

Safety Data Sheet

According to 1907/2006/EG

Quartz Glass (amorphous silicon dioxide)

Transparent Fused Quartz / Fused 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) |
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|------------------------|--|
| 1.2 Application | Products made of quartz glass are used mainly as optical elements, in the production of semiconductor chips, in telecommunications and laser technology, analytics and in the chemical industry. |
|------------------------|--|

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|---|---|
| 1.3 Information about manufacturer | Krystal Technology UK Ltd Neptune Road, Wallsend NE28 6DD, United Kingdom |
|---|---|

| | |
|-----------------------|--|
| Contact person | Mr. Christian Bernhard Phone: +44-(0)191-259-8335 e-mail: christian.bernhard@krystal-tech.com |
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2. HAZARD IDENTIFICATION

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|------------------------------------|---|
| Characterization of hazards | No hazardous substance according to directive 67/548/EWG. |
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|---------------------------|------|
| Hazard information | None |
|---------------------------|------|

3. COMPOSITION / INFORMATION ON INGREDIENTS

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|--|-----------------------------|
| Chemical characterization (substance) | Silicon dioxide (amorphous) |
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| CAS-No. | EINECS-No. | Index-No. | Elincs-No. |
|------------|------------|-----------|------------|
| 7631-86-9 | 231-545-4 | --- | --- |
| 60676-86-0 | 262-373-8 | --- | --- |

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. |
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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

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

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).

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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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Appearance

Form

solid

Colour

transparent

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/cm³

Solubility in water

insoluble

Soluble in

hydrofluoric acid (40 %)

9.3 Further information

10. STABILITY AND REACTIVITY

Conditions to avoid

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| | |
|---------------------------|-------------------|
| Materials to avoid | hydrofluoric acid |
|---------------------------|-------------------|

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|---|-----|
| Hazardous decomposition products | --- |
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| Further information | --- |
|----------------------------|-----|

11. TOXICOLOGICAL INFORMATION

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| Acute toxicity | Toxicological data for this product (LD50, oral) is not available. |
|-----------------------|--|

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| 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). |
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| 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 ($T > 800\text{ }^{\circ}\text{C}$) for a long period.

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| Further information | None |
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12. ECOLOGICAL INFORMATION

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|---|--|
| Information on elimination (persistence and decomposition) | The product is not biodegradable. No other data available. |
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|--|--------------------|
| Effects on environmental compartments | No data available. |
|--|--------------------|

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|-------------------------|--------------------|
| Ecotoxic effects | No data available. |
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| Further information | No damaging effects are assumed. |
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13. ADVICE ON DISPOSAL

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

Disposal must be made in accordance with
official regulations.

14. TRANSPORT INFORMATION

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

15. PROVISIONS OF LAW

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

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 does not signify any warranty with regard to properties of the product.

17. REVISION HISTORY FOR THE SAFETY DATA SHEET

Safety Data Sheet

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Version

1

Changes

Document created.