

Synthetic Diamond Sintered Wire

Safety Data Sheet

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

Revision date: 4/9/2025

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Supersedes: 6/24/2024

Version: 1.1

SECTION 1: Identification

1.1. Identification

Product form
Generic name
Product code

Article
Synthetic Diamond Sintered Wire
BU Diamond



Other means of identification

2299888 DS-W 10.5-25m SI SPX-M/H (25m)
2299887 DS-W 10.5-50m SI SPX-M/H (50m)
2299886 DS-W 10.5-100m SI SPX-M/H (100m)
2294845 DS-W 10.5-100' SI SPX-M/H
2305669 DS-W 10.5-25m SI SPX-M-Abr (25m)
2305670 DS-W 10.5-50m SI SPX-M-Abr (50m)
2305671 DS-W 10.5-100m SI SPX-M-Abr (100m)
2305666 DS-W 10.5-25m SI SPX-H-Abr (25m)
2305667 DS-W 10.5-50m SI SPX-H-Abr (50m)
2305668 DS-W 10.5-100m SI SPX-H-Abr (100m)
2357238 DS-W 10.5-100m SI SPX-L/M
2415477 DS-W 15.0 SI SP-M/H
and all sintered wire closed loops

1.2. Recommended use and restrictions on use

Recommended use

Cutting of concrete, reinforced concrete, 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

Department issuing data specification sheet

Hilti AG
Feldkircherstraße 100
FL 9494 Schaan
Liechtenstein
T +423 234 2111
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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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
copper	copper bronze, powder / copper, powder	CAS-No.: 7440-50-8	1 – 70	Not classified
Iron	iron / iron, chip / iron, foil / iron, granule / iron, wire	CAS-No.: 7439-89-6	1 – 60	Not classified
Tin	alpha-tin / silver matt / tin	CAS-No.: 7440-31-5	1 – 60	Not classified
tungsten carbide		CAS-No.: 12070-12-1	1 – 60	Carc. 1B, H350 STOT RE 2, H373

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.

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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.
Symptoms/effects after eye contact	May cause severe irritation.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	Use extinguishing agent suitable for surrounding fire. Water. Sand. Foam. Carbon dioxide.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	Not flammable.
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5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

No additional information available

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Shovel into suitable and closed container for disposal.
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6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed	Normal use of this product shall imply use in accordance with the instructions on the packaging and in line with the expectations of a professional user.
Precautions for safe handling	The product should not be used for purposes other than those shown above without first referring to the supplier and obtaining written handling instructions.
Hygiene measures	Do not eat, drink or smoke when using this product. Always wash hands after handling the product. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	Store in a dry place. Protect from moisture. Keep away from heat and direct sunlight. Keep away from ignition sources.
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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Synthetic Diamond Sintered Wire	
No additional information available	
copper (7440-50-8)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Copper, as Cu
ACGIH OEL TWA	0.2 mg/m ³
Remark (ACGIH)	TLV® Basis: Irr; GI; metal fume fever
Regulatory reference	ACGIH 2025
USA - OSHA - Occupational Exposure Limits	
Local name	Copper
OSHA PEL TWA	0.1 mg/m ³ (Fume (as Cu)) 1 mg/m ³ (Dusts and mists (as Cu))
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Tin (7440-31-5)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Tin, metal, as Sn
ACGIH OEL TWA	2 mg/m ³ (Inhalable fraction)
Remark (ACGIH)	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2025
USA - OSHA - Occupational Exposure Limits	
Local name	Tin
OSHA PEL TWA	2 mg/m ³ (inorganic compounds (except oxides) (as Sn)) 0.1 mg/m ³ (organic compounds (as Sn))
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Iron (7439-89-6)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	10 mg/m ³ as iron oxide dust or fume
tungsten carbide (12070-12-1)	
USA - ACGIH - Occupational Exposure Limits	
Local name	Hard metals containing Tungsten carbide, as Co
ACGIH OEL TWA	3 mg/m ³ (Respirable fraction)
Remark (ACGIH)	TLV® Basis: Pneumonitis. Notations: RSEN; A2 (Suspected Human Carcinogen)
Regulatory reference	ACGIH 2025

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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.

Hand protection:				
Type	Material	Permeation	Thickness (mm)	Penetration
Protective gloves				
Eye protection:				
Safety glasses				
Type		Field of application	Characteristics	
Safety glasses		Dust		
Skin and body protection:				
Wear suitable protective clothing				
Respiratory protection:				
Where exposure through inhalation may occur from use, respiratory protection equipment is recommended				
Device		Filter type	Condition	
			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

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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
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

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copper (7440-50-8)	
LC50 Inhalation - Rat (Dust/Mist)	> 5.11 mg/l/4h (OECD 436 method)
Tin (7440-31-5)	
LD50 oral rat	> 2000 mg/kg (OECD 423 method);No mortality with the given dose
LD50 dermal rat	> 2000 mg/kg (OECD 402 method);No mortality with the given dose
LC50 Inhalation - Rat	> 4.75 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity), Guideline: EU Method B.2 (Acute Toxicity (Inhalation)), Guideline: EPA OPPTS 870.1300 (Acute inhalation toxicity), Remarks on results: not determinable due to absence of adverse toxic effects
LC50 Inhalation - Rat (Dust/Mist)	> 4.75 mg/l (OECD 403 method);No mortality with the given dose
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))
tungsten carbide (12070-12-1)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401 method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
LD50 dermal rabbit	> 2000 mg/kg bodyweight (OECD 402 method)
LC50 Inhalation - Rat	> 5.3 mg/l air Animal: rat, Guideline: OECD Guideline 403 (Acute Inhalation Toxicity)
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
tungsten carbide (12070-12-1)	
IARC group	2A - Probably carcinogenic to humans
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
STOT-repeated exposure	Not classified
Tin (7440-31-5)	
NOAEL (subacute, oral, animal/female, 28 days)	> 1000 mg/kg bodyweight/day (OECD 407 method)
tungsten carbide (12070-12-1)	
STOT-repeated exposure	May cause 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.

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SECTION 12: Ecological information

12.1. Toxicity

Tin (7440-31-5)	
ErC50 algae	> 19.2 µg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Tin)
LOEC (chronic)	0.2 mg/l (7d; Ceriodaphnia dubia; EPA 1002.0)
tungsten carbide (12070-12-1)	
LC50 - Fish [1]	> 1000 mg/l (96 h; Danio rerio; (OECD 403 method))
EC50 - Crustacea [1]	> 1000 mg/l (48 h; Daphnia magna; (OECD 202 method))
EC50 72h - Algae [1]	> 1 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	≥ 31 mg/l (Tungsten (W); 72 h; Raphidocelis subcapitata; (OECD 201 method))
NOEC chronic fish	≥ 9.8 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio) Duration: '38 d'

12.2. Persistence and degradability

copper (7440-50-8)	
Persistence and degradability	Not applicable for inorganic substances.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
Tin (7440-31-5)	
Persistence and degradability	Not applicable for inorganic substances.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
Iron (7439-89-6)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
tungsten carbide (12070-12-1)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

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12.3. Bioaccumulative potential

copper (7440-50-8)	
Bioaccumulative potential	Bioaccumulation: not applicable.
Tin (7440-31-5)	
Bioaccumulative potential	Not applicable for inorganic substances.
Iron (7439-89-6)	
Bioaccumulative potential	Not bioaccumulative.
tungsten carbide (12070-12-1)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

copper (7440-50-8)	
Ecology - soil	Adsorbs into the soil.
Tin (7440-31-5)	
Surface tension	Not applicable (water solubility < 1 mg/l)
Ecology - soil	Adsorbs into the soil.
Iron (7439-89-6)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for mobility in soil.
tungsten carbide (12070-12-1)	
Ecology - soil	Adsorbs into the 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
14.1. UN number			
Not regulated for transport			

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DOT	TDG	IMDG	IATA
14.2. Proper Shipping Name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
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

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.

copper	CAS-No. 7440-50-8	1 – 70%
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copper (7440-50-8)

CERCLA RQ	5000 lb
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15.2. International regulations

tungsten carbide (12070-12-1)

Listed on IARC (International Agency for Research on Cancer)

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15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

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Revision date

04/09/2025

Full text of H-statements	
H350	May cause cancer.
H373	May cause 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
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

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

NFPA health hazard

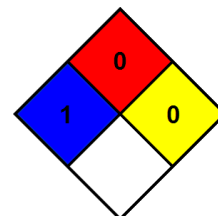
1 - Materials that, under emergency conditions, can cause significant irritation.

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
1	Product name	Modified	
8.1	Occupational Exposure Limits	Modified	

SDS_US_Hilti

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.