

This safety data sheet was created pursuant to the requirements of:  
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008

Issuing Date 05-Aug-2016

Revision Date 13-Apr-2017

Revision Number 2

EGHS / English

## Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**Product Name** Conductive Filler

**Product Code(s)** 20-8500

**(M)SDS Number** 1337864\_E

**Chemical name**

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Laboratory Use Only.

**Uses advised against** No information available.

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

**Manufacturer** ITW Test & Measurement GmbH

**Manufacturer Address** Boschstraße 10  
73734 Esslingen am Neckar / GERMANY  
www.buehler-met.de www.buehler.fr www.buehler.co.uk

**Phone number** +49 (0) 711 4904690-0

**E-mail Address** lab.eu@buehler.com

### 1.4. Emergency telephone number

Global Access Code: 334545

Americas: +1 760 476 3962

Middle East/Africa: +1 760 476 3959

UK: +44 8 08 189 0979

Europe: +1 760 476 3961

Asia Pacific: +1 760 476 3960

## Section 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

**Regulation (EC) No 1272/2008**

Skin sensitization	Category 1 - (H317)
Carcinogenicity	Category 2 - (H351)
Specific target organ toxicity (repeated exposure)	Category 1 - (H372)
Chronic aquatic toxicity	Category 3 - (H412)

**2.2. Label elements****Signal word****Danger****Hazard Statements**

H317 - May cause an allergic skin reaction

H351 - Suspected of causing cancer

H372 - Causes damage to organs through prolonged or repeated exposure

H412 - Harmful to aquatic life with long lasting effects

**Precautionary Statements - EU (§28, 1272/2008)**

P260 - Do not breathe dust

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P321 - Specific treatment (see supplemental first aid instructions on this label)

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P363 - Wash contaminated clothing before reuse

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

**2.3. Other hazards**

No information available

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Chemical name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH registration number
Nickel	231-111-4	7440-02-0	100%	STOT RE 1 (H372) Carc. 2 (H351) Skin Sens. 1 (H317)	

**Full text of H- and EUH-phrases: see section 16**

This product does not contain candidate substances of very high concern at a concentration  $\geq 0.1\%$  (Regulation (EC) No. 1907/2006 (REACH), Article 59)

Chemical name	CAS No	SVHC candidates
Nickel	7440-02-0	-

## Section 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>General advice</b>	Show this safety data sheet to the doctor in attendance.
<b>Inhalation</b>	Remove to fresh air.
<b>Skin contact</b>	Wash with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.

### 4.2. Most important symptoms and effects, both acute and delayed

**Symptoms** Itching. Rashes. Hives.

### 4.3. Indication of any immediate medical attention and special treatment needed

**Note to physicians** May cause sensitization in susceptible persons. Treat symptomatically.

## Section 5: FIRE FIGHTING MEASURES

### 5.1. Extinguishing media

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** No information available.

### 5.2. Special hazards arising from the substance or mixture

#### **Specific hazards arising from the chemical**

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

### 5.3. Advice for firefighters

#### **Special protective equipment for fire-fighters**

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

## Section 6: ACCIDENTAL RELEASE MEASURES

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

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**Other Information** Refer to protective measures listed in Sections 7 and 8.

**For emergency responders** Use personal protection recommended in Section 8.

### **6.2. Environmental precautions**

**Environmental precautions** Should not be released into the environment. See Section 12 for additional Ecological Information.

### **6.3. Methods and material for containment and cleaning up**

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

**Methods for cleaning up** Take up mechanically, placing in appropriate containers for disposal.

### **6.4. Reference to other sections**

**Reference to other sections** See section 8 for more information. See section 13 for more information.

## **Section 7: HANDLING AND STORAGE**

### **7.1. Precautions for safe handling**

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Do not eat, drink or smoke when using this product. Take off contaminated clothing and wash before reuse.

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

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

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

### **7.3. Specific end use(s)**

**Risk Management Methods (RMM)** The information required is contained in this Material Safety Data Sheet.

## **Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1. Control parameters**

#### **Exposure Limits**

Chemical name	EU	United Kingdom	France	Spain	Germany
Nickel 7440-02-0	-	STEL: 1.5 mg/m <sup>3</sup> TWA: 0.5 mg/m <sup>3</sup> Sk*	TWA: 1 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>	TWA: 0.006 mg/m <sup>3</sup>
Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Nickel 7440-02-0	-	TWA: 1.5 mg/m <sup>3</sup>	-	TWA: 1 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Nickel	-	TWA: 0.5 mg/m <sup>3</sup>	TWA: 0.25 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>	TWA: 0.5 mg/m <sup>3</sup>

7440-02-0				STEL: 0.15 mg/m <sup>3</sup>	STEL: 1.5 mg/m <sup>3</sup>
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**Biological occupational exposure limits**

Chemical name	Italy	Portugal	Netherlands	Finland	Denmark
Nickel 7440-02-0	-	-	-	0.1	-
Chemical name	Austria	Switzerland	Poland	Norway	Ireland
Nickel 7440-02-0	-	45	-	-	3 µg/L

**Derived No Effect Level (DNEL)** No information available

**Predicted No Effect Concentration (PNEC)** No information available

**8.2. Exposure controls****Personal protective equipment**

- Eye/face protection** Wear safety glasses with side shields (or goggles).
- Hand Protection** Wear suitable gloves.
- Skin and body protection** Wear suitable protective clothing.

**Environmental exposure controls** No information available.

**Section 9: PHYSICAL AND CHEMICAL PROPERTIES****9.1. Information on basic physical and chemical properties**

<b>Physical state</b>	Solid
<b>Appearance</b>	Gray
<b>Odor</b>	Odorless
<b>Color</b>	No information available
<b>Odor Threshold</b>	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		None known	
Upper flammability limit	No data available		
Lower flammability limit	No data available		
Vapor pressure	No data available	None known	
Vapor density	No data available	None known	
Relative density	8.9 g/cm <sup>3</sup>	None known	
Water Solubility	Virtually insoluble		
Solubility(ies)	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
Viscosity	No data available	None known

**9.2. Other information**

Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	Not applicable
Liquid Density	No information available
Bulk Density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

**Section 10: STABILITY AND REACTIVITY****10.1. Reactivity**

No data available.

**10.2. Chemical stability**

Stable under normal conditions.

Explosion Data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

**10.3. Possibility of hazardous reactions**

<b>Possibility of Hazardous Reactions</b>	None under normal processing.
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**10.4. Conditions to avoid**

None known.

**10.5. Incompatible materials**

No information available.

**10.6. Hazardous decomposition products**

None under normal use conditions.

**Section 11: TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	May cause sensitization by skin contact. Specific test data for the substance or

mixture is not available. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components).

**Ingestion**

Specific test data for the substance or mixture is not available.

**Information on toxicological effects****Symptoms**

Itching. Rashes. Hives.

**Numerical measures of toxicity****Acute Toxicity****Unknown acute toxicity**

100 % of the mixture consists of ingredient(s) of unknown toxicity

100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Nickel	> 9000 mg/kg ( Rat )	-	-

**Delayed and immediate effects as well as chronic effects from short and long-term exposure****Skin corrosion/irritation**

No information available.

**Serious eye damage/eye irritation**

No information available.

**Respiratory or skin sensitization** May cause sensitization by skin contact.

**Germ cell mutagenicity**

No information available.

**Carcinogenicity**

Classification based on data available for ingredients. Contains a known or suspected carcinogen.

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

Chemical name	EU - Annex VI Carcinogens
Nickel	Carc. 2

**Reproductive Toxicity**

No information available.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

Based on classification criteria of the Globally Harmonized System as adopted in the country or region with which this safety data sheet complies, this product has been determined to cause systemic target organ toxicity from chronic or repeated exposure. (STOT RE).

**Aspiration hazard**

No information available.

## Section 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

**Ecotoxicity** Very toxic to aquatic life with long lasting effects.

Chemical name	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Daphnia Magna (Water Flea)
Nickel	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

### 12.2. Persistence and degradability

**Persistence and Degradability** No information available.

### 12.3. Bioaccumulative potential

**Bioaccumulation** No information available.

### 12.4. Mobility in soil

**Mobility in soil** No information available.

### 12.5. Results of PBT and vPvB assessment

**PBT and vPvB assessment** No information available.

Chemical name	PBT and vPvB assessment
Nickel	

### 12.6. Other adverse effects

**Other adverse effects** No information available.

## Section 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** No information available.

## Section 14: TRANSPORT INFORMATION



**IMDG/IMO**

<b>14.1 UN-No.</b>	Not Regulated
<b>14.2 Proper Shipping Name Description</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.* UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.*, 9, III
<b>14.3 Hazard Class</b>	NOT REGULATED
<b>14.4 Packing Group</b>	NOT REGULATED
<b>14.5 Marine Pollutant Environmental hazard</b>	Not applicable Yes
<b>14.6 Special Provisions EmS-No.</b>	None F-A, S-F
<b>14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code</b>	No information available

**RID**

<b>14.1 UN-No.</b>	UN3077
<b>14.2 Proper Shipping Name Description</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.* UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.*, 9, III
<b>14.3 Hazard Class ADR/RID-Labels</b>	9 9
<b>14.4 Packing Group</b>	III
<b>14.5 Environmental hazard</b>	Yes
<b>14.6 Special Provisions Classification code</b>	None M7

**ADR**

<b>14.1 UN-No.</b>	UN3077
<b>14.2 Proper Shipping Name Description</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.* UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.*, 9, III, (E)
<b>14.3 Hazard Class</b>	9
<b>14.4 Packing Group</b>	III
<b>14.5 Environmental hazard</b>	Yes
<b>14.6 Special Provisions Classification code Tunnel restriction code</b>	None 274, 335, 601, 375 M7 (E)

**IATA**

<b>14.1 UN-No.</b>	NOT REGULATED
<b>14.2 Proper Shipping Name Description</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.* UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.*, 9, III
<b>14.3 Hazard Class</b>	NOT REGULATED
<b>14.4 Packing Group</b>	NOT REGULATED
<b>14.5 Environmental hazard</b>	Yes
<b>14.6 Special Provisions</b>	None

**Section 14: TRANSPORT INFORMATION**

**IMDG/IMO**

14.1 UN-No.	Not Regulated
14.2 Proper Shipping Name Description	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.* UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.*, 9, III
14.3 Hazard Class	NOT REGULATED
14.4 Packing Group	NOT REGULATED
14.5 Marine Pollutant Environmental hazard	Not applicable Yes
14.6 Special Provisions EmS-No.	None F-A, S-F
14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available

**RID**

14.1 UN-No.	UN3077
14.2 Proper Shipping Name Description	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.* UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.*, 9, III
14.3 Hazard Class ADR/RID-Labels	9 9
14.4 Packing Group	III
14.5 Environmental hazard	Yes
14.6 Special Provisions Classification code	None M7

**ADR**

14.1 UN-No.	UN3077
14.2 Proper Shipping Name Description	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.* UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.*, 9, III, (E)
14.3 Hazard Class	9
14.4 Packing Group	III
14.5 Environmental hazard	Yes
14.6 Special Provisions Classification code Tunnel restriction code	None 274, 335, 601, 375 M7 (E)

**IATA**

14.1 UN-No.	NOT REGULATED
14.2 Proper Shipping Name Description	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.* UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.*, 9, III
14.3 Hazard Class	NOT REGULATED
14.4 Packing Group	NOT REGULATED
14.5 Environmental hazard	Yes
14.6 Special Provisions	None

**Section 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

**National regulations****France****Occupational Illnesses (R-463-3, France)**

Chemical name	French RG number	Title
Nickel 7440-02-0	RG 37ter RG 37, RG 37bis	-

**Water hazard class (WGK)** hazardous to water (WGK 2)

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

**Authorizations and/or restrictions on use:**

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII).

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Nickel - 7440-02-0	Use restricted. See item 27.	

**Persistent Organic Pollutants**

Not applicable.

**Dangerous substance category per Seveso Directive (2012/18/EU)**

E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic

**Named dangerous substances per Seveso Directive (2012/18/EU)**

Chemical name	Lower-tier requirements (tons)	Upper-tier requirements (tons)
Nickel - 7440-02-0		1

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009**

Not applicable.

**International Inventories**

<b>TSCA</b>	Contact supplier for inventory compliance status.
<b>DSL/NDSL</b>	Contact supplier for inventory compliance status.
<b>EINECS/ELINCS</b>	Contact supplier for inventory compliance status.
<b>ENCS</b>	Contact supplier for inventory compliance status.
<b>IECSC</b>	Contact supplier for inventory compliance status.
<b>KECL</b>	Contact supplier for inventory compliance status.
<b>PICCS</b>	Contact supplier for inventory compliance status.
<b>AICS</b>	Contact supplier for inventory compliance status.

**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

## 15.2. Chemical safety assessment

No information available.

## Section 16: OTHER INFORMATION

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### **Full text of H-Statements referred to under sections 2 and 3**

H372 - Causes damage to organs through prolonged or repeated exposure

H351 - Suspected of causing cancer

H317 - May cause an allergic skin reaction

H400 - Very toxic to aquatic life

H410 - Very toxic to aquatic life with long lasting effects

#### **Legend**

SVHC: Substances of Very High Concern for Authorization:

#### **Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	-	Skin designation

#### Key literature references and sources for data

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Issuing Date** 01-Mar-2017

**Revision Date** 13-Apr-2017

**This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006.**

#### **Disclaimer**

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**End of Safety Data Sheet**