

Abrasive Products

Safety Data Sheet

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

Date of issue: 12/15/2015

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Version: 1.0

SECTION 1: Identification

1.1. Identification

Product form	Article
Name	AB-Z, AC-D, AF-D
Product code	BU ET&A

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

Use of the substance/mixture	grinding / sanding of different kinds of materials
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1.3. Details of the supplier of the safety data sheet

Supplier	Department issuing data specification sheet
Hilti, Inc.	Hilti Entwicklungsgesellschaft mbH
Legacy Tower, Suite 1000	Hiltistrasse 6
75024 Plano - USA	86916 Kaufering - Deutschland
T +1 9724035800	T +49 8191 906310 - F +49 8191 90176310
1-800-879-8000 toll free - F +1 918 254 0522	anchor.hse@hilti.com

1.4. Emergency telephone number

Emergency number	Chem-Trec
	Tel.: 1 800 424 9300 (USA, PR, Virgin Islands, Canada)
	Tel.: 703 527 3887 (Other countries)
	+1 918 8723000
	1-800-879-8000 toll free

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. Label elements

GHS-US labelling

No labelling applicable

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substance

Not applicable

3.2. Mixture

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Name	Product identifier	%	GHS-US classification
Aluminium oxide	(CAS No) 1344-28-1	<= 80	Not classified
silicon carbide	(CAS No) 409-21-2	<= 75	Not classified
zirconium(IV)oxide	(CAS No) 1314-23-4	<= 75	Resp. Sens. 1, H334 Skin Sens. 1, H317
pyrite (FeS2)	(CAS No) 1309-36-0	<= 20	Eye Irrit. 2A, H319
cryolite	(CAS No) 15096-52-3	<= 15	Acute Tox. 4 (Inhalation), H332 STOT RE 1, H372 Aquatic Chronic 2, H411
calcium oxide	(CAS No) 1305-78-8	<= 10	Skin Corr. 1A, H314 Eye Dam. 1, H318 STOT SE 3, H335
potassiumtetrafluoroborate	(CAS No) 14075-53-7	<= 10	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT SE 3, H335
calcium fluoride	(CAS No) 7789-75-5	<= 10	Not classified
barium sulfate	(CAS No) 7727-43-7	<= 10	Not classified
Calcium Carbonate	(CAS No) 471-34-1	<= 10	Not classified
potassium sulfate	(CAS No) 7778-80-5	<= 10	Not classified
graphite	(CAS No) 7782-42-5	<= 5	Not classified
trisodium hexafluoroaluminate	(CAS No) 13775-53-6	<= 5	Acute Tox. 4 (Inhalation), H332 STOT RE 1, H372 Aquatic Chronic 2, H411
fiberglass	(CAS No) 65997-17-3	<= 5	Not classified

Full text of 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	Rinse eyes with water as a precaution. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	Rinse mouth.

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

Symptoms/injuries after inhalation	May cause respiratory irritation.
Symptoms/injuries after eye contact	May cause severe irritation.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water. Sand. Foam. Carbon dioxide.
Unsuitable extinguishing media	Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard	Not flammable.
Reactivity	The product is non-reactive under normal conditions of use, storage and transport. Product is not explosive.

5.3. Advice for firefighters

Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.
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graphite (7782-42-5)		
ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³ (Graphite (all forms except graphite fibers); USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Respirable fraction)
calcium oxide (1305-78-8)		
ACGIH	ACGIH TWA (mg/m ³)	2 mg/m ³
ACGIH	Remark (ACGIH)	URT irr
OSHA	OSHA PEL (TWA) (mg/m ³)	5 mg/m ³
zirconium(IV)oxide (1314-23-4)		
ACGIH	ACGIH TWA (mg/m ³)	5 mg/m ³
ACGIH	ACGIH STEL (mg/m ³)	10 mg/m ³
silicon carbide (409-21-2)		
ACGIH	ACGIH TWA (mg/m ³)	3 mg/m ³ (Silicon carbide, nonfibrous; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Respirable fraction. The value is for particulate matter containing no asbestos and < 1% crystalline silica; Silicon carbide, fibrous (including whiskers); 0.1 fibers/cm ³ ; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Respirable fibers: length > 5 µm; aspect ratio ≥ 3:1, as determined by the membrane filter method at 400-450X magnification (4-mm objective), using phase-contrast illumination; Silicon carbide, nonfibrous; 10 mg/m ³ ; USA; Time-weighted average exposure limit 8 h; TLV - Adopted Value; Inhalable fraction. The value is for particulate matter containing no asbestos and < 1% crystalline silica)

8.2. Exposure controls

Appropriate engineering controls

Ensure good ventilation of the work station.

Personal protective equipment

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



Hand protection

Wear leather gloves.

Eye protection

Safety glasses.

Skin and body protection

Wear suitable protective clothing.

Respiratory protection

Where exposure through inhalation may occur from use, respiratory protection equipment is recommended.

Consumer exposure controls

Avoid contact during pregnancy/while nursing.

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	Mixture contains one or more component(s) which have the following colour(s): Yellow-green Unpurified: blue-black White to yellow-brown Pure substance: colourless to white-grey Unpurified: yellow to brown Commercial substance: yellow to brown Golden-yellow Colourless or white Grey-black Colourless to white-grey White to yellow White Colourless to white
Odour	There may be no odour warning properties, odour is subjective and inadequate to warn of overexposure. Mixture contains one or more component(s) which have the following odour(s): Odourless No data available on odour
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
Explosive limits	No data available
Explosive properties	No data available
Oxidising properties	No data available
Vapour pressure	No data available
Relative density	No data available
Relative vapour density at 20 °C	No data available
Solubility	insoluble in water.
Log Pow	No data available
Auto-ignition temperature	No data available
Decomposition temperature	> 400 °C
Viscosity	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	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

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Carcinogenicity	Not classified
Reproductive toxicity	Not classified
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	Not classified
Potential adverse human health effects and symptoms	Irritation: may cause irritation to the respiratory system.
Symptoms/injuries after inhalation	May cause respiratory irritation.
Symptoms/injuries after eye contact	May cause severe irritation.

SECTION 12: Ecological information

12.1. Toxicity

potassium sulfate (7778-80-5)	
EC50 Daphnia 1	890 mg/l (EC50; 48 h)
LC50 fish 2	653 - 796 mg/l (LC50; 96 h; Lepomis macrochirus)
Threshold limit algae 1	2900 mg/l (EC50; 72 h)
trisodium hexafluoroaluminate (13775-53-6)	
EC50 Daphnia 2	156 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit algae 2	3.2 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Selenastrum capricornutum; Static system; Fresh water; Experimental value)
cryolite (15096-52-3)	
EC50 Daphnia 2	156 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit algae 2	3.2 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Selenastrum capricornutum; Static system; Fresh water; Experimental value)
Calcium Carbonate (471-34-1)	
LC50 fish 1	> 100 % (96 h; Oncorhynchus mykiss)
EC50 Daphnia 1	> 100 % (48 h; Daphnia magna)
TLM fish 1	> 56000 mg/l (96 h; Gambusia affinis)
Threshold limit algae 1	> 14 mg/l (72 h; Desmodesmus subspicatus; GLP)
Threshold limit algae 2	14 mg/l (72 h; Desmodesmus subspicatus; GLP)
barium sulfate (7727-43-7)	
EC50 Daphnia 1	32 mg/l (EC50; 48 h)
Threshold limit algae 1	≥1.92,NOEC; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value
calcium fluoride (7789-75-5)	
LC50 fish 1	30000 ppm (LC50)
Threshold limit algae 1	50 mg/l (NOEC; 21 days)
graphite (7782-42-5)	
LC50 fish 1	> 100 mg/l (LC50; OECD 203: Fish, Acute Toxicity Test; 96 h; Danio rerio; Static system; Fresh water; Experimental value)

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graphite (7782-42-5)	
EC50 Daphnia 1	> 100 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Experimental value)
Threshold limit algae 1	> 100 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)
Threshold limit algae 2	> 100 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Experimental value)

calcium oxide (1305-78-8)	
EC50 Daphnia 2	49.1 mg/l (EC50; OECD 202: Daphnia sp. Acute Immobilisation Test; 48 h; Daphnia magna; Static system; Fresh water; Read-across)
Threshold limit algae 1	184.57 mg/l (EC50; OECD 201: Alga, Growth Inhibition Test; 72 h; Pseudokirchneriella subcapitata; Static system; Fresh water; Read-across)

12.2. Persistence and degradability

fiberglass (65997-17-3)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

potassium sulfate (7778-80-5)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

trisodium hexafluoroaluminate (13775-53-6)	
Persistence and degradability	Biodegradability: not applicable. Low potential for mobility in soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

cryolite (15096-52-3)	
Persistence and degradability	Biodegradability: not applicable. Low potential for mobility in soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

Calcium Carbonate (471-34-1)	
Persistence and degradability	Biodegradability: not applicable. Biodegradability in soil: not applicable. Adsorbs into the soil.
ThOD	Not applicable (inorganic)

barium sulfate (7727-43-7)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

calcium fluoride (7789-75-5)	
Persistence and degradability	Biodegradability: not applicable.

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calcium fluoride (7789-75-5)	
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
graphite (7782-42-5)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
potassiumtetrafluoroborate (14075-53-7)	
Persistence and degradability	Biodegradability in soil: not applicable. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
pyrite (FeS₂) (1309-36-0)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
calcium oxide (1305-78-8)	
Persistence and degradability	Biodegradability: not applicable. No (test)data on mobility of the substance available.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
zirconium(IV)oxide (1314-23-4)	
Persistence and degradability	Biodegradability: not applicable. Biodegradability in soil: not applicable. Adsorbs into the soil.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
silicon carbide (409-21-2)	
Persistence and degradability	Biodegradability: not applicable.
Biochemical oxygen demand (BOD)	Not applicable
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable

12.3. Bioaccumulative potential

fiberglass (65997-17-3)	
Bioaccumulative potential	No bioaccumulation data available.
potassium sulfate (7778-80-5)	
Bioaccumulative potential	Not bioaccumulative.
trisodium hexafluoroaluminate (13775-53-6)	
Bioaccumulative potential	Bioaccumulation: not applicable.

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cryolite (15096-52-3)	
Bioaccumulative potential	Bioaccumulation: not applicable.
Calcium Carbonate (471-34-1)	
Log Pow	-2.12 (Estimated value)
Bioaccumulative potential	Bioaccumulation: not applicable.
barium sulfate (7727-43-7)	
BCF fish 1	68.4 (BCF; Lepomis macrochirus)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
calcium fluoride (7789-75-5)	
Bioaccumulative potential	No bioaccumulation data available.
graphite (7782-42-5)	
Bioaccumulative potential	No bioaccumulation data available.
potassiumtetrafluoroborate (14075-53-7)	
Bioaccumulative potential	No bioaccumulation data available.
pyrite (FeS₂) (1309-36-0)	
Bioaccumulative potential	No bioaccumulation data available.
calcium oxide (1305-78-8)	
Bioaccumulative potential	Not bioaccumulative.
zirconium(IV)oxide (1314-23-4)	
Bioaccumulative potential	Not bioaccumulative.
silicon carbide (409-21-2)	
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

trisodium hexafluoroaluminate (13775-53-6)	
Ecology - soil	Toxic to soil organisms.
cryolite (15096-52-3)	
Ecology - soil	Toxic to soil organisms.

12.5. Other adverse effects

Effect on the global warming	No known ecological damage caused by this product.
Other information	Do not allow the product, as is, to spread into the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	Disposal must be done according to official regulations.
Waste disposal recommendations	Dispose in a safe manner in accordance with local/national regulations. Avoid release to the environment.
Ecology - waste materials	Avoid release to the environment. Hazardous waste due to toxicity.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

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ADR	IMDG	IATA	RID
14.1. UN number			
Not regulated for transport			
14.2. UN proper shipping name			
Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)			
Not applicable	Not applicable	Not applicable	Not applicable
Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group			
Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards			
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available			

14.6. Special precautions for user

- Overland transport

- Transport by sea

No data available

- Air transport

No data available

- Rail transport

Carriage prohibited (RID) No

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, 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.

Aluminium oxide	CAS No 1344-28-1	<= 80%
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Aluminium oxide (1344-28-1)

Subject to reporting requirements of United States SARA Section 313

15.2. International regulations

CANADA

No additional information available

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EU-Regulations

No additional information available

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Not classified

National regulations

No additional information available

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

Revision date

12/15/2015

Full text of H-statements:

Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Aquatic Chronic 2	Hazardous to the aquatic environment — Chronic Hazard, Category 2
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Resp. Sens. 1	Sensitisation — Respiratory, Category 1
Skin Corr. 1A	Skin corrosion/irritation, Category 1A
Skin Irrit. 2	Skin corrosion/irritation, Category 2
Skin Sens. 1	Sensitisation — Skin, Category 1
STOT RE 1	Specific target organ toxicity — Repeated exposure, Category 1
STOT SE 3	Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation
H302	Harmful if swallowed
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H372	Causes damage to organs through prolonged or repeated exposure
H411	Toxic to aquatic life with long lasting effects

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NFPA health hazard

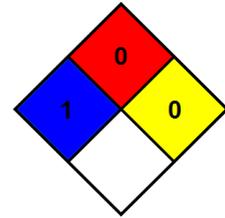
1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard

0 - Materials that will not burn.

NFPA reactivity

0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III 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.

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