** : Causes damage to organs through prolonged or repeated exposure. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

## Section 11. Toxicological information

- Carcinogenicity** : May cause cancer. Risk of cancer depends on duration and level of exposure.
- Mutagenicity** :  Suspected of causing genetic defects.
- Reproductive toxicity** : May damage fertility or the unborn child.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
LaserForm Ni718 (A)	50000.4	N/A	N/A	N/A	150
cobalt	500	N/A	N/A	N/A	1.5

## Section 12. Ecological information

### Toxicity

- Conclusion/Summary** : Harmful to aquatic life with long lasting effects.

### Persistence and degradability

- Conclusion/Summary** : The methods for determining the biological degradability are not applicable to inorganic substances.

### Bioaccumulative potential

Not available.

### Mobility in soil

- Soil/water partition coefficient ( $K_{oc}$ )** : Not available.
- Mobility** : Not available.

- Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

- Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

	DOT Classification	TDG Classification	Mexico Classification	ADR/RID	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	✓	✓	✓	✓	✓	✓
Transport hazard class(es)	✓	✓	✓	✓	✓	✓
Label						
Packing group	✓	✓	✓	✓	✓	✓
Environmental hazards	No.	No.	No.	No.	Marine Pollutant: No	No.

### Additional information

**DOT Classification** : **Reportable quantity** 181.82 lbs / 82.545 kg. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not applicable.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined  
**Clean Water Act (CWA) 307:** nickel powder; chromium; copper

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 302/304

#### Composition/information on ingredients

No products were found.

**SARA 304 RQ** : Not applicable.

### SARA 311/312

## Section 15. Regulatory information

**Classification** :  RESPIRATORY SENSITIZATION - Category 1  
 SKIN SENSITIZATION - Category 1  
 GERM CELL MUTAGENICITY - Category 2  
 CARCINOGENICITY - Category 1B  
 TOXIC TO REPRODUCTION - Category 1B  
 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

### Composition/information on ingredients

Name	%	Classification
<input checked="" type="checkbox"/> Nickel powder	≥50 - ≤75	SKIN SENSITIZATION - Category 1 CARCINOGENICITY - Category 2 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1
cobalt	≤3	ACUTE TOXICITY (oral) - Category 4 ACUTE TOXICITY (inhalation) - Category 4 EYE IRRITATION - Category 2A RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 GERM CELL MUTAGENICITY - Category 2 CARCINOGENICITY - Category 1B TOXIC TO REPRODUCTION - Category 1B

### SARA 313

	Product name	CAS number	%
<b>Form R - Reporting requirements</b>	<input checked="" type="checkbox"/> Nickel powder	7440-02-0	≥50 - ≤75
	chromium	7440-47-3	≥10 - ≤25
	cobalt	7440-48-4	≤3
<b>Supplier notification</b>	<input checked="" type="checkbox"/> Nickel powder	7440-02-0	≥50 - ≤75
	chromium	7440-47-3	≥10 - ≤25
	cobalt	7440-48-4	≤3

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

### State regulations

- Massachusetts** :  The following components are listed: NICKEL; NICKEL CATALYST; CHROMIUM; MOLYBDENUM; TANTALUM; COBALT
- New York** : The following components are listed: Nickel; Chromium
- New Jersey** : The following components are listed: NICKEL; CHROMIUM; MOLYBDENUM; TANTALUM; TITANIUM; COBALT
- Pennsylvania** : The following components are listed: NICKEL CATALYST; CHROMIUM COMPOUNDS; MOLYBDENUM; TANTALUM; COBALT FUME

### California Prop. 65

**⚠ WARNING:** This product can expose you to chemicals including Nickel and Cobalt metal powder, which are known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

Ingredient name	No significant risk level	Maximum acceptable dosage level
<input checked="" type="checkbox"/> Nickel Cobalt metal powder	-	-

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

## Section 15. Regulatory information

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

<b>Australia</b>	: All components are listed or exempted.
<b>Canada</b>	: All components are listed or exempted.
<b>China</b>	: All components are listed or exempted.
<b>Europe</b>	: All components are listed or exempted.
<b>New Zealand</b>	: All components are listed or exempted.
<b>Republic of Korea</b>	: All components are listed or exempted.
<b>Taiwan</b>	: All components are listed or exempted.
<b>United States</b>	: All components are active or exempted.
<b>Viet Nam</b>	: All components are listed or exempted.

## Section 16. Other information

### National Fire Protection Association (U.S.A.)



### Procedure used to derive the classification

Classification	Justification
RESPIRATORY SENSITIZATION - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
GERM CELL MUTAGENICITY - Category 2	Calculation method
CARCINOGENICITY - Category 1B	Calculation method
TOXIC TO REPRODUCTION - Category 1B	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1	Calculation method

### History

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**Key to abbreviations** : ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road  
 ATE = Acute Toxicity Estimate  
 BCF = Bioconcentration Factor  
 DOT = Department of Transportation  
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
 IATA = International Air Transport Association  
 IBC = Intermediate Bulk Container  
 IMDG = International Maritime Dangerous Goods  
 LogPow = logarithm of the octanol/water partition coefficient  
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
 N/A = Not available  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 SGG = Segregation Group

## Section 16. Other information

TDG = Transportation of Dangerous Goods  
UN = United Nations

### References

: Not available.

✔ Indicates information that has changed from previously issued version.

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