Material Safety Data Sheet

According to: ST/SG/AC.10/30/Rev.6(GHS)

Silica Gel

For Industrial Use Only

Section 1 - Identification of the substance/preparation and of the company/undertaking

Product Identifier
Product name: Silica Gel
Uses advised against: This product is intended for industrial use only. It is not suitable for use in food, pharmaceuticals, cosmetics, or any applications involving direct contact with the human body.
Supplier: Texalan Inc.
Address: 684 Arrow Grand Cir, Covina, CA 91722
Phone: 626 332 0761
Email: info@texalan.com
Emergency Phone: 626 332 0761
Last Revision Date: Feb 1, 2025

Section 2 - Hazards Identification

Classification of the substance or mixture
Classification according to GHS
Eye irritation (Category 2) Specific target organ toxicity - single exposure (Category 3)
GHS label elements:
Pictogram

Signal word Warning
Hazard statement(s)
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Precautionary statement(s)
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present

and easy to do. Continue rinsing.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
Warning: Not for use in food, drugs, cosmetics, or in any way involving direct human contact.
Other hazards
Physical and chemical hazards: See Section 10
Human health hazards: See Section 11
Environmental hazards: See Section 12

Section 3 - Composition/Information on Ingredient

Chemical composition

Component	CAS No.	Formula	Composition	EC No.	GHS CLASS
Silicaamorphous	112926-00-8/ 7631-86-9/ 63231-67-4	SiO_2	98.5%	231-545-4	Eye Irrit. 2 STOT SE 3 H319 H335
Water	7732-18-5	H_2O	1.5%	231-791-2	/

For the full text of H-Statements in this Section, see Section 16.

Section 4-First Aid Measures

Description of first aid measures
Eye Contact: In case of overexposure to dusts or fumes, immediately flush eyes with plenty of water for at least 15 minutes occasionally lifting the eye lids. Get medical attention if irritation persists. Thermal burns should be treated as medical emergencies.
Skin Contact: In case of overexposure to dusts or particulates, wash with soap and plenty of water. If irritation develops and persists, seek medical attention.
Ingestion: Do not induce vomiting. Never give anything by mouth to an unconscious person. Wash out mouth with water. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical aid if irritation develops and persists.
Inhalation: Remove from exposure and move to fresh air immediately. Loosen tight clothing such as a collar, tie, belt or waistband. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.
Personal protective equipment for first-aid responders:
No further relevant information available.
Most important symptoms/effects, acute and delayed:
No further relevant information available.
Indication of immediate medical attention and special treatment needed:
Treat symptomatically.

Section 5 – Fire-Fighting Measures

Extinguishing media

Suitable Extinguishing Media:

Use agent most appropriate to extinguish surrounding fire. Use water spray, dry chemical, carbon dioxide, or chemical foam.

Special hazards arising from the substance or mixture:

Thermal decomposition can lead to release of irritating gases and vapors. Under fire conditions toxic fumes may be released.

Advice for firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6 - Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Spilled or released at long industrial condition: Remove ignition sources. Keep away from heat and flame, evacuate area. Avoid breathing dust, vapor, smoke. Shut off source of the leak only if it is easy to do so. Pellets remained on ground may cause slipping.

Environmental precautions

Keep spilled material out of sewers, ditches and bodies of water.

Methods and materials for containment and cleaning up

Sweep up and place in suitable containers for recycle or disposal according to local / national regulations (see section 13). Keep in suitable, closed containers for disposal.

Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

Section 7 - Handling and Storage

Precautions for safe handling

Pneumatic material handling and processing equipment may generate dust of sufficiently small particle size that, when suspended in air, may be explosive. In accordance with good industrial practice, handle with care and avoid unnecessary personal contact. Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. To prevent dust storms, air transport pipes, bag filters and storage tanks need to install devices to eliminate static electricity and grounding, bag filters of the filter with conductive material. Avoid contact with eyes. Avoid breathing dust, vapor, mist, or gas. Do not eat, drink or smoke while handling the product.
Keep away from sources of ignition.

Conditions for safe storage, including any incompatibilities

Keep away from heat, sparks, and flame. Store in a cool, dry, well-ventilated away from incompatible substances. Keep away from sources of ignition. Do not store in direct sunlight. Temperatures in excess may cause resin

degradation. Keep out of the reach of children.
Specific end uses No data available

Section 8 - Exposure Controls/Personal Protection

Control parameters
Exposure limits:
CAS# 112926-00-8/7631-86-9/63231-67-4:
OSHA:PEL-TWA 20 mppcf (80 mg/m^3/%SiO_2)

NIOSH: REL-TWA 6 mg/m^3
Australia- TWA: 2 mg/m^3 (respirable dust)
Engineering Controls
Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Personal Protective Equipment
Eyes Protection: No special eye protection is normally required. If operating conditions create dust that is not adequately controlled, wear appropriate goggles.
Skin Protection: For prolonged or repeated contact use protective gloves.
Body Protection: Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Respirators Protection: Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.
Other Protection: Do not eat, smoke or drink where material is handled, processed or stored. Wash hands carefully before eating or smoking. To maintain good health habits.

Section 9 - Physical and Chemical Properties

Property	Value
Physical State	Powder (Fine granules or beads)
Color	White (or off-white, depending on type)
Odor	Odorless
pH	3.5 - 7 (Typically slightly acidic to neutral)
Melting Point/Freezing Point	1,600°C (Sublimates at high temperatures)
Boiling Point / Initial Boiling Point	Not applicable (Sublimation occurs at very high temperatures)
Flash Point	Not applicable (Solid material)
Flammability (solid, gas)	Non-flammable
Lower and Upper Explosion Limit/Flammability Limit	No data available (Silica gel is not typically combustible but may pose dust explosion risk in high concentrations)
Vapor Pressure	Not applicable (Solid material)
Relative Vapor Density	Not applicable (Solid material)
Density/Relative Density	600 - 800 g/L (Varies depending on particle size and structure)
Solubility	Insoluble in water
Partition Coefficient: n-octanol/water	Not applicable (Does not partition into water or organic solvents)
Auto-Ignition Temperature	Not applicable (Silica gel is non-flammable)
Decomposition Temperature	>1,600°C (Decomposes at very high temperatures)
Kinematic Viscosity	Not applicable (Solid material)
Particle Characteristics	Porous structure, surface area typically 700-800 m^2/g

Section 10 - Stability and Reactivity

Property	Details
Reactivity	Inert under normal conditions of handling and storage. Silica gel is chemically stable and does not react with most common chemicals.
Chemical Stability	Stable under normal storage and use conditions. Silica gel does not degrade easily and remains stable in a variety of industrial environments.
Possibility of Hazardous Reactions	None under typical processing and handling conditions.
Hazardous Polymerization	Will not occur. Silica gel is a non-reactive material and does not undergo polymerization reactions.
Hazardous Reactions	None under normal conditions. It may react violently with strong acids, bases, and oxidizing agents.
Conditions to Avoid	- High temperatures (above 1,600°C) can cause thermal decomposition.
	- Incompatible materials, ignition sources, and excessive heat should be avoided.
Incompatible Materials	- Strong oxidizing agents (e.g., chlorine trifluoride, hydrogen fluoride, oxygen difluoride)
	- Strong acids and bases (e.g., hydrofluoric acid, sodium hydroxide)
	- Chlorine trifluoride, ethylene oxide, sodium nitrate
Hazardous Decomposition Products	Irritating and toxic fumes may be released upon exposure to high temperatures or contact with incompatible materials. Potential decomposition products include silicon dioxide (SiO_2), fluorine compounds, and toxic gases such as oxides of nitrogen or hydrogen fluoride.

Section 11 - Toxicological Information

Toxicological Parameter	Details
Acute Toxicity	**Oral (rat)**: LD50 > 3160 mg/kg – Considered **low toxicity**.
Skin Corrosion/Irritation	**No data available**; however, silica gel is generally considered **non-irritating to skin**.
Serious Eye Damage/Eye Irritation	**No data available**; **eye irritation** may occur if exposed to fine dust, but typically not significant.
Respiratory or Skin Sensitization	**No data available**; silica gel is generally **not a sensitizer**, but dust exposure can cause mild respiratory irritation.
Germ Cell Mutagenicity	**No data available**; silica gel is not known to be mutagenic.
Carcinogenicity	**IARC**: **Not classified** as a carcinogen for silica gel (amorphous silica).
	NTP: Not listed as a carcinogen.
	ACGIH: **Not classified** as a carcinogen.
	California Proposition 65: **Not listed**.
Reproductive Toxicity	**No data available**; silica gel is generally not considered a reproductive toxin.
Specific Target Organ Toxicity - Single Exposure	**No data available**; silica gel does not typically cause significant toxicity with single exposures.
Specific Target Organ Toxicity - Repeated Exposure	**No data available**; prolonged exposure to high dust concentrations may cause mild lung irritation, but is not typically associated with long-term organ damage.
Aspiration Hazard	**No data available**; silica gel is not considered an aspiration hazard, as it is insoluble and not likely to cause aspiration pneumonia.

Potential Health Effects

Eye: Dusts or particulates may cause mechanical irritation including pain, tearing, and redness. Vapors and fumes from burning material may cause irritation. Scratching of the cornea can occur if eye is rubbed. Contact with the heated material may cause thermal burns.

Skin: No special hazard risk under normal use. Dusts or particulates may cause mechanical irritation due to abrasion. Contact with heated material may cause thermal burns.

Ingestion: Ingestion is an unlikely route of exposure; no hazard in normal industrial use. If ingested in sufficient quantity may cause injury such as gastrointestinal disturbances. May be a choking hazard.

Inhalation: Inhalation of airborne particulate may lead to mechanical irritation of the respiratory tract and mucous membranes. Vapors and fumes from molten or burning material may cause respiratory irritation, headache, and nausea. Inhalation of excessive levels of dust or fumes may be harmful. If it is contaminated with crystalline silica it may produce severe lung effects, including emphysema and pulmonary fibrosis due to the contaminating silica.

Signs and Symptoms of Exposure

Irritating vapors to respiratory system and eyes may form when polymer is processed at high temperatures. Molten or heated material in skin contact can cause severe burns. Silica gel is a synthetic amorphous silica, not to be confused with crystalline silica such as quartz, cristobalite, or tridymite or with diatomaceous earth or other naturally occurring forms of amorphous silica that frequently contain crystalline forms. Epidemiological studies indicate a low potential for health effects. Prolonged inhalation of crystalline silica may result in silicosis, a disabling pulmonary fibrosis characterized by fibrotic changes and miliary nodules in the lungs, a dry cough, shortness of breath, emphysema, decreased chest expansion, and increased susceptibility to tuberculosis. In advanced stages, loss of appetite, pleuritic pain, and total incapacity to work. Advanced silicosis may result in death due to cardiac failure or destruction of lung tissue. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Additional Information

RTECS#: CAS# 7631-86-9: VV7310000/ CAS# 112926-00-8/63231-67-4: VV8850000/ CAS# 7732-18-5: ZC0110000

Section 12 - Ecological Information

Ecological Parameter	Details
Toxicity	**No data available** for aquatic toxicity; however, **silica gel is considered low toxicity to aquatic life** in general. It is not expected to cause significant harm to aquatic organisms.
Persistence and Degradability	**No data available**; silica gel is generally **non-biodegradable** and is considered **persistent** in the environment. It does not degrade easily in natural conditions.
Bioaccumulative Potential	**No data available**; silica gel does **not bioaccumulate** in organisms. It is chemically stable and does not absorb or accumulate in living tissues.
Mobility in Soil	**No data available**; silica gel is **inert** and does not easily move through soil. It has a **low mobility** in the environment, and once deposited, it tends to remain in place.
Results of PBT and vPvB Assessment	**No data available**; silica gel is not classified as **Persistent, Bioaccumulative, and Toxic (PBT)** or **very Persistent and very Bioaccumulative (vPvB)** based on its low environmental reactivity and persistence.
Other Adverse Effects	**Do not empty into drains** or water systems. While silica gel is **not toxic**, it can clog drainage systems or contribute to water sedimentation if disposed of improperly in large quantities.

Section 13 - Disposal Considerations

Waste treatment methods

Waste from Residues / Unused Products: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

Contaminated packaging: Contaminated packaging material should be treated equivalent to residual chemical. Clean packaging material should be subjected to waste management schemes (recovery recycling, reuse) according to local legislation.

Section 14 - Transport Information

Transport Parameter	IATA	IMDG	RID/ADR
Proper Shipping Name	**Not regulated**	**Not regulated**	**Not regulated**
Hazard Class	**/ (No Hazard)**	**/ (No Hazard)**	**/ (No Hazard)**
UN Number	**/ (No UN Number)**	**/ (No UN Number)**	**/ (No UN Number)**
Packing Group	**/ (No Packing Group)**	**/ (No Packing Group)**	**/ (No Packing Group)**

Section 15 - Regulatory Information

Safety, health and environmental regulations specific for the product in question
Regulatory information: Reference to the local, national, US, EU, CA and international regulations.
Canada
All chemicals in this product s are listed on Canada's DSL List.
US Federal
Toxic Substance Control Act (TSCA)
All chemicals in this product are listed on the TSCA Inventory.
China
Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)
All chemicals in this product are listed on the IECSC Inventory.

Section 16 - Additional Information

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.
Text of H-code(s) mentioned in Section 3
Eye Irrit. 2: Eye irritation(Category 2)
STOT SE 3: Specific target organ toxicity - single exposure(Category 3)
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
Other Information:
ACGIH:（American Conference of Governmental Industrial Hygienists）;
CAS: （Chemical Abstracts Service）;
DSL:（the Domestic Substances List of Canada）; EC:（European Commission）; IARC:（International Agency for Research on Cancer）;IATA:（International Air Transport Association）; IMDG:（International Maritime Dangerous Goods）;ADR: (European Agreement Concerning the International Carriage of Dangerous Goods by Road);RID: (Regulations Concerning the International Carriage of Dangerous Goods by Rail); LD50: （Lethal dose, 50 percent kill）; NDSL:（the Non-domestic Substances List of Canada）; NIOSH:（US National Institute for Occupational Safety and Health）;NTP:（US National Toxicology Program）;OSHA:（US Occupational Safety and Health）; PEL: (Permissible Exposure Level); REL:（Recommended Exposure Limit）; RTECS: （Registry of Toxic Effects of Chemical Substances）; STEL:（Short Term Exposure Limit）;TDG:（Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations）; TSCA: （Toxic Substances Control Act of USA）;
IECSC: （Inventory of Existing Chemical Substances Produced or Imported in China）;TWA:（Time Weighted Average）;TLV: （Threshold Limit Value）