SCHOTT
glass made of ideas

Poweramic P2200

Revision date: **22.10.2020** Revision No: **1,0**
Print date: **11.12.2020**

Material Data Sheet

according to 29 CFR 1910.1200(g)

1. Identification

Product identifier

Poweramic P2200

Further trade names

none/none

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

Substance name: glass, oxide, chemicals
CAS No.: 65997-17-3
EC No.: 266-046-0

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 Material Data Sheet

Company name:	SCHOTT AG	
Street:	Hattenbergstr. 10	
Place:	D-55122 Mainz	
Telephone:	+49 (0)6131 / 66 0	Telefax: +49 (0)6131 / 66 20 00
Contact person:	Dr. Kristian Eichgrün	
e-mail:	ehs-compliance.ao@schott.com	
Internet:	www.schott.com	
Responsible Department:	Qualitätsmanagement Advanced Optics Telephone: +49 (0)61 31 / 66 21 55 Telefax: +49 (0)36 41 / 28 88 90 54	

Emergency phone number: +49 61 31 / 66 2393 (Mo - Fr, 7 - 16 Uhr; MEZ; UTC+01)

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/none

Hazards not otherwise classified

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

3. Composition/information on ingredients

Substances

Chemical characterization
glass, oxide, chemicals
CAS No.: 65997-17-3
EC No.: 266-046-0

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.

4. First-aid measures

Description of first aid measures

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

After inhalation
Provide fresh air. If experiencing respiratory symptoms: Call a doctor.

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. Remove contact lenses, if present and easy to do. Continue rinsing. In case of eye irritation consult an ophthalmologist. Pay attention to the protection of the non-contaminated eye.

After ingestion
particulates and dust: Get medical advice/attention.

Most important symptoms and effects, both acute and delayed
No known symptoms to date.

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.

Additional information
Supress gases/vapours/mists 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
Provide adequate ventilation. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

Environmental precautions

Do not allow to enter into surface water or drains.

Methods and material for containment and cleaning up

Take up mechanically. 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. Avoid dust formation. Do not breathe dust. Avoid contact with skin, eyes and clothes. Use personal protection equipment.

Advice on protection against fire and explosion

No special fire protection measures are necessary.

Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. 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.

8. Exposure controls/personal protection

Control parameters

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Exposure limits

CAS No.	Substance	ppm	mg/m³	f/cc	Category	Origin
1344-28-1	alpha-Alumina Respirable fraction	-	5		TWA (8 h)	PEL
1344-28-1	alpha-Alumina Total dust	-	15		TWA (8 h)	PEL
-	Barium soluble compounds, as Ba		0.5		TWA (8 h)	ACGIH-2020
7440-39-3	Barium, soluble compounds (as Ba)	-	0.5		TWA (8 h)	PEL
1303-86-2	Boron oxide Total dust	-	15		TWA (8 h)	PEL
1303-86-2	Boron oxide	-	10		TWA (8 h)	REL
			10		TWA (8 h)	ACGIH-2020
1305-78-8	Calcium oxide	-	5		TWA (8 h)	PEL
		-	2		TWA (8 h)	REL
			2		TWA (8 h)	ACGIH-2020
-	Particles (insoluble or poorly soluble) not otherwise specified (inhalable fraction)		10		TWA (8 h)	ACGIH-2020
-	Particles (insoluble or poorly soluble) not otherwise specified (respirable fraction)		3		TWA (8 h)	ACGIH-2020
-	Particulates not Otherwise regulated (PNOR) Respirable fraction	529.5 mp/m³	5		TWA (8 h)	PEL
-	Particulates not Otherwise regulated (PNOR) Total dust	1765 mp/m³	15		TWA (8 h)	PEL
7631-86-9	Silica, amorphous	-	6		TWA (8 h)	REL
13463-67-7	Titanium dioxide Total dust	-	15		TWA (8 h)	PEL
13463-67-7	Titanium dioxide		10		TWA (8 h)	ACGIH-2020

Exposure controls


Appropriate engineering controls

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

Protective and hygiene measures

Remove contaminated, saturated clothing immediately. Disposal of contaminated protective clothing separately, do not reuse. Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat or drink. Avoid dust formation.

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.

Environmental exposure controls

Do not allow to enter into surface water or drains.

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9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state:	solid
Color:	colorless
Odor:	odorless

		Test method
pH-Value:	9,3 (on solid)	OECD 122
Changes in the physical state		
Initial boiling point and boiling range:	not determined	
glass transition temperature:	670 °C	ISO 7884-8
Flash point:	not applicable	
Flammability		
Solid:	not applicable	
Gas:	not applicable	
Explosive properties		
The product is not: Explosive.		
Lower explosion limits:	not applicable	
Upper explosion limits:	not applicable	
Ignition temperature:	not applicable	
Auto-ignition temperature		
Solid:	not applicable	
Gas:	not applicable	
Decomposition temperature:	> 1400 °C	
Vapor pressure:	up to Tg no significant vapor pressure is to be expected	
Density (at 20 °C):	4,61 g/cm³	
Water solubility:	Immiscible	
Solubility in other solvents		
Not oxidising.		
Partition coefficient:	The substance is not soluble in water.	
Viscosity / dynamic:	not applicable (solid)	
Viscosity / kinematic:	not applicable (solid)	
Vapor density:	not applicable	
Evaporation rate:	not applicable	

Other information

Odor threshold: not determined

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.

Degassing takes place from temperatures above: >1400 °C

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 > point of degassing (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 > point of degassing)

11. Toxicological information

Information on toxicological effects

Route(s) of Entry

oral, dermal, inhalative, Eye contact

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.

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.

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.

Carcinogenicity (IARC): Titanium dioxide (CAS 13463-67-7) is listed in group 2B.

Aspiration hazard

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

Practical experience

Other observations

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 accessability 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

The product has not been tested.

Bioaccumulative potential

The product has not been tested.

Mobility in soil

The product has not been tested.

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

US DOT 49 CFR 172.101

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

Marine transport (IMDG)

UN 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:	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 applicable

15. Regulatory information

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U.S. Regulations

National Inventory TSCA

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

National regulatory information

RA Section 313 Toxic release inventory:
Barium compounds (-): De minimis limit = 1.0 %, Reportable threshold = Standard
Aluminum oxide (fibrous forms) (1344-28-1): De minimis limit = 1.0 %, Reportable threshold = Standard

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.

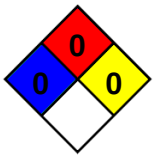
16. Other information

Hazardous Materials Information Label (HMIS)

Health:	0
Flammability:	0
Physical Hazard:	0

NFPA Hazard Ratings

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



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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

Other data

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

Substance name: SILICON DIOXIDE
weight fraction in %: 5 - 15
SVHC substance.: No.
Carcinogenicity: No.

Substance name: BORON TRIOXIDE
weight fraction in %: 0,1 - 2
SVHC substance.: Yes.
Carcinogenicity: Yes. (Repr. 1B; H360FD; SCL: C >= 3,1%)

Substance name: ALUMINIUM OXIDE
weight fraction in %: 2 - 10
SVHC substance.: No.
Carcinogenicity: No.

Substance name: CALCIUM OXIDE
weight fraction in %: < 2
SVHC substance.: No.
Carcinogenicity: No.

Substance name: BARIUM OXIDE
weight fraction in %: 45 - 60
SVHC substance.: No.
Carcinogenicity: No.

Substance name: TITANIUM DIOXIDE
weight fraction in %: 20 - 35
SVHC substance.: No.
Carcinogenicity: No.

Substance name: CERIUM OXIDE
weight fraction in %: 0,05 - 1
SVHC substance.: No.
Carcinogenicity: No.

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.