

	MATERIAL SAFETY DATA SHEET (M S D S)	
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MSDS No. R1720000000 EX

The date of preparation	February 18,2008
Revised date	March 31,2010

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND THE SUPPLIER

Trade Name	TOSOH Silica Glass Materials
Products (& Grades) Name	Clear Silica Glass (ES, ED, S, N, NP, HR, HRP) Opaque Silica Glass (OP-1, OP-3, OP-3HD) Silica Glass Wool Granular Silica Glass for Coating
Manufacturer	TOSOH CORPORATION
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Recommended use and restrictions on use

General industrial products

2. HAZARD IDENTIFICATION

GHS classification

Explosives:	No classification
Flammable gases:	No classification
Flammable aerosols:	No classification
Oxidizing gases:	No classification
Compressed Gases:	No classification
Flammable liquids:	No classification
Flammable solids:	Not classified
Self-reactive substances and mixtures:	No classification
Pyrophoric liquids:	No classification
Pyrophoric solids:	Not classified
Self-heating substances and mixtures:	Not classified
Substances and mixtures which, in contact with water, emit flammable gases:	Not classified
Oxidizing liquids:	No classification

Oxidizing solids:	Classification not possible
Organic peroxides:	No classification
Corrosive to metals:	Classification not possible

Acute toxicity

Oral:	Classification not possible
Dermal:	Classification not possible
Inhalation(Gases):	No classification
Inhalation(Vapors):	No classification
Inhalation(Dusts/Mists):	Classification not possible
Skin corrosion/Irritation:	Classification not possible
Serious eye damage/eye irritation:	Classification not possible

Sensitization

Respiratory:	Classification not possible
Skin:	Classification not possible
Germ cell mutagenicity:	Classification not possible
Carcinogenicity:	Not classified
Reproductive toxicity:	Classification not possible
Specific target organ systemic toxicity (Single exposure):	Classification not possible
Specific target organ systemic toxicity (Repeated exposure):	Classification not possible
Aspiration hazard:	Classification not possible

Aquatic environment

Acute hazard:	Classification not possible
Chronic hazard:	Classification not possible

Other hazards which do not result in GHS classification:

No information available

Important symptoms:

No information available

Summary of assumed emergency:

No information available

National or regional information:

Refer to 「15 . Regulatory Information」

3. COMPOSITION/INFORMATION ON INGREDIENTS

Classification of the chemical substance or mixture:

Single component

Chemical name or common name:

Silica, vitreous

Synonyms:

Silica Glass

Concentration or concentration range:

Chemical name or common name	Abbreviation	Concentration or concentration range	Reference number in Gazetted List in Japan		CAS No
			Japanese Chemical Substances Control Law (JCSCL)	Japanese Industrial Safety and Health Law	
Silica, vitreous	-	More than 99.99%	(1)-548	Existing chemical substances	60676-86-0

Chemical formula:

<Silica, vitreous>

SiO₂

Component subject to regulation:

Ingredient	Japanese Industrial Safety and Health Law	Japanese PRTR Law (Pollutant Release and Transfer Register)
Silica, vitreous	Japanese Industrial Safety and Health Law (Article 57-2 of the Law) -MSDS require Number 312	Not applicable to the specified chemical substances of Japanese PRTR Law

Impurities and stabilizing additives which contribute to the classification of GHS:

No information available

4. FIRST-AID MEASURES

SiO₂ in a compact form is absolutely not dangerous, only in case of dry dust use the following measures:

IF INHALED:

Remove a victim to fresh air and keep at rest in a position comfortable for breathing.

Make an arrangement to get medical attention immediately.

If feel unwell, call a physician.

IF ON SKIN:

Wash with plenty of water and soap.

In case of cut, conduct treatments such as hemostasis and disinfection, and get medical attention immediately.

IF IN EYES:

Remove contact lenses, if present and not firmly fixed. Get medical attention immediately.

Wash eyes with clean water immediately.

If eye irritation persists: Get medical advice/ attention.

Do not rub eyes or close eyes tightly, since eye damage may occur by sharp edges such as glass pieces and/or powder.

IF SWALLOWED:

Call a physician immediately. Rinse mouth.

Do not induce vomiting.

Most important effects and symptoms:

No information available.

Protection for first-aid responders:

No information available

Note to physician:

No information available.

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Dry chemical powder, foam, carbon dioxide, sand
This product itself will not burn.

Unsuitable extinguishing media:

Mist may be used for cooling purposes, but cylindrical water flow should not be used for extinguishing fire.

Specific hazards arising from the chemical if burning:

No information available

Specific fire fighting measures:

Fight fire from upwind side.
Keep people away from around the fire generation site.
Evacuate people to a safe place.

Special protective equipment for fire fighter:

During fire-fighting, wear heat resistance gloves, safety goggles, and breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Keep people away from around the leakage site by encircling it with a rope.

During working, wear rubber gloves, safety glasses, protective clothing, and a dust/mist filtering respirator so as to prevent adhering powder to the skin and inhalation of dust.

Environmental precautions:

Exercise caution so as not to drain the leaked product into rivers, etc. but to minimize the adverse events on the environment.

Method of cleaning up:

Sweep the scattered product and collect it into an empty container which can be closed tightly.

Prevention measures of secondary disaster:

No information available

7. HANDLING AND STORAGE

Handling

Appropriate engineering controls:

Take facility measures stated in "Section 8. Exposure controls and personal protection" and wear protective equipment.

Exercise caution for fall, impulse, and weight load, since the product is liable to damages.

Avoid use or handling which causes change in forms, since this material is fragile.

Local and entire ventilation:

Conduct local or entire exhaust ventilation stated in "Section 8. Exposure controls and personal protection."

General precautions:

Ventilate when dust is generated during processing.

Safe handling advice

To prevent the products from contamination, do not touch with bare hands.

Storage

Appropriate engineering controls:

No information available

Appropriate storage conditions:

Store in stable conditions not to cause inversion, fall, and damage.

Safe containers and packaging materials:

Use vinyl container and exercise caution for contamination (from view point of quality).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Facility measures

In case of generation of dust by handling, install ventilation facility to keep the working site under the threshold limit value.

Administrative levels

Not established

Occupational Exposure Limits

Silica, vitreous	1mg/m ³	TWA	Japan Society for Occupational Health
Silica, vitreous	0.1mg/m ³	TWA	ACGIH

Personal protective equipment

Respiratory protection:

Dust/mist filtering respirator, air-supplied mask, etc.

Hand protection

Leather gloves

Eyes Protection:

Safety goggles or a face shield

Skin and body protection:

Long-sleeve shirts and long pants made of thick cloth

Appropriate hygiene measures:

Wash hands thoroughly and gargle after working, and eat and drink.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Solid (Lumps)
Colour:	White
Odour(Odour threshold):	Odor less
pH:	Not applicable
Melting point/Freezing point:	There is no clear melting point
Boiling point:	2227
Initial boiling point:	Unknown
Boiling range:	Unknown
Flash point:	Unknown
Auto-ignition temperature:	Unknown
Flammability (solid, gas):	Noncombustible
Lower flammability or explosive limits:	Unknown

Upper flammability or explosive limits:	Unknown
Vapor pressure:	Unknown
Vapor density:	Unknown
Evaporation rate:	Unknown
Specific gravity (Relative density):	2.2g/cm ³ (15)
Solubility:	Unknown
Partition coefficient; n-octanol/water:	Unknown
Decomposition temperature:	Unknown
Other information:	No information available

10. STABILITY AND REACTIVITY

Chemical stability:

Stable at ordinary storage and handling conditions.

Possibility of hazardous reactions:

Stable at ordinary storage and handling conditions.

Conditions to avoid:

Extremely rapid heating, rapid cooling

Fused or amorphous silica may become crystalline if held at high temperatures for extended periods of time.

Incompatible materials:

No information available

Hazardous decomposition products:

No information available

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Unknown

Skin corrosion/Irritation:

Unknown

Serious eye damage/irritation:

Unknown

Respiratory sensitization/skin sensitization:

Unknown

Mutagenicity (Germ cell mutagenicity):

Unknown

Carcinogenicity:

Silica, vitreous	IARC: Group 3 (Cannot be classified as to its carcinogenicity to humans)
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Crystalline silica should be considered a possible human carcinogen based on this association. Fused silica has not been identified as a carcinogen.

Reproductive toxicity:

Unknown

Specific target organ toxicity - Single exposure:

Unknown

Specific target organ toxicity - Repeated exposure:

Unknown

Aspiration hazard:

Unknown

12. ECOLOGICAL INFORMATION

Ecotoxicity

Fish:

No information available

Crustacea:

No information available

Algae:

No information available

Persistence/Degradability:

No information available

Bioaccumulative Potential:

No information available

Mobility in soil:

No information available

Other adverse effects:

Do not dispose into a general environment due to no data in many items.

13. DISPOSAL CONSIDERATIONS

Residual wastes :

Consign disposal to the disposal-specialized services approved by a prefectural governor in accordance with "Waste Management and Public Cleansing Law."

Contaminated containers and packaging :

After removal of contents in the used packaging container completely, consign disposal to the disposal-specialized services approved by a prefectural governor in accordance with "Waste Management and Public Cleansing Law."

14. TRANSPORT INFORMATION

Domestic regulations:

Refer to laws and regulation that are applied.

Special precautions:

No information available

Special precautions and conditions in transport:

Load so that there will be no tumbling, dropping or damaging, and securely conduct load collapse prevention.

At the time of transportation by vehicles, always have the driver carry yellow cards.

In order to prevent mingling of foreign matter , and wetting with water, cover the goods with a sheet.

In case of bulky loading, in order to prevent load collapse, keep the stack lower or fix the goods in position

15. REGULATORY INFORMATION

<Silica, vitreous>

Substances to be notified, which are specified in Article 57 Item 2 of the Japanese Law on Industrial Safety and Hygiene

Waste Management and Public Cleansing Law (Industrial Wastes)

16. OTHER INFORMATION

References

<Silica, vitreous>

Journal of Occupational Health Vol. 48 (2006)

List of Chemical Substances Classified based on GHS Classification - GHS Classification Results, National Institute of Technology and Evaluation (NITE)

ACGIH,TLVs and BEIs Based on the Documentation of the Threshold Limit Values for Chemical Substances and Physical Agents & Biological Exposure Indices (2006)

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When the revision of this MSDS is received, please dispose of the old one.

Contact for Description Contents;

Director of Environment, Safety and Quality Control Department of Head Office

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