

Material Data Sheet

according to UN GHS (ST/SG/AC.10/11/Rev.10)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. 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

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

Use of the substance/mixture

Glass.
Industrial use, Professional use.

Uses advised against

Do not use for private purposes (household).

1.3. 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

1.4. Emergency telephone number:

not applicable, substance not classified as hazardous

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

UN GHS (ST/SG/AC.10/11/Rev.10)

This substance is not classified as hazardous in accordance with UN-GHS (Rev. 9).

2.2. Label elements

Additional advice on labelling

GHS label elements, including precautionary statements: none

2.3. Other hazards

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.

SECTION 3: Composition/information on ingredients

3.1. Substances

**MEMpax®**

Revision date:

22.08.2024 Revision No:**1,0**

Print date:

30.08.2024**Material Data Sheet**

according to UN GHS (ST/SG/AC.10/11/Rev.10)

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.

Further Information

Substance is complex UVCB.

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

SECTION 4: First aid measures**4.1. 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.

4.2. 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.

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

Treat symptomatically.

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

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

5.2. Special hazards arising from the substance or mixture

The product itself does not burn. Can be released in case of fire: Metal oxide smoke, toxic

5.3. Advice for firefighters

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

**MEMpax®**

Revision date:

22.08.2024 Revision No:**1,0**

Print date:

30.08.2024

Material Data Sheet

according to UN GHS (ST/SG/AC.10/11/Rev.10)

Additional information

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

SECTION 6: Accidental release measures

6.1. 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: see section 8

6.2. Environmental precautions

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

6.3. 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.

6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

SECTION 7: Handling and storage

7.1. 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.

7.2. 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, H₃PO₄, Phosphoric acid, Alkali (lye), concentrated

Further information on storage conditions

Protect from moisture.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Material Data Sheet

according to UN GHS (ST/SG/AC.10/11/Rev.10)

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m ³	fibres/ml	Category	Origin
-	Dust, inhalable	-	10		TWA (8 h)	WEL
-	Dust, respirable	-	4		TWA (8 h)	WEL

Additional advice on limit values

Grinding, brushing and polishing:

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

8.2. 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 solely 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.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	solid
Colour:	colourless, transparent
Odour:	odourless
Odour threshold:	not applicable

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
Upper explosion limits:	not applicable
Flash point:	not applicable
Auto-ignition temperature:	not applicable
Decomposition temperature:	> 532 °C
pH-Value:	8,2 OECD 122

Test method

**MEMpax®**

Revision date:

22.08.2024 Revision No:**1,0**

Print date:

30.08.2024**Material Data Sheet**

according to UN GHS (ST/SG/AC.10/11/Rev.10)

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.
Vapour pressure:	<< 0,1 hPa
(at 20 °C)	
Density:	2,22 g/cm ³
Relative vapour density:	not applicable
Particle characteristics:	not determined

9.2. Other information**Other safety characteristics**

glass transition temperature:

532 °C ISO 7884-4

Further Information

No information available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactionsReaction with: Strong acid, Hydrofluoric acid, H₃PO₄, Phosphoric acid, Alkali (lye), concentrated**10.4. Conditions to avoid**

Humidity

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

10.5. Incompatible materialsStrong acid, Hydrofluoric acid, H₃PO₄, Phosphoric acid, Alkali (lye), concentrated**10.6. Hazardous decomposition products**

Metal oxide smoke, toxic (Temperature > Decomposition temperature)

SECTION 11: Toxicological information**11.1. 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. (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.

**MEMpax®**

Revision date:

22.08.2024 Revision No:**1,0**

Print date:

30.08.2024**Material Data Sheet**

according to UN GHS (ST/SG/AC.10/11/Rev.10)

Sensitising 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.

STOT-single exposure

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

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 likely routes of exposure

oral, dermal, inhalative, Eye contact

11.2. 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.

SECTION 12: Ecological information**12.1. Toxicity**

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

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.

12.2. 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.

12.3. Bioaccumulative potential

No information available.

12.4. Mobility in soil

No information available.

12.6. Endocrine disrupting properties

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

12.7. Other adverse effects

No information available.

Further information

Avoid release to the environment.

SECTION 13: Disposal considerations**13.1. Waste treatment methods**

Material Data Sheet

according to UN GHS (ST/SG/AC.10/11/Rev.10)

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.

SECTION 14: Transport information

Marine transport (IMDG)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	No dangerous good in sense of this transport regulation.
14.2. UN proper shipping name:	No dangerous good in sense of this transport regulation.
14.3. Transport hazard class(es):	No dangerous good in sense of this transport regulation.
14.4. Packing group:	No dangerous good in sense of this transport regulation.

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

14.6. Special precautions for user

No information available.

14.7. Maritime transport in bulk according to IMO instruments

not relevant

SECTION 15: Regulatory information

National regulatory information

Additional information

Observe in addition any national regulations!

SECTION 16: Other information

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

**MEMpax®**

Revision date:

22.08.2024 Revision No:**1,0**

Print date:

30.08.2024**Material Data Sheet**

according to UN GHS (ST/SG/AC.10/11/Rev.10)

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)

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)

Further Information

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

Substance name (Molecular formula): SiO₂
 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): B₂O₃
 CAS No.: 1303-86-2
 Weight fraction: 7 - 15 %
 SVHC substance.: Yes.
 CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): Yes. (Repr. 1B)

Substance name (Molecular formula): Al₂O₃
 CAS No.: 1344-28-1
 Weight fraction: < 5 %
 SVHC substance.: No.
 CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): No.

Substance name (Molecular formula): Na₂O
 CAS No.: 1313-59-3
 Weight fraction: < 5 %
 SVHC substance.: No.
 CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction): No.

Substance name (Molecular formula): K₂O
 CAS No.: 12136-45-7



MEMpax®

Revision date:

22.08.2024 Revision No:

1,0

Print date:

30.08.2024

Material Data Sheet

according to UN GHS (ST/SG/AC.10/11/Rev.10)

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.