SOLVENT SYSTEMS International, Inc.
Environmental Services

Offer Sheet

Product	Silica gel (silicon dioxide, SiO_2)
Quantity	143 drums on 6 pallets
Net weight	~9,098 lbs.
Manufacture date	
Availability	One time
Location	North Chicago, IL 60064
Date	1/30/26
COA & SDS	Attached below

Brian Svrusis
Solvent Systems International
575 Bennett Road
Elk Grove Village, IL 60007
847-323-6718 call or text
Click here for: Surplus Inventory
Solvent-Systems.com

Silica gel is a **porous, amorphous form of silicon dioxide (SiO_2)** with a very high internal surface area (hundreds of m^2 per gram).
Chemically inert and insoluble in water, it functions as a **desiccant and adsorbent**, meaning it physically traps moisture (and some vapors) within its microscopic pores rather than dissolving it.

Major commercial uses for Silica Gel
1) Moisture control & desiccant packaging (largest global use)
Used to protect products from humidity damage during storage and shipping.
Common applications:

- electronics and semiconductors
- pharmaceuticals and medical devices
- food packaging (dry goods, supplements)
- leather goods, shoes, textiles

Purpose: prevents corrosion, mold growth, clumping, and degradation.

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2) Industrial drying and air/gas dehydration
Used in large desiccant systems for:

- compressed air dryers
- natural gas dehydration
- industrial process air drying
- HVAC moisture control

Why: high moisture capacity and easy regeneration by heating.

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3) Adsorbent in chemical processing and purification
Used as:

- chromatography packing material (lab & industrial)
- impurity and moisture scavenger
- catalyst support in some reactions

Function: separates or removes unwanted compounds and water.

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4) Pharmaceutical and healthcare uses
Used in:

- diagnostic kits
- medical device packaging

Purpose: maintains product stability and shelf life.

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5) Food industry moisture protection
Used (in controlled packaging) to:

- keep snack foods crisp
- prevent caking of powders and spices
- protect nutraceuticals and supplements

(Not consumed — always separated from food contact.)

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6) Electronics manufacturing & storage
Critical for:

- circuit boards
- microchips
- optical components

Moisture can cause:

- corrosion
- electrical shorts
- performance failure

Silica gel ensures low-humidity environments.

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7) Specialty odor and vapor adsorption (niche)
Used in:

- odor absorbers
- museum artifact preservation
- archival storage
- moisture + VOC trapping blends

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8) Catalyst and chemical carrier (industrial)
Used as:

- support medium for catalysts
- carrier for active chemicals in specialty processes

Typical industries buying silica gel

- packaging & logistics companies
- electronics manufacturers
- pharmaceutical companies
- food processors
- chemical manufacturers
- natural gas & industrial plants
- laboratory suppliers

PO 4300266981
Code 63346
WLS Job 5216

Certificate of Analysis

1.07734.9025 Silica gel 60 (0.063-0.200 mm) for column chromatography (70-230 mesh ASTM)
Batch TA5318934

	Spec. Values		Batch Values	
pH-value (10 % suspension)	6.5 - 7.5		7.0	
Fe (Iron)	≤ 0.02	%	≤ 0.02	%
Pore volume (N_2-isotherm)	0,74 - 0,84 ml/g		Conforms	
Specific surface area (BET)	480 - 540 m^2/g		Conforms	
Loss on drying (150 °C)	≤ 7.0	%	4.0	%
Particle Size (d10)	75 - 95	µm	79	µm
Particle Size (d50)	125 - 150	µm	135	µm
Particle Size (d90)	212 - 242	µm	227	µm

The specific surface area and the pore volume are related to the raw material

Date of release (DD.MM.YYYY) 05.04.2024
Minimum shelf life (DD.MM.YYYY) 30.04.2034

Dr. Simon Forster
Responsible laboratory manager quality control

This document has been produced electronically and is valid without a signature.

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Pore volume (N_2-isotherm)	0,74 - 0,84 ml/g		Conforms	
Specific surface area (BET)	480 - 540 m^2/g		Conforms	
Loss on drying (150 °C)	≤ 7.0	%	4.0	%
Particle Size (d10)	75 - 95	µm	78	µm
Particle Size (d50)	125 - 150	µm	132	µm
Particle Size (d90)	212 - 242	µm	222	µm

The specific surface area and the pore volume are related to the raw material

Date of release (DD.MM.YYYY) 27.03.2024
Minimum shelf life (DD.MM.YYYY) 31.03.2034

Dr. Simon Forster
Responsible laboratory manager quality control

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Date of release (DD.MM.YYYY) 05.04.2024
Minimum shelf life (DD.MM.YYYY) 30.04.2034

Dr. Simon Forster
Responsible laboratory manager quality control

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SAFETY DATA SHEET

Version 6.9
Revision Date 05/07/2025
Print Date 05/08/2025

SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : Silica gel

Product Number : 214477
Brand : Sigma-Aldrich
CAS-No. : 112926-00-8

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

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Not a hazardous substance or mixture.

Other hazards

None known.

GHS label elements

Not a hazardous substance or mixture.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Components

Chemical name	CAS No./Unique ID	Concentration (% w/w)	Trade secret
synthetic amorphous silica, pptd.	112926-00-8*	>= 90 - <= 100	-

* Indicates that the identifier is a CAS No.
Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

If inhaled : After inhalation: fresh air.

In case of skin contact : In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower.

In case of eye contact : After eye contact: rinse out with plenty of water. Remove contact lenses.

If swallowed : After swallowing: make victim drink water (two glasses at most). Consult doctor if feeling unwell.

Most important symptoms and effects, both acute and delayed : The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

Protection of first-aiders : For personal protection see section 8.

Notes to physician : No data available

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Specific hazards during fire fighting : Not combustible.

Ambient fire may liberate hazardous vapours.

Hazardous combustion products	:	silicon oxides
Specific extinguishing methods	:	No data available
Further information	:	Suppress (knock down) gases/vapors/mists with a water spray jet.
Special protective equipment for fire-fighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Advice for non-emergency personnel: Avoid inhalation of dusts. Evacuate the danger area, observe emergency procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.
Environmental precautions	:	No special precautionary measures necessary.
Methods and materials for containment and cleaning up	:	Observe possible material restrictions (see sections 7 and 10). Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

Further information on storage conditions	:	Tightly closed. Dry.
Storage class	:	11, Combustible Solids
Recommended storage temperature	:	Recommended storage temperature see product label.
Packaging material	:	Suitable material: LDPE Bottle/Jar

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
synthetic amorphous silica, pptd.	112926-00-8	TWA	6 mg/m3	OSHA P0
		TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m3 / %SiO2 (Silica)	OSHA Z-3
		TWA	6 mg/m3 (Silica)	NIOSH REL

Engineering measures : No data available

Personal protective equipment

Respiratory protection : Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Remarks : Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 and the standard EN 374 derived from it.

Eye protection : Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Safety glasses

Hygiene measures : Change contaminated clothing. Wash hands after working with substance.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Beads
Color	:	white
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	No data available
Melting point/ range	:	> 2,912 °F / > 1,600 °C
Boiling point/boiling range	:	4,046 °F / 2,230 °C
Flash point	:	Not applicable
Evaporation rate	:	No data available
Flammability (solid, gas)	:	No data available
Flammability (liquids)	:	No data available
Burning rate	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	No data available
Density	:	ca. 2 g/cm3 (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	0.001 g/l (68 °F / 20 °C)
Partition coefficient: n-octanol/water	:	Not applicable for inorganic substances
Autoignition temperature	:	No data available

Decomposition temperature	:	No data available
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Flow time	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	none
Molecular weight	:	60.08 g/mol
Particle characteristics Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No data available
Chemical stability	:	The product is chemically stable under standard ambient conditions (room temperature) .
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	no information available
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
Remarks: No data available

Serious eye damage/eye irritation
Remarks: No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Additional Information

Amorphous silica is not classifiable as to its carcinogenicity to humans (Group 3); however, crystalline silica inhaled in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (Group 1, IARC). Therefore, amorphous silica should be handled as if possessing the same hazards as the crystalline form.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Stomach - Irregularities - Based on Human Evidence

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

synthetic amorphous silica, pptd.:

Toxicity to fish	:	Remarks: No data available

Persistence and degradability

Components:

synthetic amorphous silica, pptd.:

Biodegradability	:	Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

Bioaccumulative potential

Components:

synthetic amorphous silica, pptd.:

Partition coefficient: n-octanol/water	:	Remarks: Not applicable for inorganic substances

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	:	Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

National regulation

49 CFR Road

Not regulated as a dangerous good

Poison Inhalation Hazard	:	No

Special precautions for user

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

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Chronic Health Hazard

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations

Massachusetts Right To Know

synthetic amorphous silica, pptd. 112926-00-8

Massachusetts Right To Know

synthetic amorphous silica, pptd. 112926-00-8

Pennsylvania Right To Know

synthetic amorphous silica, pptd. 112926-00-8

Pennsylvania Right To Know

synthetic amorphous silica, pptd. 112926-00-8

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

New Jersey Right To Know

synthetic amorphous silica, pptd. 112926-00-8

The ingredients of this product are reported in the following inventories:

TSCA : Product contains substance(s) not listed on TSCA inventory.

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

NIOSH REL	:	USA. NIOSH Recommended Exposure Limits
OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-3	:	USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
NIOSH REL / TWA	:	Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-3 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Revision Date : 05/07/2025

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