

**AF 32® eco**

Revision date: **28.11.2022** Revision No: **1,1**  
Print date: **28.11.2022** Replaces version: **1,0**

**SCHOTT**  
glass made of ideas

**Safety Data Sheet**

according to 29 CFR 1910.1200(g)

**1. Identification****Product identifier**

AF 32® eco

**Further trade names**

none

REACH-Registration status: This substance is exempted according to REACH Article 2 (7) and Annex V.

Substance name: specialty glass, chemical, oxide

CAS No: 65997-17-3

**Recommended use of the chemical and restrictions on use****Use of the substance/mixture**

Glass. Reserved for industrial and professional use.

**Uses advised against**

Do not use for private purposes (household).

**Details of the supplier of the safety data sheet**

Company name: SCHOTT AG  
Street: Hüttenstr. 1  
Place: D-31073 Grünenplan  
Telephone: +49 (0)5187 / 771-0  
Contact person: Dr. Andreas Helmstedt  
e-mail: andreas.helmstedt@schott.com  
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Responsible Department: Site Home Tech Grünenplan:  
Telefon: +49 (0)5187 / 771 831

**Emergency phone number:** +49 (0)6132 / 84463, 24-hour & 7-day service, GBK GmbH**2. Hazard(s) identification****Classification of the chemical****29 CFR Part 1910.1200**

This substance is not classified as hazardous in accordance with Regulation 29 CFR 1910.1200(d).

**Label elements****Additional advice on labelling**

GHS label elements, including precautionary statements: none

**Hazards not otherwise classified**

This substance does not meet the criteria for classification as PBT or vPvB.

In case of inhalation (particulates and dust):

Irritation to respiratory tract. A repeated, excessive dust exposure can cause pneumoconiosis.

After eye contact (particulates and dust): Do not subject to friction. Risk of serious damage to eyes.

**3. Composition/information on ingredients****Substances**

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### Chemical characterization

specialty glass, chemical, oxide  
CAS No.: 65997-17-3  
EC No.: 701-387-5

As the substance glass is not included in the candidate list of substances of very high concern, currently there are no information duties according to article 33 of REACH. However for the production of glass we may use substances, which are on the candidate list and had been included in Annex XIV of the REACH regulation or could be included in future. These powdery substances are not present as such in the final glass; they are fully integrated into the glass matrix through the melting process. Thus they lose their original characteristics. With unintended use, some of these substances may be released from the matrix and become bioavailable.

The main components of the glass batch are listed as additional information in chapter 16.

### Hazardous components

none (according to 29 CFR 1910.1200(g))

### Further Information

Substance is complex UVCB.

Composition of mixture according to raw materials, based on the oxides.: SECTION 16: Other information

## 4. First-aid measures

### Description of first aid measures

#### General information

When in doubt or if symptoms are observed, get medical advice.

#### After inhalation

particulates and dust: Provide fresh air. When in doubt or if symptoms are observed, get medical advice.

#### After contact with skin

particulates and dust: In case of skin reactions, consult a physician.

#### After contact with eyes

particulates and dust: Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

#### After ingestion

particulates and dust: Get medical advice/attention.

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

In case of inhalation (particulates and dust):

Irritation to respiratory tract. A repeated, excessive dust exposure can cause pneumoconiosis.

After eye contact (particulates and dust): Do not subject to friction. Risk of serious damage to eyes.

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

Treat symptomatically.

## 5. Fire-fighting measures

### Extinguishing media

#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

### Specific hazards arising from the chemical

The product itself does not burn. In case of fire may be liberated: Metal oxide smoke, toxic

### Special protective equipment and precautions for fire-fighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit.

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### Additional information

Knock down dust with water spray jet. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

#### General advice

Provide adequate ventilation. Use personal protection equipment. Avoid dust formation. Do not breathe dust.

#### For non-emergency personnel

Use personal protection equipment.

#### For emergency responders

Use personal protection equipment.

### Environmental precautions

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil.

### Methods and material for containment and cleaning up

#### For containment

Measures to prevent aerosol and dust generation

#### For cleaning up

Take up mechanically. Do not subject to friction. Treat the recovered material as prescribed in the section on waste disposal.

#### Other information

Clean contaminated articles and floor according to the environmental legislation.

### Reference to other sections

Safe handling: see section 7

Personal protection equipment (PPE): see section 8

Disposal: see section 13

## 7. Handling and storage

### Precautions for safe handling

#### Advice on safe handling

Provide adequate ventilation. Use personal protection equipment. Avoid dust formation. Do not breathe dust.

#### Advice on protection against fire and explosion

Usual measures for fire prevention.

#### Advice on general occupational hygiene

Take off contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes.

#### Further information on handling

No information available.

### Conditions for safe storage, including any incompatibilities

#### Requirements for storage rooms and vessels

Provide adequate ventilation. Store in a dry place.

#### Hints on joint storage

Do not store together with: Strong acid, hydrofluoric acid, phosphoric and phosphorous acid, Alkali (lye), concentrated

#### Further information on storage conditions

Protect from moisture.

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**8. Exposure controls/personal protection****Control parameters****Exposure limits**

| CAS No | Substance   | ppm                        | mg/m <sup>3</sup> | f/cc | Category  | Origin     |
|--------|---|----------------------------|-------------------|------|-----------|------------|
| -      | Particles (insoluble or poorly soluble) not otherwise specified (inhalable fraction)  |                            | 10                |      | TWA (8 h) | ACGIH-2022 |
| -      | Particles (insoluble or poorly soluble) not otherwise specified (respirable fraction) |                            | 3                 |      | TWA (8 h) | ACGIH-2022 |
| -      | Particulates not Otherwise regulated (PNOR) Respirable fraction                       | 529.5<br>mp/m <sup>3</sup> | 5                 |      | TWA (8 h) | PEL        |
| -      | Particulates not Otherwise regulated (PNOR) Total dust                                | 1765<br>mp/m <sup>3</sup>  | 15                |      | TWA (8 h) | PEL        |

**Exposure controls****Appropriate engineering controls**

Provide adequate ventilation as well as local exhaust at critical locations. Technical measures and the application of suitable work processes have priority over personal protection equipment.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Wear eye/face protection.

**Hand protection**

Wear suitable gloves. (cut-resistant)

**Skin protection**

Wear suitable protective clothing. Disposal of contaminated protective clothing separately, do not reuse.

**Respiratory protection**

In case of inadequate ventilation wear respiratory protection.

**Thermal hazards**

In case of melting: Wear protective gloves/protective clothing. (heat-resistant)

**Environmental exposure controls**

Do not allow to enter into surface water or drains.

**9. Physical and chemical properties****Information on basic physical and chemical properties**

Physical state: solid  
 Color: No information available.  
 Odor: odorless  
 Odour threshold: not determined

**Test method****Changes in the physical state**

Melting point/freezing point: not determined  
 Boiling point or initial boiling point and boiling range: not determined

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|  |  |            |
|--|--|------------|
| glass transition temperature:          | 710 - 720 °C   | ISO 7884-8 |
| Flash point:                           | not applicable   |            |
| <b>Flammability</b>                    |  |            |
| Solid/liquid:                          | not applicable   |            |
| Gas:                                   | not applicable   |            |
| Lower explosion limits:                | not applicable   |            |
| Upper explosion limits:                | not applicable   |            |
| Auto-ignition temperature:             | not applicable   |            |
| Decomposition temperature:             | not determined   |            |
| pH-Value:                              | 7,6  | OECD 122   |
| Viscosity / kinematic:                 | not applicable (solid)                                   |            |
| Water solubility:                      | not applicable   |            |
| <b>Solubility in other solvents</b>    |  |            |
| Fat: not applicable                    |  |            |
| Partition coefficient n-octanol/water: | The substance is not soluble in water.                   |            |
| Vapor pressure:                        | up to Tg no significant vapor pressure is to be expected |            |
| Density:                               | 2,4 g/cm <sup>3</sup>                                    |            |
| Relative vapour density:               | not applicable   |            |
| Particle characteristics:              | not determined   |            |

### Other information

#### **Other safety characteristics**

softening point: 950 - 970 °C

## 10. Stability and reactivity

### Reactivity

No hazardous reaction when handled and stored according to provisions.

### Chemical stability

Stability: Stable

The product is stable under storage at normal ambient temperatures.

### Possibility of hazardous reactions

Hazardous reactions: Will not occur

Reacts with: Strong acid, hydrofluoric acid, phosphoric and phosphorous acid, Alkali (lye), concentrated

### Conditions to avoid

Humidity

Temperature > glass transition temperature (Formation of: Metal oxide smoke, toxic)

### Incompatible materials

Strong acid, hydrofluoric acid, phosphoric and phosphorous acid, Alkali (lye), concentrated

### Hazardous decomposition products

Metal oxide smoke, toxic (Temperature > glass transition temperature)

## 11. Toxicological information

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### Route(s) of Entry

oral, dermal, inhalative, Eye contact

### Information on toxicological effects

#### Acute toxicity

Based on available data, the classification criteria are not met.  
The toxicological potential of glasses results from the bioavailability of individual components when used improperly. This is determined by the bioaccessibility test according to Fraunhofer. It is a leaching method of the material performed in 5 artificial body fluids.

Acute oral toxicity: no bioaccessibility detected

Acute dermal toxicity: no bioaccessibility detected

Acute inhalation toxicity: no bioaccessibility detected

#### Irritation and corrosivity

Based on available data, the classification criteria are not met.  
After eye contact (particulates and dust): Irritant effect on the eye:  
pH: Test results: refer to section 9.  
at pH 5,6 - < 7,3 & > 9,7 - 10,5: Potential hazards: Irritation (GHS/CLP criteria are not met.)  
at pH > 2 - < 5,6 & > 10,5 - < 11,5: Potential hazards: Risk of serious damage to eyes. (GHS/CLP criteria are not met.)

#### Sensitizing effects

Based on available data, the classification criteria are not met.

#### Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.  
diboron trioxide (Reproductive toxicant 1B) Leaching-amount < 0,1 weight-%  
CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): no classification

#### Specific target organ toxicity (STOT) - single exposure

Based on available data, the classification criteria are not met.

#### Specific target organ toxicity (STOT) - repeated exposure

Based on available data, the classification criteria are not met.

#### Aspiration hazard

Based on available data, the classification criteria are not met.

### Information on other hazards

#### Endocrine disrupting properties

No information available.

#### Other information

In case of inhalation (particulates and dust):  
Irritation to respiratory tract. A repeated, excessive dust exposure can cause pneumoconiosis.

## 12. Ecological information

### Ecotoxicity

The ecotoxicological effect of glasses is determined by the ecological accessibility of hazardous substances that can be released under environmental conditions from the glass matrix. For characterization, the test from the German landfill regulation (Dep-VO) is used. In the evaluation, the leachable hazardous substance content, in relation to the total amount of the per se non-hazardous glass, is treated as a standard mixture proportion and classified accordingly.

Result / Evaluation: The product is not: Ecotoxic.

### Persistence and degradability

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Inorganic product which is not eliminable from water through biological cleaning processes. The methods for determining the biological degradability are not applicable to inorganic substances.

**Bioaccumulative potential**

No information available.

**Mobility in soil**

No information available.

**Endocrine disrupting properties**

This substance does not have endocrine disrupting properties with respect to non-target organisms.

**Other adverse effects**

No information available.

**Further information**

Avoid release to the environment.

**13. Disposal considerations****Waste treatment methods****Disposal recommendations**

Do not allow to enter into surface water or drains. Neither the product nor the residues from the processing.  
 Dispose of waste according to applicable legislation.

**Contaminated packaging**

Dispose of waste according to applicable legislation.

**14. Transport information****U.S. DOT 49 CFR 172.101**

**Proper shipping name:** No dangerous good in sense of this transport regulation.

**Marine transport (IMDG)**

**UN number or ID number:** No dangerous good in sense of this transport regulation.

**UN proper shipping name:** No dangerous good in sense of this transport regulation.

**Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**Packing group:** No dangerous good in sense of this transport regulation.

**Air transport (ICAO-TI/IATA-DGR)**

**UN number or ID number:** No dangerous good in sense of this transport regulation.

**UN proper shipping name:** No dangerous good in sense of this transport regulation.

**Transport hazard class(es):** No dangerous good in sense of this transport regulation.

**Packing group:** No dangerous good in sense of this transport regulation.

**Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**Special precautions for user**

No information available.

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

not relevant

**15. Regulatory information****U.S. Regulations****National Inventory TSCA**

CAS No.: 65997-17-3, specialty glass, chemical, oxide: Yes.

**State Regulations**

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**Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65, State of California)**

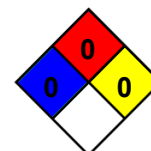
This product can not expose you to chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**16. Other information****Hazardous Materials Information Label (HMIS)**

Health: 0  
 Flammability: 0  
 Physical Hazard: 0

**NFPA Hazard Ratings**

Health: 0  
 Flammability: 0  
 Reactivity: 0  
 Unique Hazard:

**Changes**

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This data sheet contains changes from the previous version in section(s): 2,11,15,16.

**Abbreviations and acronyms**

ACGIH: American Conference of Governmental Industrial Hygienists  
 CFR: Code of Federal Regulations  
 DOT: Department of Transportation  
 ICAO: International Civil Aviation Organization  
 IMDG: International Maritime Code for Dangerous Goods  
 IATA: International Air Transport Association  
 IARC: International Agency for Research on Cancer  
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals  
 CAS: Chemical Abstracts Service  
 NFPA: National Fire Protection Association  
 NTP: National Toxicology Program  
 OSHA: Occupational Safety and Health Administration  
 PEL: permissible exposure limit  
 REL: recommended exposure limit  
 SARA: Superfund Amendments and Reauthorization Act  
 STEL: Short-term exposure limit  
 TSCA: Toxic Substances Control Act  
 TWA: time-weighted average  
 TI: Technical Instructions  
 DGR: Dangerous Goods Regulations  
 UN: United Nations  
 ATE: Acute toxicity estimate  
 LC50: Lethal concentration, 50%  
 LD50: Lethal dose, 50%  
 LL50: Lethal loading, 50%  
 EL50: Effect loading, 50%  
 EC50: Effective Concentration 50%  
 ErC50: Effective Concentration 50%, growth rate  
 NOEC: No Observed Effect Concentration  
 BCF: Bio-concentration factor  
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships



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IBC: Intermediate Bulk Container  
VOC: Volatile Organic Compounds

**Other data**

Composition of mixture according to raw materials, based on the oxides.:

Substance name: SILICON DIOXIDE  
CAS No.: 7631-86-9  
Weight fraction: 55 - 65  
SVHC substance.: No.  
Carcinogenicity: No.

Substance name: ALUMINIUM OXIDE  
CAS No.: 1344-28-1  
Weight fraction: 10 - 20  
SVHC substance.: No.  
Carcinogenicity: No.

Substance name: BORON TRIOXIDE  
CAS No.: 1303-86-2  
Weight fraction: 5 - 15  
SVHC substance.: Yes.  
Carcinogenicity: Yes. (Reproductive toxicant 1B)

Substance name: CALCIUM OXIDE  
CAS No.: 1305-78-8  
Weight fraction < 10  
SVHC substance.: No.  
Carcinogenicity: No.

Substance name: BARIUM OXIDE  
CAS No.: 1304-28-5  
Weight fraction < 10  
SVHC substance.: No.  
Carcinogenicity: No.

Substance name: MAGNESIUM OXIDE  
CAS No.: 1309-48-4  
Weight fraction < 10  
SVHC substance.: No.  
Carcinogenicity: No.

Substance name: TIN DIOXIDE  
CAS No.: 18282-10-5  
Weight fraction: < 2  
SVHC substance.: No.  
Carcinogenicity: No.

Substance name: STRONTIUM OXIDE  
CAS No.: 1304-28-5  
Weight fraction < 4  
SVHC substance.: No.  
Carcinogenicity: No.

Occupational exposure limit values, air limit values, Biological limit values: For further specification, refer to

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section 8 of the SDS.

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.