

**MEMpax®**

Revision date:

**22.08.2024** Revision No:**1,0**

Print date:

**30.08.2024****Material Data Sheet**

according to 29 CFR 1910.1200(g)

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

MEMpax®

**Further trade names**

none

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

Substance name: Specialty Glass, oxide, chemicals

CAS No: 65997-17-3

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

Glass.

Industrial use, Professional use.

**Uses advised against**

Do not use for private purposes (household).

**Details of the supplier of the Material 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
Internet:	www.schott.com
Responsible Department:	Site Home Tech Grünenplan: Telefon: +49 (0)5187 / 771 831

**Emergency phone number:** not applicable, substance not classified as hazardous**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**

The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

In case of inhalation (dust/mist):

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

After eye contact (dust/mist): Do not subject to friction. Causes serious eye damage.

**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**

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

**After contact with skin**

dust/mist: In case of skin reactions, consult a physician.

**After contact with eyes**

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

**After ingestion**

dust/mist: Get medical advice/attention.

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

In case of inhalation (dust/mist):

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

After eye contact (dust/mist): Do not subject to friction. Causes serious eye damage.

**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. Can be released in case of fire: Metal oxide smoke, toxic

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

In case of fire: Wear self-contained breathing apparatus.

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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

Personal protection equipment (PPE): see section 8

### 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.

### 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, drink, smoke, sniff. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes.

#### Further information on handling

Protect from moisture.

### 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, H<sub>3</sub>PO<sub>4</sub>, Phosphoric acid, Alkali (lye), concentrated

#### Further information on storage conditions

Protect from moisture.

## 8. Exposure controls/personal protection

### Control parameters

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### 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-2023
-	Particles (insoluble or poorly soluble) not otherwise specified (respirable fraction)		3		TWA (8 h)	ACGIH-2023
-	Particulates not Otherwise regulated (PNOR) Respirable fraction	529.5 mp/m <sup>3</sup>	5		TWA (8 h)	PEL
-	Particulates not Otherwise regulated (PNOR) Total dust	1765 mp/m <sup>3</sup>	15		TWA (8 h)	PEL

### Additional advice on limit values

Grinding, brushing and polishing:

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

### Exposure controls



### Appropriate engineering controls

Provide adequate ventilation as well as local exhaust at critical locations.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection

Wear goggles. Wear face protection.

#### Hand protection

Wear protective gloves. (cut-resistant)

#### Skin protection

Use of protective clothing Disposal of contaminated protective clothing separately, do not reuse.

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Filtering device (full mask or mouthpiece) with filter: FFP3

#### Thermal hazards

Melt: Wear protective gloves/protective clothing. (heat-resistant)

#### Environmental exposure controls

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

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Physical state:	solid
Color:	colorless, transparent
Odor:	odorless
Odour threshold:	not applicable

### Test method

Melting point/freezing point:	not determined
Boiling point or initial boiling point and boiling range:	not determined
Flammability:	not applicable
Lower explosion limits:	not applicable

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Upper explosion limits:	not applicable
Flash point:	not applicable
Auto-ignition temperature:	not applicable
Decomposition temperature:	> 532 °C
pH-Value:	8,2 OECD 122
Viscosity / kinematic:	not applicable (solid)
Water solubility:	practically insoluble
Solubility in other solvents	
Fat: not applicable	
Partition coefficient n-octanol/water:	The substance is not soluble in water.
Vapor pressure: (at 20 °C)	<< 0,1 hPa
Density:	2,22 g/cm <sup>3</sup>
Relative vapour density:	not applicable
Particle characteristics:	not determined

**Other information****Other safety characteristics**

glass transition temperature:

532 °C ISO 7884-4

**Further Information**

No information available.

**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: May occur

Reaction with: Strong acid, Hydrofluoric acid, H<sub>3</sub>PO<sub>4</sub>, Phosphoric acid, Alkali (lye), concentrated**Conditions to avoid**

Humidity

Temperature &gt; Decomposition temperature (Formation of: Metal oxide smoke, toxic)

**Incompatible materials**Strong acid, Hydrofluoric acid, H<sub>3</sub>PO<sub>4</sub>, Phosphoric acid, Alkali (lye), concentrated**Hazardous decomposition products**

Metal oxide smoke, toxic (Temperature &gt; Decomposition temperature)

**11. Toxicological information****Route(s) of Entry**

oral, dermal, inhalative, Eye contact

**Information on toxicological effects****Acute toxicity**

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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. (AHBL)

Acute oral toxicity: no classification (no bioaccessibility detected)

Acute dermal toxicity: no classification (no bioaccessibility detected)

Acute inhalation toxicity: no classification (no bioaccessibility detected)

**Irritation and corrosivity**

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

**Sensitizing effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

Germ cell mutagenicity: Based on available data, the classification criteria are not met.

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

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

**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**

This substance does not have endocrine disrupting properties with respect to humans.

**Other information**

In case of inhalation (dust/mist):

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**

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.

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### 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

#### **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.

#### **Additional information**

Observe in addition any national regulations!

Observe in addition any national regulations!

## 16. Other information

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### Hazardous Materials Identification System (HMIS)

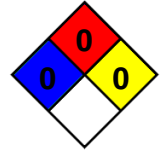
Health:	0
Flammability:	0
Physical Hazard:	0

### NFPA Hazard Ratings

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

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### 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  
 IBC: Intermediate Bulk Container  
 VOC: Volatile Organic Compounds  
 SVHC: Substance of Very High Concern  
 Dep-VO: deutsche Deponie-Verordnung  
 UVCB Unknown or Variable composition, Complex reaction products or Biological materials  
 AHBL: 5 artificial human body liquids im Bioaccessability-Test nach Fraunhofer: GST (artificial gastric fluid; pH 1,5; stomach acid), ASW (artificial sweat solution; pH 6,5; hypo-osmolar fluid on skin), ALF (artificial lysosomal fluid; pH 4,5; lung, intracellular), GMB (Gamble's solution; pH 7,4; interstitial fluid in deep lung), PBS (phosphate buffered saline; pH7,4; blood serum)





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**Key literature references and sources for data**

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations). (v.1.2, 2013)

**Other data**

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

Substance name (Molecular formula): SiO<sub>2</sub>

CAS No.: 7631-86-9

Weight fraction: 75 - 85 %

SVHC substance.: No.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): No.

Substance name (Molecular formula): B<sub>2</sub>O<sub>3</sub>

CAS No.: 1303-86-2

Weight fraction: 7 - 15 %

SVHC substance.: Yes.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): Yes. (Reproductive toxicant 1B)

Substance name (Molecular formula): Al<sub>2</sub>O<sub>3</sub>

CAS No.: 1344-28-1

Weight fraction: < 5 %

SVHC substance.: No.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): No.

Substance name (Molecular formula): Na<sub>2</sub>O

CAS No.: 1313-59-3

Weight fraction: < 5 %

SVHC substance.: No.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): No.

Substance name (Molecular formula): K<sub>2</sub>O

CAS No.: 12136-45-7

Weight fraction: < 1 %

SVHC substance.: No.

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): No.

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