# Safety Data Sheet

Date of revision 7 : 2024/04/01
Date of initial issue : 2013/06/01

## 1. Identification of the substance / mixture and of the company / undertaking

### 1.1 Product identifier

**Product name :** **Quartz glass (amorphous silicon dioxide)**

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

**Relevant identified uses of the product : Semiconductor manufacturing jigs, Optical materials, Lamp materials, Optical fiber materials, etc.**

### 1.3 Details of the supplier of the safety data sheet

| | |
|---|---|
| Company name | Shin-Etsu Quartz Products Co.,Ltd. |
| Address | East Tower 9F, Gate City Ohsaki, 1-11-2<br>Osaki, Shinagawa-ku, Tokyo, 141-0032 Japan |
| Phone number | +81 3-6737-0227 |
| Fax number | +81 3-5759-6101 |
| Home Page | https://www.sqp.co.jp/ |

### 1.4 Emergency telephone number : +81 3-6737-0227

## 2. Hazards identification

**GHS classification and label elements of the product**

### 2.1 Classification of the substance or mixture

**Physical and Chemical Hazards**

Classification not possible for all physical hazards

**Health Hazards**

Classification not possible for all health hazards

**Environmental Hazards**

Classification not possible for all environmental hazards

### 2.2 Label elements

| | |
|---|---|
| Pictogram and Symbol | Not applicable |
| Signal word | Not applicable |

**Hazard statement**

Not applicable

**Precautionary statement**

| | |
|---|---|
| Prevention | Not applicable |
| Response | Not applicable |
| Storage | Not applicable |
| Disposal | Not applicable |

### Specific physical and chemical hazards

- The quartz glass metastasizes to cristobalite (crystalline material) when exposed to high temperatures for a long time, but, as for the crystalline quartz, there might be the carcinogenicity.
- In the case of powder there might be the respiratory obstacle by a long term or the repetition revelation.

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## 3. Composition / information on ingredients

**Mixture / substance selection**

### 3.1 Substance

| | |
|---|---|
| Substance name | Quartz glass (Amorphous silicon dioxide), (Silica, vitreous) |
| Chemical formula: | $SiO_2$ |
| Concentration: | > 99.5 wt% |
| CAS No.: | 60676-86-0 |
| EINECS-No. | 262-373-8 |

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## 4. First-aid measures

### 4.1 Descriptions of first-aid measures

| | |
|---|---|
| General measures | In the case of accident or if you feel unwell, seek medical advice immediately. |
| If inhaled | Supply with fresh air |
| If on skin | Wash off fine sized material with plenty of water. |
| If in eyes | If there is fine sized material in the eye rinse immediately with plenty of water, including under the eyelids. Consult an eye specialist. |
| If swallowed | In the case of accident or if you feel unwell, seek medical advice. |
| Information for the doctor | None |

### 4.2 Most important symptoms and effects, both acute and delayed :

None known

### 4.3 Indication of any immediate medical attention and special treatment needed :

| | |
|---|---|
| Treatment | Treat symptomatically |

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## 5. Fire - fighting measures

### 5.1 Extinguishing media

| | |
|---|---|
| Suitable extinguishing media | Use extinguishing media which are appropriate to the environment.<br>Water spray, dry chemical, carbon dioxide or foam. |
| Unsuitable extinguishing media | Full water jet |

### 5.2 Specific hazards arising from the substance or mixture

Substance is not combustible.

### 5.3 Advice for fire - fighters

| | |
|---|---|
| Special protective equipment for fire-fighting | Wear self – contained breathing apparatus.<br>Wear protective gloves/ protective clothing/ ey e protection/ face protection. |

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## 6. Accidental release measures

### 6.1 Personnel precautions, protective equipment and emergency procedures

| | |
|---|---|
| Personal precautions | Do not breathe dust.<br>Evacuate area.<br>Wear self – contained breathing apparatus.<br>Wear proper protective equipment |

### 6.2 Environmental precautions

| | |
|---|---|
| Environmental precautions | Should not be released into the environment. |

### 6.3 Methods and materials for containment and cleaning up

| | |
|---|---|
| Cleaning up / taking up | Take up using mechanical methods. Avoid generation of dust. |

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## 7. Handling and storage

### 7.1 Precautions for safe handling

| | |
|---|---|
| Advice on safe handling | When handling breakable materials, wear cut-resistant gloves. Use protective glasses. |
| Preventive measures | Avoid generation of dust. Do not breathe dust. |
| Advice on general occupational hygiene | Wash hands thoroughly after handling. |

### 7.2 Storage

| | |
|---|---|
| Requirements for storage areas and containers | Store in a well-ventilated place. |

## 8. Exposure controls / personal protection

### 8.1 Control parameters

**Occupational exposure limits for dusts**

| | |
|---|---|
| Japan Association of Industrial Health (2023) Class 3 : Inorganic dust | 2 mg/m$^3$ (as respirable dust)<br>8 mg/m$^3$ (as total dust) |

### 8.2 Exposure controls

**Appropriate engineering controls**

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

Install an eye shower and a body shower into a storage and handling work place.

**Individual protection measures**

| | |
|---|---|
| Respiratory protection | Avoid inhaling dust.<br>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.<br>If some types of dust are present, wear tightly sealed goggles. |
| Skin and body protection | Wear protective clothing |
| Protective and hygiene measures | Wash hands before breaks and after the work. |

## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| Physical state | Solid |
| Color | Transparent / White |
| Odor | Odorless |
| pH-value | Not applicable |
| Melting point | Not applicable |
| Boiling point / Boiling range | No data available |
| Flash point | Not combustible |
| Flammability | Not combustible |
| Upper explosion limits | No data available |
| Lower explosion limits | No data available |
| Vapor pressure | 0 mmHg (20℃) |
| Relative vapor density | No data available |
| Density | 2.2 g/cm$^3$ |
| Solubility / Water solubility | Insoluble |
| Solubility in other solvents | No data available |
| Partition coefficient : n-octanol / water | No data available |
| Auto-ignition temperature | Not combustible |
| Decomposition temperature | No data available |
| Viscosity (dynamic) | No data available |
| Viscosity (kinematic) | No data available |
| Explosive properties | Not explosive |
| Oxidizing properties | Not classified as oxidizing |

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## 10. Stability and reactivity

### 10.1 Reactivity

Stable under conditions of normal use.

### 10.2 Chemical stability

Stable under normal storage / handling conditions

### 10.3 Possibility of hazardous reactions

| | |
|---|---|
| Hazardous reactions | No dangerous reaction known under conditions of normal use. |

### 10.4 Conditions to avoid

| | |
|---|---|
| Conditions to avoid | Prevent spread of dust generated in grinding equipment |

### 10.5 Incompatible materials

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

### 10.6 Hazardous decomposition products

No data available

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## 11. Toxicological information

### 11.1 Information on toxicological effects

| | |
|---|---|
| Acute toxicity | Oral : No data available<br>Skin : No data available<br>Inhalation (powder) : No data available |
| Skin corrosion / irritation | Not classified based on available information. |
| Serious eye damage / eye irritation | Not classified based on available information. |
| Respiratory sensitization | Not classified based on available information. |
| Skin sensitization | Not classified based on available information. |
| Germ cell mutagenicity | Not classified based on available information. |
| Carcinogenicity | Not classified based on available information. |
| Reproductive toxicity | Not classified based on available information. |
| Specific target organ toxicity (single exposure) | Not classified based on available information. |
| Specific target organ toxicity (repeated exposure) | Not classified based on available information. |
| Aspiration toxicity | Not classified based on available information. |

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## 12. Ecological information

### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

| | |
|---|---|
| Assessment | This substance / mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levies of 0.1% or higher.. |

### 12.6 Other adverse effects

| | |
|---|---|
| Hazardous to ozone layer | Not classified based on available information. |

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## 13. Advice on disposal

### 13.1 Waste treatment methods

| | |
|---|---|
| Disposal | If residues of products are classified as waste, use the legal requirements to assign the appropriate waste code. Disposal must be made in accordance with official regulations. |
| Disposal of contaminated packing / recommended detergents | Recycle a container after cleaning, or dispose in accordance with official regulations |

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## 14. Transport information

### 14.1 UN number

Not regulated as dangerous goods

### 14.2 UN proper shipping name

Not regulated as dangerous goods

### 14.3 Transport hazard class

Not regulated as dangerous goods

### 14.4 Packing group

Not regulated as dangerous goods

### 14.5 Environmental hazards

Not regulated as dangerous goods

### 14.6 Special precautions for user

| | |
|---|---|
| Remarks | Not classified as dangerous in the meaning of transport regulations. |

### 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable for product as supplied.

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## 15. Regulatory information

### 15.1 Safety, health and environmental regulations / legislation specific for the substance or mixture

**National regulations** (Japan)

| | |
|---|---|
| Industrial Safety and Health Act / Dust obstacle Ordinance on Prevention | Regulated when some types of dust or powder are present. |
| Enforcement Ordinance of Pneumoconiosis Law | Regulated when some types of dust or powder are present. |
| Pollutant Release and Transfer Register Law | Not regulated |
| Poisonous and Deleterious Substances Control Act | Not regulated |
| Others law | None |

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## 16. OTHER INFORMATION

The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

This document is based on the GHS regulations (6$^{th}$ revised edition), and JIS Z 7252/7253:2019.

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