

# Synthetic diamond electro-plated wire

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 4/10/2025

Issue date: 4/10/2025 Supersedes: 6/24/2024

Version: 1.1

### SECTION 1: Identification

#### 1.1. Identification

Product form	Article
Generic name	Synthetic diamond electro-plated wire
Product code	BU Diamond



Other means of identification	2305646 DS-W 10.2 EP SP-L C&S (1m) 2305645 DS-W 10.2-25m EP SP_L C&S (25m) 2305644 DS-W 10.2-50m EP SP_L C&S (50m) 2305643 DS-W 10.2-100m EP SP_L C&S (100m) 2305654 DS-W 9.0 EP SP-L C&S (1m) 2305653 DS-W 10.8 EP SP-M/H St (1m) 2305652 DS-W 10.8-25m EP SP-M/H St (25m) 2305651 DS-W 10.8-50m EP SP-M/H St (50m) 2305650 DS-W 10.8-100m EP SP-M/H St (100m) 2305656 DS-W 9.0-100m EP SP-M/H St (1m) 2305655 DS-W 7.5-50m EP SP-M/H St (1m) and all electro-plated closed loops
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#### 1.2. Recommended use and restrictions on use

Recommended use	Cutting of concrete, reinforced concrete, steel parts in the construction industry, granite, marble and other stones
Restrictions on use	For professional use only

#### 1.3. Supplier

##### Supplier

Hilti, Inc.  
Legacy Tower, Suite 1000  
7250 Dallas Parkway  
US TX 75024 Plano  
USA  
T +1 9724035800  
1-800-879-8000 toll free, F +1 918 254 0522  
[us-sales@hilti.com](mailto:us-sales@hilti.com)

##### Department issuing data specification sheet

Hilti AG  
Feldkircherstraße 100  
FL 9494 Schaan  
Liechtenstein  
T +423 234 2111  
[product.compliance-power.tools@hilti.com](mailto:product.compliance-power.tools@hilti.com)

#### 1.4. Emergency telephone number

Emergency number	Emergency CONTACT (24-Hour-Number) GBK/Infotrac ID 101022 (USA domestic) 1 800 535 5053 or international (001) 352 323 3500
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# Synthetic diamond electro-plated wire

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### SECTION 2: Hazard(s) identification

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

##### GHS-US classification

Not classified

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

#### 2.3. Other hazards which do not result in classification

No additional information available

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

Not applicable

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

##### Comments

Synthetic diamond wires have been invented originally for the stone industry and are composed of a steel core wire mounted with beads and optionally springs. The wire can be injected with a medium, typically plastic or rubber.  
Substance concentrations are depending on product and model.

Name	Common Name (Synonyms)	Product identifier	%	GHS-US classification
Iron	iron / iron, chip / iron, foil / iron, granule / iron, wire	CAS-No.: 7439-89-6	<= 30	Not classified
nickel	elemental nickel	CAS-No.: 7440-02-0	1 – 5	Skin Sens. 1, H317 Carc. 2, H351 STOT RE 1, H372

Full text of hazard classes and H-statements : see section 16

### 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. When symptoms occur: go into open air and ventilate suspected area.

##### First-aid measures after skin contact

Gently wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

##### First-aid measures after eye contact

Do not rub eye. Rinse cautiously with water for several minutes. If eye irritation persists: Get medical advice/attention.

##### First-aid measures after ingestion

Rinse mouth.

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

##### Potential adverse human health effects and symptoms

Irritation: may cause irritation to the respiratory system.

##### Symptoms/effects after inhalation

May cause respiratory irritation.



# Synthetic diamond electro-plated wire

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<b>Synthetic diamond electro-plated wire</b>	
No additional information available	
<b>nickel (7440-02-0)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
Local name	Nickel, Elemental/Metal, as Ni
ACGIH OEL TWA	1.5 mg/m <sup>3</sup> (Inhalable fraction)
Remark (ACGIH)	TLV® Basis: Dermatitis; pneumoconiosis. Notations: A5 (Not Suspected as a Human Carcinogen)
Regulatory reference	ACGIH 2025
<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
Regulatory reference	ACGIH 2025
<b>USA - OSHA - Occupational Exposure Limits</b>	
Local name	Nickel
OSHA PEL TWA	1 mg/m <sup>3</sup> metal and insoluble compounds (as Ni) 1 mg/m <sup>3</sup> soluble compounds (as Ni)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
<b>Iron (7439-89-6)</b>	
<b>USA - ACGIH - Occupational Exposure Limits</b>	
ACGIH OEL TWA	10 mg/m <sup>3</sup> as iron oxide dust or fume

Additional information : This product is physiologically inert in its massive form. However, when used dust and / or fumes may generated and pose a physiological hazard if inhaled or ingested. Avoid inhalation of dusts as well as prolonged and repeated contact with skin to prevent mechanical irritation. Dust during usage is easily ignited and difficult to extinguish.  
Inhalation of particles in dust (from workpiece) may occur during use.  
A loud noise may occur during use.

### 8.2. Appropriate engineering controls

Appropriate engineering controls Ensure good ventilation of the work station. Use dust removal system, vacuum cleaner, air cleaner; cooling water cleaner (Hilti WMS system).

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

#### Personal protective equipment:

Dust formation: dust mask. In case of dust production: protective goggles. Gloves. Protective clothing.

<b>Hand protection:</b>				
Type	Material	Permeation	Thickness (mm)	Penetration
Protective gloves				

# Synthetic diamond electro-plated wire

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

<b>Eye protection:</b>		
Safety glasses		
<b>Type</b>	<b>Field of application</b>	<b>Characteristics</b>
Safety glasses	Dust	
<b>Skin and body protection:</b>		
Wear suitable protective clothing		
<b>Respiratory protection:</b>		
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended		
<b>Device</b>	<b>Filter type</b>	<b>Condition</b>
		Dust protection

**Personal protective equipment symbol(s):**



**Other information:**

Hazardous dust of the workpiece material may be generated during grinding / drilling and / or sanding operations. National regulations for dust exposure limit values have to be taken into consideration as part of the job hazard assessment.

Most of the dust generated during grinding is from the base material being ground and the potential hazard from this exposure must be evaluated. This dust may present a fire or dust explosion hazard and may present a serious health hazard.

## SECTION 9: Physical and chemical properties

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

Physical state	Solid
Colour	Various colours
Odour	odourless
Odour threshold	No data available
pH	No data available
Melting point	No data available
Freezing point	No data available
Boiling point	No data available
Flash point	No data available
Relative evaporation rate (butylacetate=1)	No data available
Flammability (solid, gas)	No data available
Vapour pressure	No data available
Relative vapour density at 20°C	No data available
Relative density	No data available
Solubility	insoluble in water.
Partition coefficient n-octanol/water (Log Pow)	No data available
Auto-ignition temperature	No data available
Decomposition temperature	> 400 °C
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive limits	No data available

# Synthetic diamond electro-plated wire

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Explosive properties No data available  
 Oxidising properties No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport. Product is not explosive.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

No additional information available

### 10.5. Incompatible materials

No additional information available

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral) Not classified  
 Acute toxicity (dermal) Not classified  
 Acute toxicity (inhalation) Not classified

nickel (7440-02-0)	
LD50 oral rat	> 9000 mg/kg (OECD 401 method)
LD50 oral	9000 mg/kg
LC50 Inhalation - Rat	≥ 10.2 mg/l (1 h)

Iron (7439-89-6)	
LD50 oral rat	98600 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, Oral, 14 - 28 day(s))
LC50 Inhalation - Rat	> 0.25 mg/l (6 h, Rat, Male, Experimental value, Inhalation (dust), 28 day(s))

Skin corrosion/irritation Not classified  
 Serious eye damage/irritation Not classified  
 Respiratory or skin sensitisation Not classified  
 Germ cell mutagenicity Not classified  
 Carcinogenicity Not classified

nickel (7440-02-0)	
IARC group	2B - Possibly carcinogenic to humans
National Toxicology Program (NTP) Status	Reasonably anticipated to be Human Carcinogen

# Synthetic diamond electro-plated wire

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified

<b>nickel (7440-02-0)</b>	
LOAEC (inhalation, rat, dust/mist/fume, 90 days)	0.1 mg/m <sup>3</sup> (2 years; (OECD 451 method))
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.

Aspiration hazard	Not classified
Viscosity, kinematic	No data available
Likely routes of exposure	Inhalation.
Potential adverse human health effects and symptoms	Irritation: may cause irritation to the respiratory system.
Symptoms/effects after inhalation	May cause respiratory irritation.
Symptoms/effects after eye contact	May cause severe irritation.

## SECTION 12: Ecological information

### 12.1. Toxicity

<b>nickel (7440-02-0)</b>	
LC50 - Fish [1]	15.3 mg/l (96h; Oncorhynchus mykiss (Rainbow trout))
EC50 - Other aquatic organisms [1]	0.0276 mg/l (48h; Ceriodaphnia dubia)
EC50 72h - Algae [1]	0.0815 mg/l (72h; Pseudokirchneriella subcapitata; (OECD 201 method))
NOEC chronic fish	0.057 mg/l (32 d; Pimephales promelas)
NOEC chronic crustacea	0.0037 mg/l (10 d; Ceriodaphnia dubia; (OECD 211 method))

### 12.2. Persistence and degradability

<b>nickel (7440-02-0)</b>	
Persistence and degradability	Not applicable for inorganic substances.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
<b>Iron (7439-89-6)</b>	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

### 12.3. Bioaccumulative potential

<b>nickel (7440-02-0)</b>	
BCF - Other aquatic organisms [1]	8 – 45 (≤ 4 week(s), Cambarus sp., Flow-through system, Fresh water, Experimental value, Fresh weight)
Bioaccumulative potential	Not applicable for inorganic substances.
<b>Iron (7439-89-6)</b>	
Bioaccumulative potential	Not bioaccumulative.

# Synthetic diamond electro-plated wire

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### 12.4. Mobility in soil

nickel (7440-02-0)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.
Iron (7439-89-6)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for mobility in soil.

### 12.5. Other adverse effects

Other information Do not allow the product, as is, to spread into the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Regional waste regulation Disposal must be done according to official regulations.  
 Product/Packaging disposal recommendations Dispose in a safe manner in accordance with local/national regulations. Avoid release to the environment.  
 Ecological information Avoid release to the environment. Hazardous waste due to toxicity.

## SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
<b>14.1. UN number</b>			
Not regulated for transport			
<b>14.2. Proper Shipping Name</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

### 14.6. Special precautions for user

**DOT**  
Not regulated

**TDG**  
Not regulated

**IMDG**  
Not regulated

# Synthetic diamond electro-plated wire

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

### IATA

Not regulated

### 14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

nickel	CAS-No. 7440-02-0	1 – 5%
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#### nickel (7440-02-0)

CERCLA RQ	100 lb
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### 15.2. International regulations

#### nickel (7440-02-0)

Listed on IARC (International Agency for Research on Cancer)  
Listed as carcinogen on NTP (National Toxicology Program)

### 15.3. US State regulations



#### WARNING:

This product can expose you to Nickel (Metallic), which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date 04/10/2025

### Full text of H-statements

H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H372	Causes damage to organs through prolonged or repeated exposure.

### Abbreviations and acronyms

CAS-No.	Chemical Abstract Service number
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate

# Synthetic diamond electro-plated wire

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Abbreviations and acronyms	
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disrupting properties
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
IOELV	Indicative Occupational Exposure Limit Value
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
N.O.S.	Not Otherwise Specified
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
TRGS	Technical Rules for Hazardous Substances
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds

# Synthetic diamond electro-plated wire

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Abbreviations and acronyms	
WGK	Water Hazard Class
vPvB	Very Persistent and Very Bioaccumulative

NFPA health hazard

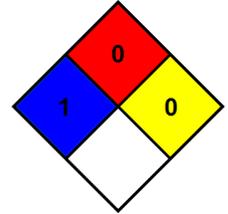
1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard

0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health

1 Slight Hazard - Irritation or minor reversible injury possible

Flammability

0 Minimal Hazard - Materials that will not burn

Physical

0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

Indication of changes:			
Section	Changed item	Change	Comments
8.1	Occupational Exposure Limits	Modified	

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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.