

# Safety Data Sheet

Issue Date: 16-Apr-2015

Revision Date: 01-Oct-2015

Version 1

## 1. IDENTIFICATION

### Product Identifier

**Product Name** Nickel Mesh

### Other means of identification

### Recommended use of the chemical and restrictions on use

**Recommended Use** Current collection during solid oxide fuel cell testing.

### Details of the supplier of the safety data sheet

#### **Supplier Address**

Nexceris, LLC  
404 Enterprise Dr.  
Lewis Center, OH 43035  
www.nexceris.com

### Emergency Telephone Number

**Company Phone Number** Non-emergency calls/questions: 1-614-842-6606  
Fax: 1-614-842-6607

**Emergency Telephone (24 hr)** INFOTRAC 1-352-323-3500 (International)  
1-800-535-5053 (North America)

## 2. HAZARDS IDENTIFICATION

**Appearance** Silver grey solid

**Physical State** Solid

**Odor** Odorless

### Classification

Skin sensitization	Category 1
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

### Signal Word

**Danger**

### Hazard Statements

May cause an allergic skin reaction  
Suspected of causing cancer  
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  
Use personal protective equipment as required  
Contaminated work clothing should not be allowed out of the workplace  
Wear protective gloves  
Do not breathe dust/fume/gas/mist/vapors/spray  
Wash face, hands and any exposed skin thoroughly after handling  
Do not eat, drink or smoke when using this product

**Precautionary Statements - Response**

If exposed or concerned: Get medical advice/attention  
IF ON SKIN: Wash with plenty of soap and water  
If skin irritation or rash occurs: Get medical advice/attention  
Wash contaminated clothing before reuse

**Precautionary Statements - Storage**

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other Hazards**

Very toxic to aquatic life with long lasting effects

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Chemical Name	CAS No	Weight-%
Nickel	7440-02-0	100

\*\*If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.\*\*

**4. FIRST-AID MEASURES****First Aid Measures**

<b>General Advice</b>	Provide this SDS to medical personnel for treatment.
<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin Contact</b>	Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
<b>Inhalation</b>	Remove to fresh air.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects**

<b>Symptoms</b>	May cause an allergic skin reaction. Causes damage to organs through prolonged or repeated exposure.
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**Indication of any immediate medical attention and special treatment needed**

<b>Notes to Physician</b>	Treat symptomatically.
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## 5. FIRE-FIGHTING MEASURES

### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** Never use water.

### Specific Hazards Arising from the Chemical

Not determined.

**Hazardous Combustion Products** Toxic metal fumes may form when heated to decomposition.

### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

## 6. ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal Precautions** Use personal protective equipment as required.

**Environmental Precautions** Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information.

### Methods and material for containment and cleaning up

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Clean-Up** Keep in suitable, closed containers for disposal. Dispose of contents/container to an approved waste disposal plant.

## 7. HANDLING AND STORAGE

### Precautions for safe handling

**Advice on Safe Handling** Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves. Do not breathe dust/fume/gas/mist/vapors/spray. Wash face, hands, and any exposed skin thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep container tightly closed and store in a cool, dry and well-ventilated place. Store locked up.

**Incompatible Materials** None known based on information supplied.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Nickel 7440-02-0	TWA: 1.5 mg/m <sup>3</sup> inhalable fraction	TWA: 1 mg/m <sup>3</sup> (vacated) TWA: 1 mg/m <sup>3</sup>	IDLH: 10 mg/m <sup>3</sup> Ni TWA: 0.015 mg/m <sup>3</sup> except Nickel carbonyl Ni

**Appropriate engineering controls**

**Engineering Controls** Apply technical measures to comply with the occupational exposure limits. Showers. Eyewash stations. Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/Face Protection** Safety glasses.

**Skin and Body Protection** Wear suitable protective clothing.

**Respiratory Protection** In case of insufficient ventilation, wear suitable respiratory equipment.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

<b>Physical State</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	Silver grey solid	<b>Odor Threshold</b>	Not determined
<b>Color</b>	silver grey		

<b><u>Property</u></b>	<b><u>Values</u></b>	<b><u>Remarks • Method</u></b>
pH	Not determined	
Melting Point/Freezing Point	1455 °C / 2651 °F	
Boiling Point/Boiling Range	2732 °C / 4950 °F	
Flash Point	Not determined	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid- Not Applicable	
Upper Flammability Limits	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Specific Gravity	8.9 g/cm3	
Water Solubility	Insoluble	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Auto-ignition Temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	Not determined	
Dynamic Viscosity	Not determined	
Explosive Properties	Not determined	
Oxidizing Properties	Not determined	

## 10. STABILITY AND REACTIVITY

**Reactivity**

Not reactive under normal conditions.

**Chemical Stability**

Stable under recommended storage conditions.

**Possibility of Hazardous Reactions**

None under normal processing.

**Conditions to Avoid**

Keep out of reach of children.

**Incompatible Materials**

None known based on information supplied.

**Hazardous Decomposition Products**

Decomposition will not occur if handled and stored properly. Toxic metal fumes may form when heated to decomposition.

**11. TOXICOLOGICAL INFORMATION****Information on likely routes of exposure****Product Information**

<b>Eye Contact</b>	Avoid contact with eyes.
<b>Skin Contact</b>	May cause an allergic skin reaction.
<b>Inhalation</b>	Avoid inhalation of dust.
<b>Ingestion</b>	Do not ingest.

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Nickel 7440-02-0	> 9000 mg/kg ( Rat )	-	-

**Information on physical, chemical and toxicological effects**

<b>Symptoms</b>	Please see section 4 of this SDS for symptoms.
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**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Carcinogenicity</b>	The table below indicates whether each agency has listed any ingredient as a carcinogen. However, the product as a whole has not been tested.
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Chemical Name	ACGIH	IARC	NTP	OSHA
Nickel 7440-02-0		Group 1	Known Reasonably Anticipated	X

**Legend**

*IARC (International Agency for Research on Cancer)*

*Group 1 - Carcinogenic to Humans*

*NTP (National Toxicology Program)*

*Known - Known Carcinogen*

*Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen*

*OSHA (Occupational Safety and Health Administration of the US Department of Labor)*

*X - Present*

<b>STOT - repeated exposure</b>	May cause damage to organs through prolonged or repeated exposure.
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**Numerical measures of toxicity**

Not determined

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

Very toxic to aquatic life with long lasting effects.

**Component Information**

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Nickel 7440-02-0	0.18: 72 h Pseudokirchneriella subcapitata mg/L EC50 0.174 - 0.311: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	100: 96 h Brachydanio rerio mg/L LC50 1.3: 96 h Cyprinus carpio mg/L LC50 semi-static 10.4: 96 h Cyprinus carpio mg/L LC50 static		100: 48 h Daphnia magna mg/L EC50 1: 48 h Daphnia magna mg/L EC50 Static

**Persistence/Degradability**

Not determined.

**Bioaccumulation**

Not determined.

**Mobility**

Not determined

**Other Adverse Effects**

Not determined

**13. DISPOSAL CONSIDERATIONS****Waste Treatment Methods****Disposal of Wastes**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated Packaging**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

**US EPA Waste Number**

Chemical Name	RCRA	RCRA - Basis for Listing	RCRA - D Series Wastes	RCRA - U Series Wastes
Nickel 7440-02-0		Included in waste streams: F006, F039		

**California Hazardous Waste Status**

Chemical Name	California Hazardous Waste Status
Nickel 7440-02-0	Toxic powder Ignitable powder

**14. TRANSPORT INFORMATION****Note**

Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.

**DOT**

Not regulated

**IATA**

Not regulated

**IMDG**

Not regulated

## 15. REGULATORY INFORMATION

### International Inventories

Chemical Name	TSCA	DSL	NDSL	EINECS	ELINCS	ENCS	IECSC	KECL	PICCS	AICS
Nickel	Present	X		Present			X	Present	X	X

#### **Legend:**

*TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*

*DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List*

*EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*

*ENCS - Japan Existing and New Chemical Substances*

*IECSC - China Inventory of Existing Chemical Substances*

*KECL - Korean Existing and Evaluated Chemical Substances*

*PICCS - Philippines Inventory of Chemicals and Chemical Substances*

*AICS - Australian Inventory of Chemical Substances*

### US Federal Regulations

#### **CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Nickel 7440-02-0	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

#### **SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS No	Weight-%	SARA 313 - Threshold Values %
Nickel - 7440-02-0	7440-02-0	100	0.1

#### **CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Nickel		X	X	

### US State Regulations

#### **California Proposition 65**

This product contains the following Proposition 65 chemicals.

Chemical Name	California Proposition 65
Nickel - 7440-02-0	Carcinogen

#### **U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Nickel 7440-02-0	X	X	X

**16. OTHER INFORMATION****NFPA****Health Hazards****Flammability****Instability****Special Hazards****HMIS**

Not determined

Not determined

Not determined

Not determined

**Health Hazards****Flammability****Physical Hazards****Personal Protection**

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0

0

Not determined

**Issue Date:**

16-Apr-2015

**Revision Date:**

01-Oct-2015

**Revision Note:**

Company name change

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**End of Safety Data Sheet**