



TOSOH USA, INC.

TOSOH SILICA GLASS MATERIALS

1. IDENTIFICATION OF THE SUBSTANCE OR MIXTURE AND OF THE SUPPLIER

PRODUCT IDENTIFIER: Silica Glass Materials

PRODUCT (& GRADE) NAMES: Clear Silica Glass (ES, ED, S, SD, N, NP, HR, HRP)
Opaque Silica Glass (OP-1, OP-3, OP-3HD, OP-S)
Silica Glass Wool
Granular Silica Glass for Coating

MANUFACTURER: Tosoh USA, Inc.
ADDRESS: 3600 Gantz Road
Grove City, Ohio 43213

PHONE: 1-866-844-6953

EMERGENCY PHONE: CHEMTREC 1-800-424-9300 OR 1-703-527-3887

RECOMMENDED USE: General industrial products

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION: Not Classified

HAZARD SYMBOL: None

SIGNAL WORD: None

HAZARD STATEMENTS: None

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>CAS #</u>	<u>OSHA Hazardous(Y/N)</u>	<u>Concentration (%)</u>
Silica, vitreous	60676-86-0	Y	>99.99%

These hazards are applicable when the material is present as a dust.

4. FIRST AID MEASURES

EYE CONTACT: Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek medical attention if irritation develops or persists or if visual changes occur.



TOSOH USA, INC.

TOSOH

4. FIRST AID MEASURES (continued)

SKIN CONTACT:

Remove contaminated clothing and shoes. Wash with plenty of water, for at least 15 minutes. Seek medical attention if irritation develops or persists. Launder contaminated clothing and shoes before re-use.

INGESTION:

Do not induce vomiting. If victim is conscious and alert, give 1-2 glasses of water to drink. Do not give anything by mouth to an unconscious person. Seek immediate medical attention. Do not leave victim unattended.

INHALATION:

If respiratory irritation or distress occurs, remove victim to fresh air. Seek immediate medical attention.

NOTES TO PHYSICIAN:

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically. No specific antidote available.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA:

The product as sold is not flammable. Extinguishing media to treat surrounding materials: Water spray, fog, dry chemical, foam, CO₂

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Closed containers may rupture due to buildup of pressure when exposed to extreme heat.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE FIGHTERS:

Firefighters should wear NIOSH/MSHA-approved self-contained breathing apparatus and full protective clothing. Cool containers exposed to fire with water.

HAZARDOUS DECOMPOSITION

MATERIALS UNDER FIRE CONDITIONS: None known

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS:

Wear appropriate protective gear for the situation. (See Personal Protection Information in Section 8).

ENVIRONMENTAL PRECAUTIONS:

Do not flush to drain. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.



6. ACCIDENTAL RELEASE MEASURES (continued)

METHOD FOR CLEAN UP: Extinguish or remove all sources of ignition. Sweep up and place in an appropriate closed container. Clean up residual material by washing area with water. Collect washings for disposal. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Handle material with suitable protection (See Section 8). Handle with adequate ventilation. Avoid breathing dusts. Avoid contact with eyes, skin and clothing.

VENTILATION: General area dilution/exhaust ventilation.

CONDITIONS FOR SAFE STORAGE: Store upright in a cool, dry, well ventilated area out of direct sunlight. Keep away from heat, open flames and ignition sources. Keep container tightly closed. Do not reuse container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING MEASURES: Set up hand-wash station and eyewash station near work area. General area dilution/exhaust ventilation.

EXPOSURE LIMITS:

Particulates, not otherwise classified, inhalable particulate	10 mg/M ³ – ACGIH TWA
Particulates, not otherwise regulated, total dust	15mg/M ³ – OSHA PEL
Particulates, not otherwise regulated, respirable fraction	5mg/M ³ – OSHA PEL
Particulates, not otherwise regulated, respirable fraction	3mg/M ³ – ACGIH TWA

(where: TWA = Time-Weighted Average (8-hour exposure), STEL = Short-Term Exposure Limit (15-minute time-weighted average exposure))

PERSONAL PROTECTION MEASURES:

Respiratory protection: When respirators are required, select NIOSH/MSHA approved equipment based on actual or potential airborne concentrations and in accordance with regulatory standards and/or industrial



8. EXPOSURE CONTROLS/PERSONAL PROTECTION (continued)

recommendations. Dust/mist filtering respirator is recommended.

Eye protection:

Safety glasses with side shields, goggles or face shield are recommended.

Skin protection:

Skin contact should be minimized through the use of chemical-resistant gloves and boots, and suitable protective clothing. If product is broken, wear cut or puncture-resistant gloves.

The following general measures should be taken when working or handling this material:

- 1) Do not store, use, and/or consume foods, beverages, tobacco products, or cosmetics in areas where this material is stored.
- 2) Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.
- 3) Wash exposed skin promptly.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Solid (lumps)
COLOR:	Clear for Silica Glass, white for Opaque Silica Glass
ODOR:	Odorless
pH:	No data available
MELTING POINT:	No data available
BOILING POINT:	4041F (2227C)
FLASH POINT:	Non-combustible
AUTOIGNITION POINT:	No data available
EXPLOSIVE LIMITS(Lower):	No data available
EXPLOSIVE LIMITS(Upper):	No data available
VAPOR PRESSURE:	No data available
VAPOR DENSITY:	No data available
EVAPORATION RATE:	No data available
RELATIVE DENSITY:	2.2 for Clear Silica Glass, 1.9-2.1 for Opaque Silica Glass (both @ 59F, 15C)
SOLUBILITY IN WATER:	Insoluble
PARTITION COEFFICIENT:	No data available
DECOMPOSITION TEMPERATURE:	No data available
VISCOSITY, DYNAMIC:	No data available
SURFACE TENSION:	No data available

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY:

This material is stable under normal handling and storage conditions described in Section 7. When silica glass is exposed to high temperatures, the pure SiO₂ structure changes from a glass state (amorphous) to a stable crystalline state called cristobalite.



10. STABILITY AND REACTIVITY (Continued)

This structural change is known as devitrification and generally occurs at temperatures over 1,150°C for clean clear fused silica. Devitrification may also occur at temperatures below 1,000°C in the presence of impurities such as metal. The skin's natural salts contain alkali such as sodium, potassium, and other impurities that accelerate devitrification. All sources of metal contaminants should be avoided.

CONDITIONS TO AVOID:

Avoid extreme rapid heating or rapid cooling.

Silica glass may become crystalline if held at high temperatures for extended periods of time.

INCOMPATIBLE MATERIALS:

None known

HAZARDOUS DECOMPOSITION PRODUCTS:

None known

HAZARDOUS POLYMERIZATION:

Not applicable

11. TOXICOLOGICAL INFORMATION

EYE CORROSION/IRRITATION:

No data available.

SKIN CORROSION/IRRITATION:

No data available.

ACUTE TOXICITY

ACUTE ORAL TOXICITY:

No data available.

ACUTE DERMAL TOXICITY:

No data available.

ACUTE INHALATION TOXICITY:

No data available.

SKIN SENSITIZATION:

No data available.

GENETIC TOXICITY:

No data available.

CARCINOGENICITY:

This product does not contain any substances that are considered by OSHA, NTP, IARC or ACGIH to be "probable" or "suspected" human carcinogens. However, improper handling may cause devitrification (Crystallization; See Chemical Stability Information in Section 10). Crystalline silica should be considered a possible human carcinogen if inhaled as a dust.

REPRODUCTIVE TOXICITY:

No data available.

STOT-SINGLE EXPOSURE:

No data available

STOT-REPEATED EXPOSURE:

No data available



TOSOH USA, INC.

TOSOH

12. ECOLOGICAL INFORMATION

ECOTOXICITY: No data available.

PERSISTENCE AND DEGRADABILITY: No data available

MOBILITY IN SOIL: No data available

13. DISPOSAL CONSIDERATION (INCLUDING CONTAINER)

RESIDUAL WASTE: Chemical additions, processing or otherwise altering this material may make the waste management information presented in this SDS incomplete, inaccurate or otherwise inappropriate. Please be advised that state and local requirements for waste disposal may be more restrictive or otherwise different from federal laws and regulations. Consult state and local regulations regarding the proper disposal of this material.

CONTAMINATED VESSELS AND CONTAINERS: No specific empty container disposal restrictions.
EPA Hazardous Waste = No

14. TRANSPORTATION INFORMATION

PROPER SHIPPING NAME: NOT REGULATED
UN NUMBER: None
UN CLASS or DIVISION: None
UN PACKING GROUP: None
LABELS: None
EMERGENCY GUIDE#: None

15. REGULATORY INFORMATION

Inventory Status: US (TSCA): Yes
Canada (DSL): Yes
Europe (REACH): Yes
Australia (AICS): Yes
Japan (MITI): Yes
Korea (KECL): Yes

Where: Yes = all ingredients are listed on the inventory, Exempt = All ingredients are either on the inventory or exempt from the requirements of listing, No = Not determined, or one or more ingredients are not on the inventory and are not exempt from listing

SARA Title III Hazard Classes: Fire Hazard: No
Reactive Hazard: No
Release of Pressure: No
Acute Health Hazard: Yes



TOSOH USA, INC.

TOSOH

15. REGULATORY INFORMATION (Continued)

Chronic Health Hazard: No

SARA Extremely Hazardous Substances/CERCLA Hazardous Substances: None

California Proposition 65: This product does not contain any components that are regulated under Proposition 65.

16. OTHER INFORMATION INCLUDING INFORMATION ON PREPARATION AND REVISION OF THIS SDS

National Fire Protection Association (“NFPA”) Hazard Ratings:

Health: 1 (Slight)

Flammability: 0 (Minimal)

Reactivity: 0 (Minimal)

National Paint and Coatings Hazardous Materials Identification System (“HMIS”) Hazard Ratings:

Health: 1 (Slight)

Flammability: 0 Minimal)

Physical Hazard: 0 (Minimal)

HISTORY:

Date previous SDS:

None

Date of issue:

May 28, 2015

Reasons for Revision:

GHS Format

Disclaimer: The information set forth herein has been gathered from standard reference materials and/or TOSOH USA, INC. and its related, subsidiary and affiliated companies' test data and is to the best knowledge and belief of TOSOH USA, INC. and its related, subsidiary and affiliated companies, accurate and reliable. Such information is offered solely for your consideration, investigation, and verification, and is not suggested or guaranteed that the hazard precautions or procedures mentioned are the only ones that exist. TOSOH USA, INC. and its related, subsidiary and affiliated companies make no warranties, express or implied, and expressly disclaim any and all such warranties with respect to the use of such information or the use of specific material identified herein in combination with any other material or process, and assume no responsibility therefor. TOSOH USA, INC. and its related, subsidiary and affiliated companies make no representation or warranty, express or implied, and EXPRESSLY DISCLAIM ANY AND ALL SUCH WARRANTIES, as to the usefulness, sufficiency, MERCHANTABILITY or FITNESS FOR ANY PURPOSE whatsoever of the materials identified herein. The purchaser bears sole responsibility for testing, evaluating and determining the suitability of these materials for whatever use(s), manufacturing and refining processes, and any other such application(s) for which it intends or ultimately makes of these materials. Purchaser bears sole responsibility for obtaining any and all regulatory, legal and governmental approval necessary for such use(s). Copies of the Terms and Conditions of Sale are available upon request at (info.tusa@tosoh.com).

END OF SAFETY DATA SHEET