

1. Identification of the Substance/Preparation and of the Company/Undertaking**Product Identifier****Product Name** Conductive Filler**Product Code(s)** 20-8500**(M)SDS Number** 1337864_A**Other means of identification****Synonyms** None**Recommended use of the chemical and restrictions on use****Recommended Use** Laboratory use**Uses advised against** No information available**Details of the Supplier of the Safety Data Sheet****Manufacturer** Buehler**Manufacturer Address** 41 Waukegan Rd
Lake Bluff, IL 60044
www.buehler.com**Phone number** +1 847 295 6500**E-mail address** custserv@buehler.com**Emergency Telephone Number**

Global Access Code: 334545

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Middle East/Africa: +1 760 476 3959

Asia Pacific: +1 760 476 3960


Europe: +1 760 476 3961

2. Hazards Identification**Classification**

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin Sensitization	Category 1
carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

GHS Label elements, including precautionary statements**EMERGENCY OVERVIEW**

Signal Word	DANGER		
hazard statements	<p>May cause an allergic skin reaction Suspected of causing cancer Causes damage to organs through prolonged or repeated exposure May cause long lasting harmful effects to aquatic life</p>		
			
Appearance	Gray	Physical state	Solid
			Odor Odorless

Precautionary Statements - Prevention

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Do not breathe dust/fume/gas/mist/vapors/spray
 Wear protective gloves
 Avoid breathing 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
 Contaminated work clothing should not be allowed out of the workplace
 Avoid release to the environment

Precautionary Statements - Response

IF exposed or concerned: Get medical advice/attention
 Specific treatment (see supplemental first aid instructions on this label)

skin

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

Hazards Not Otherwise Classified (HNOC)

Not Applicable

Unknown toxicity

0 % of the mixture consists of ingredient(s) of unknown toxicity

OTHER INFORMATION

No information available

Interactions with other chemicals

No information available.

3. Composition/information on Ingredients

Chemical name	CAS No.	Weight-%	Trade secret
Nickel	7440-02-0	100%	*

*The exact percentage (concentration) of composition has been withheld as a trade secret

4. First Aid Measures

FIRST AID MEASURES

General advice

Show this safety data sheet to the doctor in attendance.

Eye Contact

Rinse thoroughly with plenty of water, also under the eyelids. If symptoms persist, call a physician.

Skin Contact

Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.

INHALATION

Remove to fresh air.

INGESTION

Rinse mouth immediately and drink plenty of water. Never give anything by mouth to an unconscious person.

Most Important Symptoms and Effects, Both Acute and Delayed

Most important symptoms and effects

Itching. Rashes. Hives.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Notes to physician

May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Suitable extinguishing media

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

Unsuitable Extinguishing Media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific Hazards Arising from the Chemical

Product is or contains a sensitizer. May cause sensitization by skin contact.

Uniform Fire Code Sensitizer: Solid

Explosion Data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

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. Avoid generation of dust. Avoid breathing dust/fume/gas/mist/vapors/spray. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas.

OTHER INFORMATION Refer to protective measures listed in Sections 7 and 8.

Environmental Precautions

Environmental Precautions 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. Keep out of drains, sewers, ditches and waterways.

Methods for Cleaning Up Use appropriate personal protective equipment (PPE). Carefully shovel or sweep up spilled material and place in suitable container. Avoid generating dust.

7. Handling and Storage

Precautions for Safe Handling

Handling Handle in accordance with good industrial hygiene and safety practice. Avoid generation of dust. Use with local exhaust ventilation. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

Incompatible products Acids. Oxidizing agent. Hydrogen gas. Oxygen. Aluminum. Fluorine. Ammonia.

8. Exposure Controls/Personal Protection

Control Parameters

Exposure guidelines The following ingredients are the only ingredients of the product above the cut-off level (or level that contributes to the hazard classification of the mixture) which have an exposure limit applicable in the region for which this safety data sheet is intended or other recommended limit. At this time, the other relevant constituents have no known exposure limits from the sources listed here

Chemical name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Nickel 7440-02-0	TWA: 1.5 mg/m ³	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³	IDLH: 10 mg/m ³ TWA: 0.015 mg/m ³

ACGIH TLV: American Conference of Governmental Industrial Hygienists - Threshold Limit Value OSHA PEL: Occupational Safety and Health Administration - Permissible Exposure Limits NIOSH IDLH Immediately Dangerous to Life or Health

Other Exposure Guidelines Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992)

Appropriate Engineering Controls

Engineering Measures Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Wear safety glasses with side shields (or goggles).

Skin and Body Protection Wear protective gloves and protective clothing.

Respiratory Protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Hygiene Measures Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

9. Physical and Chemical Properties

Physical and chemical properties

Physical state	Solid	Odor	Odorless
Appearance	Gray	Odor Threshold	No information available
Color	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks</u>	<u>Method</u>
pH	No data available	None known	
Melting / freezing point	1455°C	None known	
Boiling point / boiling range	2730°C	None known	
Flash Point	No data available	None known	
Evaporation Rate	No data available	None known	
Flammability (solid, gas)	No data available	None known	
Flammability Limit in Air			
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	1 mm Hg at 1810°C	None known	
Vapor density	No data available	None known	
Specific gravity	8.9 g/cm ³ at 25°C	None known	
Water Solubility	Virtually insoluble		
Solubility in Other Solvents	no data available	None known	
Partition coefficient: n-octanol/water	No data available	None known	
Autoignition temperature	No data available	None known	
Decomposition temperature	No data available	None known	
Kinematic viscosity	No data available	None known	
Dynamic viscosity	No data available	None known	
Explosive Properties	no data available		
Oxidizing Properties	no data available		

OTHER INFORMATION

Softening Point	No data available
VOC Content (%)	Not applicable
Particle Size	No data available
Particle Size Distribution	

10. Stability and Reactivity

Reactivity

No data available.

Chemical Stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to Avoid

None known based on information supplied.

Incompatible Materials

Acids. Oxidizing agent. Hydrogen gas. Oxygen. Aluminum. Fluorine. Ammonia.

Hazardous decomposition products

None known based on information supplied.

11. Toxicological Information

Information on likely routes of exposure

Product information

INHALATION	Specific test data for the substance or mixture is not available.
Eye Contact	Specific test data for the substance or mixture is not available.
Skin Contact	Specific test data for the substance or mixture is not available.
INGESTION	Specific test data for the substance or mixture is not available.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Nickel 7440-02-0	> 9000 mg/kg (Rat)	-	> 10.2 mg/L (Rat) 1 h

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Itching. Rashes. Hives.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

sensitization May cause sensitization in susceptible persons. May cause sensitization by skin contact.

Mutagenic effects No information available.

carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Nickel 7440-02-0		Group 2B	Reasonably Anticipated	X

IARC (International Agency for Research on Cancer)

Group 2B - Possibly Carcinogenic to Humans

NTP (National Toxicology Program)

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

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

X - Present

Reproductive Toxicity No information available.

STOT - Single Exposure No information available.

STOT - Repeated Exposure Causes damage to organs through prolonged or repeated exposure. Based on classification criteria from the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200), this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).

Chronic toxicity Contains a known or suspected carcinogen. Avoid repeated exposure. Prolonged exposure may cause chronic effects.

Target organ effects skin. Respiratory System. EYES. Gastrointestinal tract (GI). Lungs. Nasal cavities. kidney.

Aspiration hazard No information available.

Numerical measures of toxicity Product Information

The following values are calculated based on chapter 3.1 of the GHS document
Not Applicable

12. Ecological Information**ecotoxicity**

The environmental impact of this product has not been fully investigated.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Nickel 7440-02-0	72h EC50: = 0.18 mg/L (Pseudokirchneriella subcapitata) 96h EC50: 0.174 - 0.311 mg/L (Pseudokirchneriella subcapitata)	96h LC50: > 100 mg/L (Brachydanio rerio) 96h LC50: = 1.3 mg/L (Cyprinus carpio) 96h LC50: = 10.4 mg/L (Cyprinus carpio)		48h EC50: > 100 mg/L 48h EC50: = 1 mg/L

Persistence and Degradability

No information available.

Bioaccumulation

No information available

Other adverse effects

No information available.

13. Disposal Considerations**Waste Treatment Methods****Disposal Methods**

This material, as supplied, is not a hazardous waste according to Federal regulations (40 CFR 261). This material could become a hazardous waste if it is mixed with or otherwise comes in contact with a hazardous waste, if chemical additions are made to this material, or if the material is processed or otherwise altered. Consult 40 CFR 261 to determine whether the altered material is a hazardous waste. Consult the appropriate state, regional, or local regulations for additional requirements.

Contaminated packaging

Dispose of contents/containers in accordance with local regulations.

This product contains one or more substances that are listed with the State of California as a hazardous waste.

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

14. Transport information

DOT Not regulated

TDG Not regulated

<u>MEX</u>	Not regulated
<u>ICAO</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG/IMO</u>	Not regulated
<u>RID</u>	Not regulated
<u>ADR</u>	Not regulated
<u>ADN</u>	Not regulated

15. Regulatory Information

International Inventories

TSCA	Complies
DSL	All components are listed either on the DSL or NDSL
IECSC	-

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
 DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

US Federal Regulations

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

SARA 311/312 Hazard Categories

Acute health hazard	yes
Chronic health hazard	yes
Fire hazard	NO
Sudden Release of Pressure Hazard	NO
Reactive hazard	NO

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 7440-02-0		X	X	

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	Extremely Hazardous Substances RQs	RQ
Nickel 7440-02-0	100 lb		RQ 100 lb final RQ RQ 45.4 kg final RQ

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	Rhode Island	Illinois
Nickel 7440-02-0	X	X	X	X	X

International regulations

Mexico

National Occupational Exposure Limits

Component	Carcinogen Status	Exposure limits
Nickel 7440-02-0 (100%)		Mexico: TWA 1 mg/m ³

Mexico - Occupational Exposure Limits - Carcinogens

CANADA

WHMIS Hazard Class

Not Determined

16. Other Information

NFPA	Health hazards 2	flammability 0	Instability 0	Physical and chemical hazards - PERSONAL PROTECTION X
HMIS	Health hazards 2 *	flammability 0	Physical hazard 0	

Chronic Hazard Star Legend * = Chronic Health Hazard

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Disclaimer

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End of Safety Data Sheet