

Safety Data Sheet

according to 1907/2006/EG

Quartz Glass (amorphous silicon dioxide) Opaque / Transparent Fused Quartz / Silica

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY

Identity number	---
Empirical formula	SiO ₂
Molecular weight	60.08 [g/mol]

1.1 Trade name Quartz glass (amorphous silicon dioxide)

1.2 Application Products made of quartz glass are used mainly as optical elements, in the production of microchips, in telecommunications and laser technology, analytics and in the chemical industry.

1.3 Information about manufacturer/supplier

Heraeus Quarzglas GmbH & Co. KG Quarzstraße 8 D-63450 Hanau, Germany	Heraeus Quartz UK Ltd Neptune Road, Wallsend Tyne & Wear, NE28 6DD, United Kingdom
--	--

Contact person	Mr. Wolfgang Stang Phone: +49-(0)6181-35-6555 Fax: +49-(0)6181-35-6399 e-mail: ruediger.thiele@heraeus.com
-----------------------	--

2. HAZARD IDENTIFICATION

Characterization of hazards	No hazardous substance according to directive 67/548/EWG.
------------------------------------	---

Hazard information	None
---------------------------	------

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical characterization (substance)	Silicon dioxide (amorphous)
--	-----------------------------

CAS-No.	EINECS-No.	Index-No.	Elincs-No.
7631-86-9	231-545-4	---	---
60676-86-0	262-373-8	---	---

Safety Data Sheet

according to 1907/2006/EG

Quartz Glass (amorphous silicon dioxide) Opaque / Transparent Fused Quartz / Silica

4. FIRST-AID MEASURES

General information	In the case of accident or if you feel unwell, seek medical advice immediately.
After inhalation	Supply with fresh air after inhalation of fine sized material.
After contact with skin	Wash off fine sized material with plenty of water.
After contact with eyes	If there is fine sized material in the eye rinse immediately with plenty of water, including under the eyelids. Consult an eye specialist.
After ingestion	In the case of accident or if you feel unwell, seek medical advice.
Information for the doctor	None

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Substance is not combustible. Use extinguishing media which are appropriate to the environment. Water spray, dry chemical, carbon dioxide or foam.
Unsuitable extinguishing media	Full water jet
Specific danger created by the substance, its combustion products or evolved gases	Substance is not combustible.
Special protective equipment for fire-fighting	None
Further information	None

6. ACCIDENTAL RELEASE MEASURES

Personal	Do not breathe dust.
Environmental	A hazard to drinking water when entering the ground is not to be suspected.
Cleaning up / taking up	Take up using mechanical methods. Avoid generation of dust.
Further information	None

Safety Data Sheet

according to 1907/2006/EG

Quartz Glass (amorphous silicon dioxide) Opaque / Transparent Fused Quartz / Silica

7. HANDLING AND STORAGE

7.1 Handling

Advice on safe handling	When handling breakable materials, wear cut-resistant gloves. Use protective glasses.
Precautionary measures against fire and explosion	None

7.2 Storage

Requirements for storage rooms and vessels	None
Storage class	None

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Advice on limits

USA	NIOSH-REL:	6 mg/m ³ (diatomaceous earth, amorphous)
Germany	AGW:	4 mg/m ³ (silica, amorphous; as inhalable dust)

8.2 Additional advice on system design

In case of dust occurrence provide sufficient air exchange and/or ventilation in working rooms.

Personal protective equipment

Respiratory protection	Avoid inhaling dust. Necessarily if some types of dust are present (respiratory protection filter P3).
Hand protection	Wear protective gloves for example made of leather. When handling breakable material, wear cut-resistant gloves.
Eye protection	Protective glasses. If some types of dust are present wear tightly sealed goggles.
Body protection	Work clothing
Protective and hygiene measures	Wash hands before breaks and after work.

Safety Data Sheet

according to 1907/2006/EG

Quartz Glass (amorphous silicon dioxide) Opaque / Transparent Fused Quartz / Silica

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance

Form	solid
Colour	transparent / white
Odour	odourless

9.2 Aspects relevant for security

pH-value	not applicable
Melting point	not applicable
Boiling point	not applicable
Sublimation point	appr. 2000 °C
Softening point	1730 °C
Flash point	not applicable
Ignition point	not applicable
Flammability	not applicable
Self ignition	not applicable
Explosion limits lower	not applicable
Explosion limits upper	not applicable
Vapour pressure	not applicable
Density	2.0 – 2.2 g/cm ³
Solubility in water	insoluble
Soluble in	Hydrofluoric acid (40 %)

9.3 Further information

Safety Data Sheet

according to 1907/2006/EG

Quartz Glass (amorphous silicon dioxide) Opaque / Transparent Fused Quartz / Silica

10. STABILITY AND REACTIVITY

Conditions to avoid	---
Materials to avoid	Hydrofluoric acid
Hazardous decomposition products	---
Further information	---

11. TOXICOLOGICAL INFORMATION

Acute toxicity	Toxicological data for this product (LD ₅₀ , oral) is not available.
Subacute and Chronic toxicity	An embryotoxic effect need not be feared when the threshold limit value is observed (see AGW-value in chapt.8.1, according to German regulation TRGS 900).
Further toxicity information	Dust of amorphous silicon dioxide has no damaging effect on the respiratory tract if the product is handled with appropriate care and the AGW-value is observed. Inhalable crystalline silicon dioxide may cause cancer in the respiratory tract. The transformation to the crystalline form occurs if the amorphous form is heated to high temperatures (T > 800 °C) for a long period.
Further information	None

12. ECOLOGICAL INFORMATION

Information on elimination (persistence and decomposition)	The product is not biodegradable. No other data available.
Effects on environmental compartments	No data available.
Ecotoxic effects	No data available.
Further information	No damaging effects are assumed.

Safety Data Sheet

according to 1907/2006/EG

Quartz Glass (amorphous silicon dioxide) Opaque / Transparent Fused Quartz / Silica

13. ADVICE ON DISPOSAL

Disposal	Disposal must be in accordance with official regulations.
Disposal of contaminated packing / contaminated recommended detergents	Packing should be treated like the product itself. Disposal must be made in accordance with official regulations.

14. TRANSPORT INFORMATION

14.1 <u>Land transport</u>	No dangerous good according to the EU regulations (67/548/EWG).
14.2 <u>Inland water ways transport</u>	Not classified.
14.3 <u>Marine transport</u>	Not dangerous goods according to these regulations.
14.4 <u>Air transport</u>	Not dangerous goods according to these regulations.
14.5 <u>Further information</u>	None

15. PROVISIONS OF LAW

15.1 <u>Labelling</u>	Not a dangerous material according to directive 67/548/EWG.
R-Phrases	---
S-Phrases	---
15.2 <u>National regulations</u>	
Germany	
Aquatic hazard class (WGK):	not hazardous for water (according to regulation VwVwS)
Technical instruction on air quality controll (TA Luft)	dust (numeral 5.2.1) mass flow rate: 0,20 Kg/h or concentration: 20 mg/m ³

Safety Data Sheet

according to 1907/2006/EG

Quartz Glass (amorphous silicon dioxide) Opaque / Transparent Fused Quartz / Silica

16. OTHER INFORMATION

The data given here is based on today's stand of our knowledge and experience. The purpose of this Safety Data Sheet is to describe the product in terms of safety requirements. The data do not signify any warranty with regard to properties of the product.

Data sheet issued by: HH-SUS

17. REVISION HISTORY FOR THE SAFETY DATA SHEET

The following changes were made since Rev. 3

No	Change
1.3	Address of HQUK added, contact person: Dr. Rüdiger Thiele
3	CAS-Nr. and EINECS-Nr.(added)
5	Substance is not combustible (added)
6	Environmental (added)
8, 8.1, 8.2	Order changed, Respiratory protection - Avoid inhaling dust. (added)
9.2	Test method (deleted)
12	Environment related information (replaced)
15	Provisions of law (replaced)
17	(added)