

SAFETY DATA SHEET

According to JIS Z 7253:2019

Issue Date 02-JAN-2026

Revision Number 1.00

Section 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Monolith Glass column SIL
Product Code:	G0102SIL, G0105SIL, G0110SIL, G0205SIL, G0210SIL, G0305SIL, G0310SIL, G0505SIL, G0510SIL
Supplier	FLUGELZ Co., Ltd. 104, West Wing, International Science Innovation Building, Kyoto University, 36-1 Yoshida-honmachi, Sakyo-ku, Kyoto 606-8501, Japan Phone: +81-75-600-0666 Fax: +81-75-600-0666
Emergency telephone number	+81-75-600-0666. Available during business hours only (Japan Standard Time). Outside business hours, contact local emergency services and consult the SDSs for any solvents, samples, acids, or cleaning solutions involved.
Recommended uses	For research use in liquid chromatography purification
Restrictions on use	Not for medical, pharmaceutical, or food use. Seek expert judgment when using for any other use.

Section 2: HAZARDS IDENTIFICATION**GHS classification****Classification of the substance or mixture**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS). The GHS classification applies to the finished unused product as supplied. The product contains an amorphous silica gel fixed as a monolithic porous body inside a prepacked column. It is not supplied as free-flowing powder, and respirable silica dust exposure is not expected under normal handling and intended use.

Pictograms	None
Signal word	None

Hazard statements

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Precautionary statements-(Prevention)

- Not applicable

Precautionary statements-(Response)

- Not applicable

Precautionary statements-(Storage)

- Not applicable

Precautionary statements-(Disposal)

- Not applicable

Others

Other hazards:	Product used in pressurized liquid-flow operation. Do not exceed the maximum allowable pressure or directly pressurize with gas. Initial wetting of dry silica may generate heat. Breakage may release sharp fragments or fine dust. Solvent/sample hazards are outside this SDS.
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Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**Single Substance or Mixture****Mixture**

Chemical Name	Role	Approx. content	Molecular weight	ENCS	ISHL No.	CAS RN
Silica gel, monolithic, amorphous	Adsorbent	17 wt%	60.08	Existing / publicly listed substance	See Section 15*	63231-67-4
Borosilicate glass	Housing	80 wt%	N/A	N/A	N/A	N/A
Fluorinated Ethylene Propylene polymer	Sealing	3 wt%	N/A	N/A	N/A	N/A

Note: Silica gel content is model-dependent. The CAS RN refers to the amorphous silica gel phase as identified in the referenced raw material SDS. The product is not supplied as silica powder or granular silica gel. Under normal handling and intended use, release of respirable silica dust is not expected. If the column is cut, crushed, ground, disassembled, or otherwise damaged, silica-containing fragments or dust may be generated.

Section 4: FIRST AID MEASURES**Inhalation**

Remove to fresh air. If symptoms persist, call a physician.

Skin contact

Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

Eye contact

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If irritation persists, seek medical attention.

Ingestion

Rinse mouth. Never give anything by mouth to an unconscious person. If irritation persists, seek medical attention. Do not induce vomiting without medical advice.

Protection of first-aiders

Use personal protective equipment as required. For solvent/sample exposure, consult the SDS for those materials.

Section 5: FIRE FIGHTING MEASURES**Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

Unsuitable extinguishing media

No information available

Specific hazards arising from the chemical product

Thermal decomposition of polymer parts can release irritating/toxic gases and vapors. Solvents introduced into the column may add flammability hazards.

Special extinguishing method

No information available

Special protective actions for fire-fighters

Use personal protective equipment as required. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

Section 6: ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Provide adequate ventilation until cleanup is complete. Restrict access to authorized personnel. Wear appropriate PPE to prevent skin contact and inhalation of dust or vapors. Work from upwind where applicable and evacuate personnel downwind.

This product is a prepacked glass column and does not release free-flowing powder under normal conditions.

In case of breakage: stop pressurization, ventilate, restrict access, and wear appropriate PPE (gloves, safety goggles; add a dust mask if dust is suspected). Avoid sharp fragments and spilled solvent/sample.

Environmental precautions

Prevent release to the environment and do not discharge contaminated wastewater without proper treatment.

Methods and materials for containment and cleaning up

Collect scattered particles and fragments in a sealed, puncture-resistant container.

- Collect broken housing, connector, and monolith fragments in a puncture-resistant container.
- For leaked solvent or sample, use compatible absorbent and follow its SDS.
- If fine dust is suspected, use wet wiping or a HEPA vacuum; avoid dry sweeping that may resuspend dust.

Recovery, neutralization

No information available

Secondary disaster prevention measures

Clean contaminated objects and areas thoroughly observing environmental regulations.

Section 7: HANDLING AND STORAGE**Handling****Technical measures**

Use with local exhaust ventilation only if dust generation is expected, or if hazardous solvents/samples are used. Use only with compatible flash purification equipment and liquid-flow systems.

Precautions

Inspect housing, connectors, caps, seals, and tubing before use; do not use if abnormality or leakage is observed. Keep pressure below the maximum allowable pressure and check leakage at low pressure before gradual pressurization. Avoid pressure spikes, sudden valve switching, dropping, impact, direct gas pressurization, and overtightening of connectors. During initial wetting, avoid rapid pressurization until heat generation subsides; do not use alcohol or water for initial washing. After handling, wash hands and face thoroughly. Do not eat, drink, or smoke in handling areas. Do not bring contaminated PPE, gloves, or tools into rest areas. Restrict access to the handling area to authorized personnel.

Safety handling precautions

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Check SDSs for solvents, samples, acids, and cleaning solutions. Do not use strong alkalis, hydrofluoric acid, strong oxidizing acids, or oxidizing acid/organic solvent mixtures.

Storage**Safe storage conditions****Storage conditions**

Store dry and away from sunlight in well-ventilated place at room temperature before use. Avoid high temperature, humidity, freezing, rapid temperature changes, and mechanical shock. Keep caps/closures secured. After use, flush and store with compatible solvent; ethanol is recommended for long-term storage.

Safe packaging material

Glass, polyethylene, polypropylene

Incompatible substances

Strong alkalis, hydrofluoric acid, strong oxidizing acids, and storage-incompatible solvents specified in the instruction manual

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**Engineering controls**

In case of indoor workplace, seal the source or use a local exhaust system when dust may be generated, or when solvents/samples requiring ventilation are used. Provide safety shower facility and hand- and eye-wash facility, and display their position clearly.

Exposure limits

Chemical Name	JSOH (Japan)	ISHL (Japan)	ACGIH
Silica Gel (CAS 63231-67-4)	N/A	N/A	TWA 10 mg/m ³

Personal protective equipment**Respiratory protection:**

Dust mask (JIS T 8151), if dust is suspected or generated

Hand protection:

Chemical protective gloves (JIS T 8116), suitable for solvents/samples in use

Eye protection:

Protective eyeglasses or chemical safety goggles (JIS T 8147)

Skin and body protection:

Long-sleeved work clothes

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Form	
Color	White
Appearance	Monolithic block in clear column
Odor	Odorless
Melting point/freezing point	No data available
Boiling point, initial boiling point and boiling range	No data available
Flammability	No data available
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper/lower flammability or explosive limits	
Upper:	No data available
Lower:	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	4.0 - 6.0 (50g/L, 25°C, immersion in water)
Viscosity	No data available
Solubilities	Silica gel is insoluble in acetone, ethanol, and water, and soluble in hot aqueous sodium hydroxide.
n-Octanol/water partition coefficient (log Pow)	No data available
Vapor pressure	No data available
Specific Gravity / Relative density	No data available
Vapor density	No data available
Particle characteristics	Not applicable under normal use (monolithic body in prepacked column; no free-flowing granules).

Section 10: STABILITY AND REACTIVITY

Stability	
Reactivity	Silica gel may react or deteriorate with strong alkalis and hydrofluoric acid.
Chemical stability	Stable under recommended storage conditions.
Hazardous reactions	
	None under normal processing. Cleaning chemicals may cause heat, gas generation, or side reactions depending on the materials used.
Conditions to avoid	
	Extremes of temperature and direct sunlight, moisture, freezing, rapid temperature changes, mechanical shock, overpressure, pressure spikes, incompatible solvent residue, and repeated rapid wetting/drying.
Incompatible materials	
	Strong alkalis, hydrofluoric acid, strong oxidizing acids, oxidizing acid/organic solvent mixtures, and other chemicals highly reactive with silica.
Hazardous decomposition products	
	No information available for the complete product. Thermal decomposition of polymer parts may release irritating and toxic gases and vapors.

Section 11: TOXICOLOGICAL INFORMATION

*NITE: National Institute of Technology and Evaluation (JAPAN)

https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput

Note: Toxicological information is based on referenced raw material SDS for silica gel. Inhalation exposure is not expected under normal use due to the sealed monolith design.

Acute toxicity

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Silica Gel	3160 mg/kg (Rat)	N/A	N/A

Skin irritation/corrosion	No data available
Serious eye damage/irritation	No data available
Respiratory or skin sensitization	No data available

Germ cell mutagenicity No data available

Carcinogenicity

Chemical Name	NTP	IARC	ACGIH	JSOH
Silica Gel	N/A	Group 3	N/A	-

Reproductive toxicity No data available

STOT-single exposure No data available

STOT-repeated exposure No data available

Aspiration hazard No data available

Section 12: ECOLOGICAL INFORMATION

*NITE: National Institute of Technology and Evaluation (JAPAN)

https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput

Ecotoxicity

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Silica Gel	EC50: Pseudokirchneriella subcapita 440 mg/L 72 h	N/A	N/A

Other data No data available

Persistence and degradability No information available

Bioaccumulative potential No information available

Mobility in soil No information available

Hazard to the ozone layer No information available

Section 13: DISPOSAL CONSIDERATIONS

Waste from residues

Disposal should be in accordance with applicable regional, national and local laws and regulations. If used with solvents, samples, acids, or cleaning solutions, dispose according to those hazards.

Contaminated container and contaminated packaging

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: TRANSPORT INFORMATION

ADR/RID Not regulated

UN number —

Proper shipping name:

UN classification

Subsidiary hazard class

Packing group

Marine pollutant Not applicable

IMDG Not regulated

UN number —

Proper shipping name:

UN classification

Subsidiary hazard class

Packing group

Marine pollutant (Sea) Not applicable

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

IATA Not regulated

UN number —

Proper shipping name:

UN classification

Subsidiary hazard class**Packing group****Environmentally Hazardous Substance**

No information available

Note: Not regulated as dangerous goods (ADR/IMDG/IATA), based on the referenced raw material SDS and the finished product design as a sealed article. No free-flowing powder under normal transport. If transported after use with solvent/sample remaining, evaluate separately.

Section 15: REGULATORY INFORMATION**Japanese regulations****Fire Service Act**

Not applicable to the dry unused product. Solvents used with this product may be regulated separately.

Poisonous and Deleterious Substances Control Law

Not applicable to the dry unused product.

Industrial Safety and Health Act

Not applicable to the dry unused product as supplied. If the product is broken, cut, crushed, ground, disassembled, or otherwise handled in a manner that may generate silica-containing dust, applicability to mandatory labeling under Article 57 and/or mandatory SDS notification under Article 57-2 should be separately evaluated. Regulatory obligations and exposure controls for amorphous silica / silica gel dust should be determined based on the latest official substance lists, cut-off values, concentration, physical form, and actual handling conditions.

Regulations for the carriage and storage of dangerous goods in ship

Not applicable

Civil Aeronautics Law

Not applicable

Pollutant Release and Transfer Register Law (2023.4.1-)

Not applicable

Section 16: OTHER INFORMATION**Key literature references and sources for data etc.**

NITE: National Institute of Technology and Evaluation (JAPAN)

https://www.chem-info.nite.go.jp/en/chem/chrip/chrip_search/srhInput

IATA Dangerous Goods Regulations

RTECS: Registry of Toxic Effects of Chemical Substances

Japan Industrial Safety and Health Association GHS Model SDS

Chemical Dictionary etc.

MONOLITH Glass column SIL Instruction Manual, 2nd Edition, 20-APR-2026

Record of SDS revisions: Initial issue (Product SDS) prepared based on referenced SDS, product design, and instruction manual for MONOLITH Glass column SIL.

Disclaimer: This SDS is according to JIS Z 7253: 2019. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

This SDS applies to the unused dry product. When solvents, samples, acids, or cleaning solutions are introduced, hazards and regulatory treatment may change and should be evaluated using the SDS and regulatory status of those materials.

GHS Classification is according to JIS Z 7252:2019. *JIS: Japanese Industrial Standards

End of Safety Data Sheet