

Abrasive Products AB-Z, AC-D, AF-D, AG-D, AN-D, A24 R

Safety Data Sheet

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

Revision date: 10/29/2025

Issue date: 10/29/2025

Supersedes: 4/1/2025 Version: 1.6

SECTION 1: Identification

1.1. Identification

Product form	Article
Trade name	Abrasive Products AB-Z, AC-D, AF-D, AG-D, AN-D, A24 R
Product code	BU ET&A

1.2. Other means of identification

No additional information available

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture	Milling, grinding and similar activities
Restrictions on use	For professional use only

1.4. Supplier's details

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
Feldkircher Strasse 100
FL 9494 Schaan
Liechtenstein
T +423 234 2111
product.compliance-power.tools@hilti.com

1.5. Emergency phone 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

GHS US labelling

No labelling applicable

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity (GHS US)

Not applicable

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
silicon carbide	CAS-No.: 409-21-2	< 100	Carc. 1B, H350
Aluminium oxide	CAS-No.: 1344-28-1	< 100	Not classified
zirconium dioxide	CAS-No.: 1314-23-4	< 80	Not classified
iron sulfide	CAS-No.: 12068-85-8	0 - 40	Resp. Sens. 1, H334 Skin Sens. 1, H317
phenol/formaldehyde, resins	CAS-No.: 9003-35-4	0 - 30	Skin Irrit. 2, H315 Eye Irrit. 2, H319
graphite	CAS-No.: 7782-42-5	0 - 30	Not classified
fiberglass	CAS-No.: 65997-17-3	0 - 30	Carc. 2, H351
trisodium hexafluoroaluminate	CAS-No.: 13775-53-6	0 - 30	Acute Tox. 4 (Inhalation), H332 STOT RE 1, H372
aluminum potassium fluoride	CAS-No.: 60304-36-1	0 - 30	Acute Tox. 4 (Inhalation), H332 Eye Irrit. 2, H319 Lact., H362 STOT RE 1, H372
barium sulfate	CAS-No.: 7727-43-7	0 - 10	Not classified
calcium fluoride	CAS-No.: 7789-75-5	0 - 10	Not classified
calcium oxide	CAS-No.: 1305-78-8	0 - 10	Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT SE 3, H335
calcium carbonate	CAS-No.: 471-34-1	0 - 10	Not classified
titanium dioxide	CAS-No.: 13463-67-7	0 - 5	Carc. 2, H351
wollastonite, natural	CAS-No.: 13983-17-0	0 - 5	Not classified
sulfur	CAS-No.: 7704-34-9	≥ 1	Skin Irrit. 2, H315
feldspars	CAS-No.: 68476-25-5	0 - 5	Eye Irrit. 2, H319 STOT SE 3, H335
pyrophyllite	CAS-No.: 12269-78-2	0 - 5	Eye Irrit. 2, H319

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 general

If you feel unwell, seek medical advice.

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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. If necessary seek medical advice.

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 skin contact	None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
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	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.
Explosion hazard	No direct explosion hazard.
Hazardous decomposition products in case of fire	Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	Use extinguishing agent suitable for surrounding fire.
Protection during firefighting	Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	Notify authorities if product enters sewers or public waters.
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For non-emergency personnel

Protective equipment	Wear recommended personal protective equipment.
Emergency procedures	Ventilate spillage area.

For emergency responders

Protective equipment	Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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Environmental precautions	Avoid release to the environment.
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6.2. Methods and materials for containment and cleaning up

For containment	Using a clean shovel, put the material in a dry container and cover without compressing it.
Methods for cleaning up	Shovel into suitable and closed container for disposal.
Other information	Dispose of materials or solid residues at an authorized site.

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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.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

Store in a dry place.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Abrasive Products AB-Z, AC-D, AF-D, AG-D, AN-D, A24 R	
No additional information available	
trisodium hexafluoroaluminate (13775-53-6)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	2.5 mg/m ³
aluminum potassium fluoride (60304-36-1)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	2.5 mg/m ³
barium sulfate (7727-43-7)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
Local name	Barium sulfate
ACGIH® TLV® TWA	5 mg/m ³ (I - Inhalable particulate matter, E - The value is for particulate matter containing no asbestos and < 1 % crystalline silica)
Remark (ACGIH®)	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2025
USA - OSHA - Occupational Exposure Limits	
Local name	Barium sulfate
OSHA PEL TWA	15 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

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barium sulfate (7727-43-7)	
USA - NIOSH - Occupational Exposure Limits	
Local name	Barium sulfate
NIOSH REL 10h TWA	10 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)
Regulatory reference (US-NIOSH)	OSHA Annotated Table Z-1 (NIOSH Pocket Guide to Chemical Hazards (NPG))
calcium fluoride (7789-75-5)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	2.5 mg/m ³
graphite (7782-42-5)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
Local name	Graphite, all forms except graphite fibers
ACGIH® TLV® TWA	2 mg/m ³ (R - Respirable particulate matter)
Remark (ACGIH®)	TLV® Basis: Pneumoconiosis
Regulatory reference	ACGIH 2025
USA - OSHA - Occupational Exposure Limits	
Local name	Graphite (Natural)
OSHA PEL TWA	15 mppcf
Remark (OSHA)	Table Z-3. CAS No. source: eCFR Table Z-1.
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-3 Mineral Dusts
USA - NIOSH - Occupational Exposure Limits	
Local name	Graphite (Natural)
NIOSH REL 10h TWA	2.5 mg/m ³ (Respirable fraction)
Regulatory reference (US-NIOSH)	OSHA Annotated Table Z-3 Mineral Dusts (NIOSH Pocket Guide to Chemical Hazards (NPG))
calcium oxide (1305-78-8)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
Local name	Calcium oxide
ACGIH® TLV® TWA	2 mg/m ³
Remark (ACGIH®)	URT irr
Regulatory reference	ACGIH 2025
USA - OSHA - Occupational Exposure Limits	
Local name	Calcium oxide
OSHA PEL TWA	5 mg/m ³

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calcium oxide (1305-78-8)	
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - NIOSH - Occupational Exposure Limits	
Local name	Calcium oxide
NIOSH REL 10h TWA	2 mg/m ³
Regulatory reference (US-NIOSH)	OSHA Annotated Table Z-1 (NIOSH Pocket Guide to Chemical Hazards (NPG))
zirconium dioxide (1314-23-4)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	5 mg/m ³
ACGIH® TLV® STEL	10 mg/m ³
silicon carbide (409-21-2)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
Local name	Silicon carbide
ACGIH® TLV® TWA	10 mg/m ³ (Non fibrous. E - The value is for particulate matter containing no asbestos and < 1 % crystalline silica, I - Inhalable particulate matter)
	3 mg/m ³ (Non fibrous. E - The value is for particulate matter containing no asbestos and < 1 % crystalline silica, R - Respirable particulate matter)
	0.1 fibers/cm ³ (Fibrous (including whiskers). F - Respirable fibers)
Remark (ACGIH®)	Non fibrous = TLV® Basis: Pulm dam Fibrous (including whiskers) = TLV® Basis: Lung fibrosis; cancer. Notations: A2 (Suspected Human Carcinogen)
Regulatory reference	ACGIH 2025
USA - OSHA - Occupational Exposure Limits	
Local name	Silicon carbide
OSHA PEL TWA	15 mg/m ³ (Total dust)
	5 mg/m ³ (Respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - NIOSH - Occupational Exposure Limits	
Local name	Silicon carbide
NIOSH REL 10h TWA	10 mg/m ³ (Total dust)
	5 mg/m ³ (Respirable fraction)
Regulatory reference (US-NIOSH)	OSHA Annotated Table Z-1 (NIOSH Pocket Guide to Chemical Hazards (NPG))
Aluminium oxide (1344-28-1)	
No additional information available	
USA - OSHA - Occupational Exposure Limits	
Local name	alpha-Alumina

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Aluminium oxide (1344-28-1)	
OSHA PEL TWA	15 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
iron sulfide (12068-85-8)	
No additional information available	
phenol/formaldehyde, resins (9003-35-4)	
No additional information available	
calcium carbonate (471-34-1)	
No additional information available	
titanium dioxide (13463-67-7)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
Local name	Titanium dioxide
ACGIH® TLV® TWA	0.2 mg/m ³ (Nanoscale particles. R - Respirable particulate matter) 2.5 mg/m ³ (Finescale particles. R - Respirable particulate matter)
Remark (ACGIH®)	TLV® Basis: LRT irr; pneumoconiosis. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans)
Regulatory reference	ACGIH 2025
USA - OSHA - Occupational Exposure Limits	
Local name	Titanium dioxide (Total dust)
OSHA PEL TWA	15 mg/m ³
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
USA - NIOSH - Occupational Exposure Limits	
Local name	Titanium dioxide (Total dust)
NIOSH REL 10h TWA	2.4 mg/m ³ (fine) 0.3 mg/m ³ (ultrafine)
Remark (NIOSH)	Ca = Potential occupational carcinogens (ultrafine particles)
Regulatory reference (US-NIOSH)	OSHA Annotated Table Z-1 (NIOSH Pocket Guide to Chemical Hazards (NPG))
fiberglass (65997-17-3)	
No additional information available	

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fiberglass (65997-17-3)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	1 fibers/cm ³ (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) 1 fibers/cm ³ (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) 5 mg/m ³ (Inhalable fraction)
wollastonite,natural (13983-17-0)	
No additional information available	
USA - ACGIH - Occupational Exposure Limits	
Local name	Calcium silicate, naturally occurring as Wollastonite
ACGIH® TLV® TWA	3 mg/m ³ (Respirable fraction) 10 mg/m ³ (Inhalable fraction)
Remark (ACGIH®)	TLV® Basis: Pneumonconiosis; pulm func. Notations: A4 (Not classifiable as a Human Carcinogen)
Regulatory reference	ACGIH 2025
sulfur (7704-34-9)	
No additional information available	
feldspars (68476-25-5)	
No additional information available	
pyrophyllite (12269-78-2)	
No additional information available	
8.2. Appropriate engineering controls	
Appropriate engineering controls	Ensure good ventilation of the work station.
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.	
Materials for protective clothing:	
Condition	Material
	Flame retardant protective clothing
Hand protection:	
Protective gloves	
Eye protection:	
Safety glasses	

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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
Colour	brown to dark brown
Odour	odourless
Odour threshold	No data available
pH	No data available
Melting point	No data available
Freezing point	Not applicable
Boiling point	No data available
Flash point	Not applicable
Relative evaporation rate (butylacetate=1)	No data available
Flammability (solid, gas)	Non flammable.
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	Not applicable
Decomposition temperature	No data available
Viscosity, kinematic	Not applicable
Viscosity, dynamic	No data available
Explosive limits	Not applicable
Explosive properties	No data available
Oxidising properties	No data available

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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

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Do not expose to temperatures above 250°C. Hazardous decomposition byproducts may form with exposure to high temperatures.

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

trisodium hexafluoroaluminate (13775-53-6)	
LD50 oral rat	> 5000 mg/kg bodyweight (EU Method B.1)
LD50 dermal rat	> 2100 mg/kg bodyweight (OECD 402 method)
LD50 dermal rabbit	> 2100 mg/kg bodyweight (Equivalent or similar to OECD 402, 24 h, Rabbit, Male / female, Experimental value, Dermal)
LC50 Inhalation - Rat	4.47 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))
aluminum potassium fluoride (60304-36-1)	
LC50 Inhalation - Rat	4.5 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))
barium sulfate (7727-43-7)	
LD50 oral rat	> 5000 mg/kg bodyweight (OECD 401 method)
LD50 dermal rat	> 2000 mg/kg bodyweight ((OECD 402 method); <tx:KFT_READ-ACROSS>)
calcium fluoride (7789-75-5)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 423: Acute Oral Toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 14 day(s))

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calcium fluoride (7789-75-5)	
LD50 dermal rat	> 2000 mg/kg bodyweight (EPA OPP 81-2, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
graphite (7782-42-5)	
LD50 oral rat	> 2000 mg/kg (OECD 423)
LC50 Inhalation - Rat	> 2000 mg/m ³ (4h; OECD 403)
calcium oxide (1305-78-8)	
LD50 oral rat	> 2000 mg/kg (OECD 425 method)
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal))
LD50 dermal rabbit	> 2500 mg/kg (OECD 402 method)
LC50 Inhalation - Rat	> 6.04 mg/l (OECD 436: Acute inhalation toxicity-acute toxic class method, 4 h, Rat, Male / female, Experimental value, Inhalation (dust), 15 day(s))
zirconium dioxide (1314-23-4)	
LD50 oral rat	> 5000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 423 (Acute Oral toxicity - Acute Toxic Class Method), Guideline: EU Method B.1 tris (Acute Oral Toxicity - Acute Toxic Class Method)
LC50 Inhalation - Rat	> 4.3 mg/l (OECD 436: Acute inhalation toxicity-acute toxic class method, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 14 day(s))
silicon carbide (409-21-2)	
LD50 oral rat	> 2000 mg/kg
LD50 dermal rat	> 2000 mg/kg
Aluminium oxide (1344-28-1)	
LD50 oral rat	> 15900 mg/kg
LC50 Inhalation - Rat	7.6 mg/l
LC50 Inhalation - Rat (Dust/Mist)	> 2.3 mg/l/4h (OECD 403 method)
phenol/formaldehyde, resins (9003-35-4)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rat	> 2000 mg/kg
calcium carbonate (471-34-1)	
LD50 oral rat	> 2000 mg/kg (OECD 420: Acute Oral toxicity – Acute Toxic Class Method, Rat, Female, Experimental value, Oral, 14 day(s))
LD50 dermal rat	> 2000 mg/kg bodyweight (OECD 402: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 3 mg/l air (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (aerosol), 15 day(s))

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titanium dioxide (13463-67-7)	
LD50 oral rat	> 2000 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male / female, Experimental value, Oral, 14 day(s))
LD50 oral	5000 mg/kg
LC50 Inhalation - Rat	> 5.09 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male, Experimental value, Inhalation (dust), 14 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
silicon carbide (409-21-2)	
IARC group	2A - Probably carcinogenic to humans
titanium dioxide (13463-67-7)	
IARC group	2B - Possibly carcinogenic to humans
wollastonite,natural (13983-17-0)	
IARC group	3 - Not classifiable
Reproductive toxicity	Not classified
STOT-single exposure	Not classified
calcium oxide (1305-78-8)	
STOT-single exposure	May cause respiratory irritation.
feldspars (68476-25-5)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	Not classified
trisodium hexafluoroaluminate (13775-53-6)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
aluminum potassium fluoride (60304-36-1)	
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure.
calcium oxide (1305-78-8)	
NOAEL (oral, rat, 90 days)	1000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
Aspiration hazard	Not classified
Viscosity, kinematic	Not applicable
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 skin contact	None under normal conditions. Dust may cause irritation in skin folds or by contact in combination with tight clothing.
Symptoms/effects after eye contact	May cause severe irritation.

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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general

The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

trisodium hexafluoroaluminate (13775-53-6)	
LC50 - Fish [1]	99 mg/l (96 h; Danio rerio; (OECD 203 method))
EC50 - Crustacea [1]	156 mg/l (48 h; Daphnia magna; (OECD 202 method))
EC50 72h - Algae [1]	3.2 mg/l (OECD 201: Alga, Growth Inhibition Test, Selenastrum capricornutum, Static system, Fresh water, Experimental value, Biomass)
ErC50 algae	3.2 mg/l (72 h; Pseudokirchneriella subcapitata; (OECD 201 method))
aluminum potassium fluoride (60304-36-1)	
LC50 - Fish [1]	99 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Brachydanio rerio, Static system, Fresh water, Experimental value)
EC50 - Crustacea [1]	156 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)
EC50 72h - Algae [1]	3.2 mg/l (OECD 201: Alga, Growth Inhibition Test, Selenastrum capricornutum, Static system, Fresh water, Experimental value, Biomass)
barium sulfate (7727-43-7)	
LC50 - Fish [1]	> 174 mg/l (96 h; Danio rerio; (OECD 203 method))
EC50 - Crustacea [1]	14.5 mg/l (48 h; Daphnia magna; Barium)
ErC50 algae	> 100 mg/l (72 h; Pseudokirchneriella subcapitata; (OECD 201 method))
NOEC chronic fish	> 100 mg/l (33 d; Danio rerio; (OECD 210 method))
NOEC chronic crustacea	5.8 mg/l (48 h; Daphnia magna; Barium)
calcium fluoride (7789-75-5)	
LC50 - Fish [1]	164.5 ppm (EPA 600/3-75/009, 96 h, Salmo trutta, Static system, Fresh water, Experimental value, Fluorine ion)
graphite (7782-42-5)	
LC50 - Fish [1]	> 100 mg/l (96h; Danio rerio; OECD 203)
EC50 - Crustacea [1]	> 100 mg/l (48h; Daphnia magna; OECD 202)
EC50 72h - Algae [1]	> 100 mg/l (72h; Pseudokirchnerella subcapitata; OECD 201)
calcium oxide (1305-78-8)	
LC50 - Fish [1]	50.6 mg/l (96 h; Oncorhynchus mykiss; (OECD 203 method))
EC50 - Crustacea [1]	49.1 mg/l (48 h; Daphnia magna; (OECD 202 method))
EC50 72h - Algae [1]	184.57 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
ErC50 algae	184.57 mg/l (72 h; Pseudokirchneriella subcapitata; (OECD 201 method))
NOEC (chronic)	32 mg/l Test organisms (species): Crangon septemspinosa Duration: '14 d'

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zirconium dioxide (1314-23-4)	
LC50 - Fish [1]	> 100 mg/l Test organisms (species): Danio rerio (previous name: Brachydanio rerio)
EC50 - Crustacea [1]	> 100 mg/l (EU Method C.2, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, GLP)
EC50 72h - Algae [1]	> 100 mg/l Test organisms (species): Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Read-across, GLP)
silicon carbide (409-21-2)	
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 48 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, GLP)
NOEC chronic crustacea	≥ 100 mg/l (22d; Daphnia magna; OECD Guideline 211)
calcium carbonate (471-34-1)	
LC50 - Fish [1]	> 100 % (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Semi-static system, Fresh water, Experimental value, Nominal concentration)
EC50 - Crustacea [1]	> 100 % (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
titanium dioxide (13463-67-7)	
LC50 - Fish [1]	> 1000 mg/l (Pisces, Fresh water)
LC50 - Other aquatic organisms [1]	> 10000 mg/l
EC50 - Crustacea [1]	> 1000 mg/l (Invertebrata, Fresh water)
EC50 - Crustacea [2]	> 10000 mg/l
EC50 72h - Algae [1]	> 100 mg/l (OECD 201: Alga, Growth Inhibition Test, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Growth rate)
ErC50 algae	61 mg/l (EPA 600/9-78-018, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)

12.2. Persistence and degradability

Abrasive Products AB-Z, AC-D, AF-D, AG-D, AN-D, A24 R	
Persistence and degradability	Not applicable for inorganic products.
trisodium hexafluoroaluminate (13775-53-6)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
aluminum potassium fluoride (60304-36-1)	
Persistence and degradability	Biodegradability: not applicable.

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aluminum potassium fluoride (60304-36-1)	
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
barium sulfate (7727-43-7)	
Persistence and degradability	Not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
calcium fluoride (7789-75-5)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
graphite (7782-42-5)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
calcium oxide (1305-78-8)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
zirconium dioxide (1314-23-4)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
silicon carbide (409-21-2)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
Aluminium oxide (1344-28-1)	
Not rapidly degradable	
Persistence and degradability	Not applicable.
phenol/formaldehyde, resins (9003-35-4)	
Persistence and degradability	Biodegradability in water: no data available.

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calcium carbonate (471-34-1)	
Persistence and degradability	Biodegradability in soil: not applicable. Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
titanium dioxide (13463-67-7)	
Not rapidly degradable	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)
fiberglass (65997-17-3)	
Not rapidly degradable	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
wollastonite,natural (13983-17-0)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
feldspars (68476-25-5)	
Persistence and degradability	Biodegradability in soil: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
12.3. Bioaccumulative potential	
Abrasive Products AB-Z, AC-D, AF-D, AG-D, AN-D, A24 R	
Bioaccumulative potential	Bioaccumulation unlikely.
trisodium hexafluoroaluminate (13775-53-6)	
Bioaccumulative potential	Not bioaccumulative.
aluminum potassium fluoride (60304-36-1)	
Bioaccumulative potential	Bioaccumulation: not applicable.
barium sulfate (7727-43-7)	
BCF - Fish [1]	1.2 – 74 l/kg (Lepomis macrochirus, Fresh water, Experimental value)

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barium sulfate (7727-43-7)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
calcium fluoride (7789-75-5)	
BCF - Fish [1]	0 – 6.4 l/kg (OECD 305: Bioconcentration: Flow-Through Fish Test, 28 day(s), Cyprinus carpio, Fresh water, Experimental value, GLP)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
graphite (7782-42-5)	
Bioaccumulative potential	Not bioaccumulative.
calcium oxide (1305-78-8)	
Bioaccumulative potential	Not bioaccumulative.
zirconium dioxide (1314-23-4)	
BCF - Other aquatic organisms [1]	0.64 l/kg (4 h, Chlorella sp., Fresh water, Read-across, Fresh weight)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).
silicon carbide (409-21-2)	
Bioaccumulative potential	Not bioaccumulative.
Aluminium oxide (1344-28-1)	
Bioaccumulative potential	Not applicable.
phenol/formaldehyde, resins (9003-35-4)	
Bioaccumulative potential	No bioaccumulation data available.
calcium carbonate (471-34-1)	
Bioaccumulative potential	Not bioaccumulative.
titanium dioxide (13463-67-7)	
Bioaccumulative potential	Not bioaccumulative.
fiberglass (65997-17-3)	
Bioaccumulative potential	No bioaccumulation data available.
wollastonite,natural (13983-17-0)	
Bioaccumulative potential	No bioaccumulation data available.
feldspars (68476-25-5)	
Bioaccumulative potential	No bioaccumulation data available.
12.4. Mobility in soil	
trisodium hexafluoroaluminate (13775-53-6)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.8 – 3.8 (log Koc, Other, Experimental value)
Ecology - soil	Low potential for mobility in soil. Toxic to soil organisms.

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aluminum potassium fluoride (60304-36-1)	
Organic Carbon Normalized Adsorption Coefficient (Log Koc)	2.8 – 3.8 (log Koc, Other, Experimental value)
Ecology - soil	Low potential for mobility in soil. Toxic to soil organisms.
barium sulfate (7727-43-7)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.
calcium fluoride (7789-75-5)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.
calcium oxide (1305-78-8)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.
zirconium dioxide (1314-23-4)	
Ecology - soil	Adsorbs into the soil.
silicon carbide (409-21-2)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for adsorption in soil.
calcium carbonate (471-34-1)	
Surface tension	No data available (test not performed)
Ecology - soil	Low potential for adsorption in soil.
titanium dioxide (13463-67-7)	
Surface tension	No data available in the literature
Ecology - soil	Low potential for mobility in soil.
fiberglass (65997-17-3)	
Ecology - soil	No (test)data on mobility of the substance available.

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.

Waste treatment methods

Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations

Dispose in a safe manner in accordance with local/national regulations.

Ecological waste information

Avoid release to the environment. Hazardous waste due to toxicity.

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SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			
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.

Aluminium oxide	CAS-No. 1344-28-1	< 100%
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15.2. International regulations

No additional information available

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15.3. US State regulations

⚠ WARNING: This product can expose you to Titanium dioxide (airborne, unbound particles of respirable size), which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

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Revision date

10/29/2025

Data sources

European Chemicals Agency, <http://echa.europa.eu/>. manufacturer.

Full text of hazard classes and H-statements	
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
H350	May cause cancer.
H351	Suspected of causing cancer.
H362	May cause harm to breast-fed children
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
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DNEL	Derived-No Effect Level
EC50	Median effective concentration
ED	Endocrine disruptor
EC-No.	European Community number
EN	European Standard
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
IOELV	Indicative Occupational Exposure Limit Value
LC50	Median lethal concentration

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Abbreviations and acronyms	
LD50	Median lethal dose
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
N.O.S.	Not Otherwise Specified
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
STP	Sewage treatment plant
TLM	Median Tolerance Limit
TRGS	Technical Rules for Hazardous Substances
VOC	Volatile Organic Compounds
WGK	Water Hazard Class
vPvB	Very Persistent and Very Bioaccumulative
NOAEL	No-Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
LOAEL	Lowest Observed Adverse Effect Level

NFPA health hazard

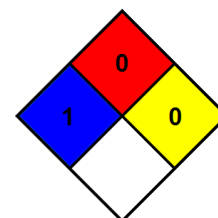
NFPA fire hazard

NFPA reactivity

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

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

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



Hazard Rating

Health

Flammability

Physical

1 Slight Hazard - Irritation or minor reversible injury possible

0 Minimal Hazard - Materials that will not burn

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
3	Composition/information on ingredients	Modified	

SDS_US_Hilti

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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.