



# 316L Powder

## Safety Data Sheet

according to the Hazardous Products Regulation (February 11, 2015)  
Issue date: 27 April 2021 Version: 1.0

### SECTION 1: Identification

#### 1.1. Product identifier

Product form : Mixture  
Trade name : 316L Powder  
Product code : SHP-MP0007

#### 1.2. Recommended use and restrictions on use

Recommended use : 3D Printing

#### 1.3. Supplier

Desktop Metal  
63 3rd Avenue  
Burlington, MA 01803  
T 978-224-1244  
[www.desktopmetal.com](http://www.desktopmetal.com)

#### 1.4. Emergency telephone number

Emergency number : 978-224-1244 (Hours: 9:00 am to 5:00 pm Eastern time)  
800-424-9300 (CHEMTREC Day or Night)

### SECTION 2: Hazard identification


#### 2.1. Classification of the substance or mixture

##### Classification (GHS CA)

Skin sensitisation, Category 1	May cause an allergic skin reaction.
Carcinogenicity, Category 2	Suspected of causing cancer (Inhalation).
Specific target organ toxicity — Repeated exposure, Category 1	Causes damage to organs (Respiratory tract, lungs) through prolonged or repeated exposure (Inhalation).

#### 2.2. GHS Label elements, including precautionary statements

##### GHS CA labelling

Hazard pictograms (GHS CA) : 

Signal word (GHS CA) : Danger

Hazard statements (GHS CA) : May cause an allergic skin reaction.  
Suspected of causing cancer (Inhalation).  
Causes damage to organs (Respiratory tract, lungs) through prolonged or repeated exposure (Inhalation).

Precautionary statements (GHS CA) : Obtain special instructions before use.  
Do not handle until all safety precautions have been read and understood.  
Do not breathe dust.  
Wash hands thoroughly after handling.  
Do not eat, drink or smoke when using this product.  
Contaminated work clothing should not be allowed out of the workplace.  
Wear protective gloves, protective clothing, eye protection.  
IF ON SKIN: Wash with plenty of water.  
IF exposed or concerned: Get medical advice/attention.  
Get medical advice/attention if you feel unwell.

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If skin irritation or rash occurs: Get medical advice/attention.  
 Take off contaminated clothing and wash it before reuse.  
 Store locked up.  
 Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS CA)

No data available

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Chemical name / Synonyms	Product identifier	%	Classification (GHS CA)
Nickel	nickel Nickel metal / Nickel, elemental / Nickel, metallic / Nickel, metal / C.I. 77775 / nickel	CAS-No.: 7440-02-0	10 – 30	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372

Comments : \*The actual concentration range is withheld as a trade secret

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse eyes with water as a precaution. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if ill effect or irritation develops.

First-aid measures after ingestion : Rinse mouth out with water. Call a poison center or a doctor if you feel unwell.

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : Suspected of causing cancer (Inhalation). Causes damage to organs (Respiratory tract, lungs) through prolonged or repeated exposure (Inhalation).

Symptoms/effects after inhalation : Dust from this product may cause irritation to the respiratory tract.

Symptoms/effects after skin contact : May cause an allergic skin reaction. Dust may cause mechanical irritation.

Symptoms/effects after eye contact : Dust may cause mechanical irritation. May cause slight temporary irritation.

### 4.3. Immediate medical attention and special treatment, if necessary

Note to physician : : Treat symptomatically.

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### SECTION 5: Fire-fighting measures

#### 5.1. Suitable extinguishing media

Suitable extinguishing media : In case of fire involving metal dust, use fire extinguisher class D. Sand.

#### 5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : Carbon dioxide (CO<sub>2</sub>). Foam. ABC-powder. Water.

#### 5.3. Specific hazards arising from the hazardous product

Fire hazard : The product is not flammable. On combustion forms: Metal oxides. Irritating fumes.  
 Explosion hazard : Presents no particular fire or explosion hazard.  
 Hazardous decomposition products in case of fire : Thermal decomposition can lead to the release of irritating gases and vapours.

#### 5.4. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire.  
 Protective equipment for firefighters : Do not enter fire area without proper protective equipment, including respiratory protection.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ventilate spillage area. Avoid raising powdered materials into airborne dust.  
 Personal Precautions, Protective Equipment and Emergency Procedures : Do not breathe dust. Avoid contact with skin and eyes. Avoid creating or spreading dust. Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".  
 Prevention Measures for Secondary Accidents : Avoid release to the environment.

#### 6.2. Methods and materials for containment and cleaning up

For containment : Contain and collect as any solid. Avoid creating or spreading dust.  
 Methods for cleaning up : Mechanically recover the product. Avoid raising powdered materials into airborne dust. Notify authorities if product enters sewers or public waters.  
 Other information : Dispose of materials or solid residues at an authorized site.

#### 6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear personal protective equipment. Do not breathe dust. Avoid contact with skin and eyes. Avoid dust formation.  
 Hygiene measures : Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

#### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.  
 Incompatible materials : Strong bases. Strong acids. Strong oxidizing agents.

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### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

<b>Nickel (7440-02-0)</b>	
<b>Canada (Alberta) - Occupational Exposure Limits</b>	
Local name	Nickel Elemental/metal
OEL TWA	1.5 mg/m <sup>3</sup>
Regulatory reference	Alberta Regulation 87/2009 (Alberta Regulation 150/2020)
<b>Canada (Quebec) - Occupational Exposure Limits</b>	
VEMP (OEL TWA)	1.5 mg/m <sup>3</sup> (inhalable dust)
<b>Canada (British Columbia) - Occupational Exposure Limits</b>	
Local name	Nickel - Insoluble inorganic compounds, as Ni
OEL TWA	0.05 mg/m <sup>3</sup>
Notations and remarks	ACGIH Carcinogenicity category A1, IARC group 1 carcinogen; Nickel compounds are IARC group 1 carcinogens
Regulatory reference	OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC)
<b>Canada (Manitoba) - Occupational Exposure Limits</b>	
Local name	Nickel, elemental
OEL TWA	1.5 mg/m <sup>3</sup> (I - Inhalable particulate matter)
Notations and remarks	TLV® Basis: Dermatitis; pneumoconiosis. Notations: A5 (Not Suspected as a Human Carcinogen)
Regulatory reference	ACGIH
<b>Canada (New Brunswick) - Occupational Exposure Limits</b>	
OEL TWA	1.5 mg/m <sup>3</sup>
<b>Canada (Newfoundland and Labrador) - Occupational Exposure Limits</b>	
Local name	Nickel, elemental
OEL TWA	1.5 mg/m <sup>3</sup> (I - Inhalable particulate matter)
Notations and remarks	TLV® Basis: Dermatitis; pneumoconiosis. Notations: A5 (Not Suspected as a Human Carcinogen)
Regulatory reference	ACGIH
<b>Canada (Nova Scotia) - Occupational Exposure Limits</b>	
Local name	Nickel, elemental
OEL TWA	1.5 mg/m <sup>3</sup> (I - Inhalable particulate matter)
Notations and remarks	TLV® Basis: Dermatitis; pneumoconiosis. Notations: A5 (Not Suspected as a Human Carcinogen)
Regulatory reference	ACGIH
<b>Canada (Nunavut) - Occupational Exposure Limits</b>	
OEL TWA	1.5 mg/m <sup>3</sup> (inhalable fraction)
OEL STEL	3 mg/m <sup>3</sup> (inhalable fraction)
Notations and remarks	Designated substance

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<b>Nickel (7440-02-0)</b>	
Regulatory reference	Occupational Health and Safety Regulations, Nu Reg 003-2016
<b>Canada (Northwest Territories) - Occupational Exposure Limits</b>	
OEL TWA	1.5 mg/m <sup>3</sup> (inhalable fraction)
OEL STEL	3 mg/m <sup>3</sup> (inhalable fraction)
Notations and remarks	Designated substance
Regulatory reference	Occupation Health and Safety Regulations R-039-2015 (R-013-2020)
<b>Canada (Ontario) - Occupational Exposure Limits</b>	
OEL TWA	0.2 mg/m <sup>3</sup> (I - Inhalable fraction)
Regulatory reference	Ontario Occupational Exposure Limits under Regulation 833
<b>Canada (Prince Edward Island) - Occupational Exposure Limits</b>	
Local name	Nickel, elemental
OEL TWA	1.5 mg/m <sup>3</sup> (I - Inhalable particulate matter)
Notations and remarks	TLV® Basis: Dermatitis; pneumoconiosis. Notations: A5 (Not Suspected as a Human Carcinogen)
Regulatory reference	ACGIH
<b>Canada (Saskatchewan) - Occupational Exposure Limits</b>	
OEL TWA	1.5 mg/m <sup>3</sup> (inhalable fraction)
OEL STEL	3 mg/m <sup>3</sup> (inhalable fraction)
Notations and remarks	Designated Chemical Substance
Regulatory reference	The Occupational Health and Safety Regulations, 1996. Chapter O-1.1 Reg 1
<b>Canada (Yukon) - Occupational Exposure Limits</b>	
OEL TWA	1 mg/m <sup>3</sup>
OEL STEL	3 mg/m <sup>3</sup>
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Nickel, elemental
ACGIH OEL TWA	1.5 mg/m <sup>3</sup> (I - Inhalable particulate matter)
Remark (ACGIH)	TLV® Basis: Dermatitis; pneumoconiosis. Notations: A5 (Not Suspected as a Human Carcinogen)
ACGIH chemical category	Not Suspected as a Human Carcinogen
Regulatory reference	ACGIH 2021
<b>USA - ACGIH - Biological Exposure Indices</b>	
Local name	NICKEL AND INORGANIC COMPOUNDS
BEI	5 µg/l Parameter: Nickel - Medium: urine after exposure to elemental Nickel and poorly soluble compounds - Sampling time: Post-shift at end of workweek - Notations: B 30 µg/l Parameter: Nickel - Medium: urine after exposure to soluble compounds - Sampling time: Post-shift at end of workweek - Notations: B
Regulatory reference	ACGIH 2021

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### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
 Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Wear suitable gloves resistant to chemical penetration

#### Eye protection:

Safety glasses

#### Skin and body protection:

Long sleeved protective clothing

#### Respiratory protection:

In case of inadequate ventilation wear respiratory protection. Wear appropriate breathing apparatus if air renewal not sufficient to maintain dust/vapour under TLV

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Powder.
Colour	: Grey
Odour	: Odourless
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: No data available
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 7.9 g/m <sup>3</sup> (20 °C)
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: Not applicable
Explosive properties	: Not explosive. On basis of test data. (ASTM E1226).
Explosive limits	: Not applicable
Particle size	: < 75 µm (100%)

### 9.2. Other information

No additional information available

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### SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: No dangerous reactions known under normal conditions of use.
Conditions to avoid	: Avoid dust formation.
Incompatible materials	: Strong acids. Strong bases. Strong oxidizing agents.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

Nickel (7440-02-0)	
LD50 oral rat	> 9000 mg/kg
LC50 Inhalation - Rat	> 10.2 mg/l (Exposure time: 1 h)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Suspected of causing cancer (Inhalation).
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Causes damage to organs (Respiratory tract, lungs) through prolonged or repeated exposure (Inhalation).

Nickel (7440-02-0)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)

316L SS	
Viscosity, kinematic	Not applicable
Symptoms/effects	: Suspected of causing cancer (Inhalation). Causes damage to organs (Respiratory tract, lungs) through prolonged or repeated exposure (Inhalation).
Symptoms/effects after inhalation	: Dust from this product may cause irritation to the respiratory tract.
Symptoms/effects after skin contact	: May cause an allergic skin reaction. Dust may cause mechanical irritation.
Symptoms/effects after eye contact	: Dust may cause mechanical irritation. May cause slight temporary irritation.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general	: This material has not been tested for environmental effects.
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Nickel (7440-02-0)	
LC50 - Fish [1]	> 100 mg/l (Exposure time: 96 h - Species: Brachydanio rerio)
LC50 - Fish [2]	1.3 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
LC50 - Other aquatic organisms [1]	7.35 – 12.12 mg/l (Exposure time: 96 h - Species: Calanoid copepod (Eurytemora affinis))
EC50 - Crustacea [1]	> 100 mg/l (Exposure time: 48 h - Species: Daphnia magna)

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### 12.2. Persistence and degradability

No additional information available

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

## SECTION 14: Transport information

In accordance with TDG / DOT / IMDG / IATA

TDG	DOT	IMDG	IATA
<b>14.1. UN number</b>			
Not regulated for transport			
<b>14.2. Proper Shipping Name</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.3. Transport hazard class(es)</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.4. Packing group</b>			
Not applicable	Not applicable	Not applicable	Not applicable
<b>14.5. Environmental hazards</b>			
Not applicable	Not applicable	Not applicable	Not applicable

No supplementary information available

## SECTION 15: Regulatory information

### 15.1. National regulations

No additional information available

### 15.2. International regulations

No additional information available

## SECTION 16: Other information

Issue date : 27 April 2021

Safety Data Sheet (SDS), Canada

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.