

Safety Data Sheet

Date of revision 3 :2024/04/01

Date of initial issue :2023/05/01

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

1.1 Product identifier

Product name : Quartz Glass Crucible
(with approximately 1wt% Crystalline Silica)

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

Relevant identified uses of the product : Crucible for pulling silicon single crystals

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 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 Explosives

Health Hazards

Germ cell mutagenicity	Category 2 / Crystalline Silica
Carcinogenicity	Category 1A / Crystalline Silica
Specific target organ toxicity - Repeated exposure	Category 1 / Crystalline Silica

Environmental Hazards

Classification not possible for all environmental hazards

2.2 Label elements

Pictogram and Symbol



Signal word

Danger

Hazard statement

Main Component: Silica Glass: Not applicable

Impurity Component: Crystalline Silica:

- H341 Suspected of causing genetic defects
- H350 May cause cancer
- H372 Causes damage to organs through prolonged or repeated exposure

Precautionary statement

Prevention

Main Component: Silica Glass: Not applicable

Impurity Component: Crystalline Silica:

- P201 Obtain special instructions before use
- P202 Do not handle until all safety precautions have been read and understood
- P260 Do not breathe dust/fume/gas/mist/vapors/spray
- P264 Wash hands thoroughly after handling
- P270 Do not eat, drink or smoke when using this product
- P280 Wear protective gloves/protective clothing/eye protection/face protection

Response

Main Component: Silica Glass: Not applicable

Impurity Component: Crystalline Silica:

- P308+P313 IF exposed or concerned: Get medical advice/attention
- P314 Get medical advice/attention if you feel unwell

Storage

Main Component: Silica Glass: Not applicable

Impurity Component: Crystalline Silica:

- P405 Store locked up

Disposal

Main Component: Silica Glass: Not applicable

Impurity Component: Crystalline Silica:

- P501 Dispose of contents/container in accordance with local/national regulation

3. Composition / information on ingredients

Mixture / substance selection

3.1 Mixture

Main Component: Silica Glass 99 wt%

Impurity component: Crystalline Silica 1wt%

Main Substance name	Silica Glass (Amorphous silicon dioxide)
Chemical formula:	SiO ₂
Concentration:	99 wt%
CAS No.:	60676-86-0
EINECS-No.	262-373-8
Impurity Substance name	Crystalline Silica (crystalline silicon dioxide)
Chemical formula:	SiO ₂
Concentration:	1 wt%
CAS No.:	14808-60-7
EINECS-No.	238-878-4

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	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	Not applicable
Further information	None

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.
	Wear protective gloves/ protective clothing/ eye protection/ face protection.

6. Accidental release measures

6.1 Personnel precautions, protective equipment and emergency procedures

Personal precautions	Do not breathe dust.
	Evacuate area.
	Wear self – contained breathing apparatus.
	Wear proper protective equipment

6.2 Environmental precautions

Environmental precautions	Should not be released into the environment.
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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 (as Crystalline Silica)

Japan Association of Industrial Health (2023)

0.03 mg/m³ (as respirable 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.

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.

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°C)
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
Particle properties / as adhering powder	Particle size ; median 150 μ m, range 50-250 μ m / Crystalline Silica

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.
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10.4 Conditions to avoid

Conditions to avoid

Avoid generation of dust.

10.5 Incompatible materials

Materials to avoid

Soluble to hydrofluoric acid

10.6 Hazardous decomposition products

No data available

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Oral : No data available

Skin : No data available

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

Category 2, Suspected of causing genetic defects

- IF exposed or concerned: Get medical advice/attention.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Store locked up.
- Dispose of contents/container in accordance with all applicable regulations.

Carcinogenicity

Category 1A, May cause cancer

- IF exposed or concerned: Get medical advice/attention.
- Obtain special instructions before use.
- Do not handle until all safety precautions have been read and understood.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Store locked up.

	- Dispose of contents/container in accordance with all applicable regulations.
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)	Category 1, Cause damage to organs through prolonged or repeated exposure (respiratory system, immune system, kidney) - Do not breathe dust/fume/gas/mist/vapors/spray. - Wash hands thoroughly after handling. - Do not eat, drink or smoke when using this product. - Get medical advice/attention if you feel unwell. - Dispose of contents/container in accordance with all applicable regulations.
Aspiration toxicity	Not classified based on available information.

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.

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

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.

15. Regulatory information

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

National regulations (Japan)

Main Component: Silica Glass:

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

Impurity Component: Crystalline Silica:

Industrial Safety and Health Act / Order for Enforcement of Industrial Safety and Health Act / Ordinance on Industrial Safety and Health	Crystalline silica is harmful substance to be notified and indicated its name, etc. Crystalline silica is harmful substance requiring risk assessment. Crystalline silica is listed as carcinogenic substance.
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

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 (6th revised edition), and JIS Z 7252/7253:2019.