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USA  
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Form #: STI-002

Date: revision 009 11/07/2016

## Section 1. PRODUCT IDENTIFICATION

**Product Identifiers:** Product Name: Silica Gel; CAS number: 7631-86-9

### Product Part Numbers

10100, 10300, 10400, 10600, 10800, 10810, 10820, 10830, 10840, 10850, 10860, 10910, 10920, 10930, 10940, 10950, 11305, 11310, 11315, 11510, 11520, 11546, 11547, 11610, 11620, 11630, 11640, 11650, 11660, 14400, 20930, 21000, 22102, 22110, 22110A, 23000, 23110, 30930M, 30940, 40400, 40405, 40410, 40930, 40930M, 40930M85, 40931ACT, 40940, 40940M, 40950M, 42545, 47070, 50C00, 51600, 52200, 52300, 52500, 52500AW, 52500M, 52500MHA, 52546M, 52560, 52565, 52566, 52700, 52900, 53700, 53900, 62500, 62516, 62526, 62546, 62560, 62565, 62570, 62577, 62580, 62585, 62590, 62591, 62595, 62596, 62700, 62716, 62726, 62746, 62760, 62765, 62770, 62777, 62780, 62785, 62790, 62791, 62795, 62796, 63500, 63516, 63526, 63546, 63548, 63554, 63555, 63560, 63565, 63570, 63577, 63580, 63585, 63590, 63591, 63595, 63596, 63700, 63716, 63726, 63746, 63754, 63760, 63765, 63770, 63777, 63780, 63790, 63791, 63795, 63796, 63A00, 64554, 64754, 64900, 65700, 65900, 66500, 66516, 66526, 66546, 66554, 66555, 66560, 66565, 66570, 66577, 66580, 66590, 66591, 66595, 66596, 66700, 66716, 66726, 66746, 66754, 66760, 66756, 66770, 66777, 66780, 66790, 66791, 66795, 66796, 67500, 67516, 67526, 67546, 67554, 67560, 67565, 67570, 67577, 67580, 67590, 67591, 67595, 67596, 67700, 67716, 67726, 67746, 67754, 67760, 67765, 67770, 67777, 67780, 67790, 67791, 67795, 67796, 68500, 68516, 68526, 68546, 68554, 68560, 68565, 68570, 68577, 68580, 68590, 68591, 68595, 68596, 68700, 68716, 68726, 68746, 68754, 68760, 68765, 68770, 68777, 68780, 68790, 68791, 68795, 68796, 69500, 69516, 69526, 69546, 69554, 69560, 69565, 69570, 69577, 69580, 69590, 69591, 69595, 69596, 69700, 69716, 69726, 96746, 69754, 69760, 69765, 69770, 69777, 69780, 69790, 69791, 69795, 69796, 72000B, 72200, 72216, 72226, 72246, 72255, 72260, 72265, 72270, 72277, 72280, 72290, 72291, 72295, 72296, 72300, 72316, 72326, 72346, 72355, 72360, 72365, 72370, 72377, 72380, 72390, 72391, 72395, 72396, 72400, 72416, 72426, 72446, 72455, 72460, 72465, 72470, 72477, 72480, 72490, 72491, 72495, 72496, 72724B46, 72500, 72600, 72616, 72626, 72646, 72654, 72660, 72665, 72670, 72677, 72680, 72690, 72691, 72695, 72696, 72946, 73200, 73216, 73226, 73246, 73255, 73260, 73265, 73270, 73277, 73280, 73290, 73291, 73295, 73296, 73300, 73316, 73326, 73346, 73355, 73360, 73365, 73370, 73377, 73380, 73390, 73391, 73395, 7396, 73400, 73416, 73426, 73446, 73455, 73460, 73465, 73470, 73477, 73480, 73490, 73491, 73495, 73496, 73546, 73547, 73600, 73616, 73626, 73646, 73647, 73648, 73652, 73654, 73660, 73665, 73670, 73677, 73680, 73690, 73691, 73695, 73696, 74200, 74216, 74226, 74246, 74255, 74260, 74265, 74270, 74277, 74280, 74290, 74291, 74295, 74296, 74300, 74316, 74326, 74346, 74355, 74360, 74365, 74370, 74377, 74380, 74390, 74391, 74395, 74396, 74400, 74416, 74426, 74446, 74455, 74460, 74465, 74470, 74477, 74480, 74490, 74491, 74495, 74496, 74600, 74616, 74626, 74646, 74654, 74655, 74660, 74665, 74670, 74677, 74680, 74690, 74691, 74695, 74696, 75200, 75216, 75226, 75245, 75246, 75255, 75260, 75265, 75270, 75296, 75300, 75316, 75326, 75346, 75355, 75360, 75365, 75370, 75396, 75400, 75416, 75426, 75446, 75455, 75460, 75465, 75470, 75496, 75546, 75600, 75616, 75626, 75646, 75654, 75660, 75665, 75670, 75696, 76200, 76216, 76226, 76246, 76255, 76260, 76265, 76270, 76277, 76280, 76290, 76291, 76295, 76296, 76300, 76316, 76326, 76346, 76348, 76355, 76355C, 76360, 76365, 76370, 76377, 76380, 76390, 76391, 76395, 76396, 76400, 76416, 76426, 76446, 76455, 76460, 76465, 76470, 76477, 76480, 76490, 76491, 76495, 76496, 76500, 76548, 76600, 76616, 76626, 76626C, 76646, 76654, 76655, 76660, 76665, 76670, 76677, 76680, 76690, 76691, 76695, 76696, 77200, 77216, 77226, 77246, 77255, 77260, 77265, 77270, 77277, 77280, 77290, 77291, 77295, 77296, 77300, 77316, 77326, 77346, 77355, 77360, 77365, 77370, 77377, 77380, 77390, 77391, 77395, 77396, 77400, 77416, 77426, 77446, 77455, 77460, 77465, 77470, 77477, 77480, 77490, 77491, 77495, 77496, 77600, 77616, 77626, 77646, 77654, 77655, 77660, 77665, 77670, 77677, 77680, 77690, 77691, 77695, 77696, 78200, 78216, 78226, 78246, 78255, 78260, 78265, 78270, 78277, 78280, 78290, 78291, 78295, 78296, 78300, 78316, 78326, 78346, 78355, 78360, 78365, 78370, 78377, 78380, 78390, 78391, 78395, 78396, 78400, 78416, 78426, 78446, 78455, 78460, 78465, 78470, 78477, 78480, 78490, 78491, 78495, 78496, 78600, 78616, 78626, 78646, 78654, 78655, 78660, 78665, 78670, 78677, 78680, 78690, 78691, 78695, 78696, 79200, 79216, 79226, 79246, 79255, 79260, 79265, 79270, 79277, 79280, 79290, 79291, 79295, 79296, 79300, 79316, 79326, 79346, 79355, 79360, 79365, 79370, 79377, 79380, 79390, 79391, 79395, 79396, 79400, 79416, 79426, 79446, 79455, 79460, 79465, 79470, 79477, 79480, 79490, 79491, 79495, 79496, 79600, 79616, 79626, 79646, 79654, 79655, 79660, 79665, 79670, 79677, 79680, 79690, 79691, 79695, 79696, 98000, 452546M, 452954, 453546, 10301500, 10301546, 10302000, 10302016, 10302026, 10302046, 10302049, 10302050, 10302055, 10302070, 10303000, 10303016, 10303026, 10303046, 10303047, 10303048, 10303055, 10303070, 10303095, 10304027, 10304046, 10304047, 10304052, 10304070, 10352000, 10352049, 10353000, 10353046, 10353049, 10403000, 10403046, 10501500, 10502000, 10502016, 10502046, 10502055, 10503000, 10503016, 10503026, 10503046, 10504026, 10504046, 10504070.

**Synonyms:** Amorphous silica, Silica gel, Porous form of Silicon dioxide

**Recommended use:** Chromatography, Laboratory chemicals

**Uses advised against:** No information available

### **Details of the Supplier of the Safety Data Sheet:**

**Company:** Sorbent Technologies

5955 Peachtree Corners East  
Norcross, GA 30071 USA

**Emergency Telephone Number:** 1-866-767-2832

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## Section 2. HAZARD IDENTIFICATION

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United States: According OSHA 29 CFR 1910.1200 HCS

**Classification of the Substance or Mixture:** Based on available data, the classification criteria are not met.

**GHS Label Elements, including Precautionary Statements:** None required

Emergency Overview: Odorless white powder.

Potential Health Effects: Medical conditions aggravated by exposure: Not expected to be a health hazard.

Response:

Eyes: May cause mild physical irritation.

Skin: May cause irritation with redness and pain. May cause allergic skin reaction.

Ingestion: No adverse effects expected.

Inhalation: May cause irritation of respiratory tract due to drying and abrasive actions of dust. Coughing or shortness of breath may occur in cases of excessive inhalation.

Chronic Effects: No adverse effects expected.

Carcinogenic Effects: IARC: Not listed NTP: Not listed OSHA: Not regulated

**Other Hazards Not Otherwise Classified (HNOC):** None identified

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## Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

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**Chemical Characterization:**

Chemical characteristics, Amorphous silica gel

<b>Ingredient</b>	<b>CAS No.</b>	<b>EC No.</b>	<b>%</b>
Amorphous silica gel	7631-86-9, or 63231-67-4, or 112926-00-8	231-545-4	>99% (w/w)

Synonyms: Amorphous Silica Gel, Amorphous Silicon Dioxide, Reversed Phase (RP) Silica Gel, Bonded Phase Silica Gel

Note: This is not the same as crystalline silica.

Formula: SiO<sub>2</sub>.H<sub>2</sub>O

Molecular weight: 60.08 g/mol.

**Hazardous Impurities:** None known

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## Section 4. FIRST AID MEASURES

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**Description of First Aid Measures**

Skin: Wash material off skin with soap and water. Seek medical attention if irritation occurs.

Eyes: Flush with copious amounts of water for 15 minutes. Seek medical attention if irritation occurs.

Ingestion: Give one or two glasses of water to drink. Seek medical attention if gastrointestinal symptoms develop.

Inhalation: Remove to fresh air. Seek medical attention if cough or respiratory symptoms develop.

**Most Important Symptoms and Effects, both acute and delayed**

No information available

**Indication of any immediate medical attention and special treatment needed**

Notes to Physician: Treat symptomatically

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## Section 5. FIRE-FIGHTING MEASURES

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### Extinguishing Media

Suitable Extinguishing Media: This product is not combustible, use extinguish agents for surrounding fire.

Unsuitable Extinguishing Media: Not applicable

Flash Point: Not applicable

Non-flammable: OSHA Method 16CFR1500.44 (Incorporated by reference in 29CFR1920.1200).

Flammability Limits in Air: LFL and UFL Not Applicable.

Auto ignition temperature: Not determined

### Advice for Firefighters

General Hazard: Not considered to be a fire hazard.

Fire Fighting Instructions: Isolate large fires and allow to burn out. Extinguish fire using water fog, fine water spray, carbon dioxide or foam. Avoid stirring up dust clouds.

Fire Fighting Equipment Fire fighting personnel should wear full protective equipment, including self-contained breathing apparatus (SCBA) for all inside fires and large outdoor fires.

Hazardous Combustion Products: Under certain conditions, any airborne dust be an explosion hazard.

Hazard greater as fineness increases.

Special Fire Hazard: Burning produces irritant fumes.

NFPA rating: Health: 0, Flammability: 0, Reactivity: 0,

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## Section 6. ACCIDENTAL RELEASE MEASURES

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### Personal Precautions, Protective Equipment and Emergency Procedures

Avoid dust formation. Avoid breathing vapors, mist or gas.

### Environmental Precautions

No special environmental precautions required.

### Methods and Material for Containment and Clean-up

If a Spill or Leak Occurs: Clean up spills in a manner that does not disperse dust into the air. Handle in accordance with industrial hygiene and safety practices. These practices include avoiding unnecessary exposure, and removal from eyes, skin, and clothing. Prevent product from entering drains.

Disposal Method: Sweep up and shovel into suitable containers for disposal. Dispose in a facility for non-hazardous wastes. Spent should be disposed of in accordance with State and Federal laws.

Container Disposal: Do not reuse empty bags or drums. Dispose of used bags in facility permitted for non-hazardous wastes.

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## Section 7. HANDLING AND STORAGE

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### Precautions for Safe Handling

Handling: Use in an area provided with appropriate exhaust ventilation. Avoid prolonged contact with eyes and skin. Do not breath dust. Keep away from ignition sources. Use in well ventilated areas. Protect containers from physical damage. Wash hands after handling.

### Conditions for Safe Storage, Including any Incompatibilities

Storage: Room temperature. Store in cool, dry, ventilated area and in closed containers. Keep away from oxidizers, heat or flames. Store away form ignition sources. Do not store above 24 deg. C. Strongly hygroscopic..

Storage class (TRGS 510): Non-combustible Solids

## Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Exposure Guidelines: This product does not contain any hazardous materials with occupational exposure limits established by the region regulatory bodies.

Component	OSHA PEL	ACGIH TLV	NIOSHI DLH
Amorphous silica gel (7631-86-9)	80 mg/m <sup>3</sup>	TWA 3 mg/m <sup>3</sup> respirable 10 mg/m <sup>3</sup> inhalable (silica, amorphous withdrawn in 2006)	

  

Component	Canada Quebec	Canada Ontario TWAEV	Mexico OEL (TWA)
Silica, amorphous (7631-86-9)	TWA: 6 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>	TWA: 10 mg/m <sup>3</sup>

ACGIH is the American Conference of Governmental Industrial Hygienists

OSHA is the Occupational Safety and Health Administration

NIOSH is the National Institute of Occupational Safety and Health

PEL is the Permissible Exposure Limits established by OSHA.

TLV is the Threshold Limit Value a term ACGIH uses to express the maximum airborne concentration of a material to which most workers can be exposed during a normal daily and weekly work schedule without adverse effects.

MSHA is the Mine Safety and Health Administration

### Exposure Controls

Engineering Controls: Use local exhaust to control emissions near the source. Ventilation systems should be configured to prevent exceeding the recommended or regulated exposure limits (i.e. OSHA PELs).

Eye Protection: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU). Safety glasses with side shields are recommended for any type of handling. Where eye contact or dusty conditions may likely, dust tight goggles are recommended. Have eye washing equipment available.

Skin protection: 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. Avoid skin contact with this product. Wear appropriate dust resistant clothing. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.

Full contact material: Nitrile rubber of minimum layer thickness 0.11 mm and break through time 480 minutes.

Body protection: Choose protection in relation to its type, to the concentration and the amount of any dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and of the amount of any dangerous substances at the specific workplace.

Respiratory Protection: Follow the OSHA respiratory regulations found in 29 CFR 1910.134 or European Standard EN149. Keep dust exposure to a minimum with engineering and administrative controls.

Use appropriate NIOSH/MSHA approved particulate respirators if necessary. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer. Use type N95 (US) or type P1 (EN 143) dust masks for nuisance levels of dust.

### General Industrial Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Safety shower and eye wash should be available close to work areas.

### Environmental Exposure Controls

No special environmental precautions required.

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## Section 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Information on Basic Physical and Chemical Properties

Physical State:	Solid
Appearance:	White powder
Odor:	Odorless
Odor Threshold:	No data available
pH:	4—9 (5% slurry in water)
Melting Point/Range:	>1600 deg. C
Boiling Point/Range:	2230 deg. C
Flash Point:	Not applicable
Evaporation Rate:	No information available
Flammability (solid, gas); Flammability or Explosive Limits	No information available
Upper:	No data available
Lower:	No data available
Vapor Pressure:	Negligible
Vapor Density:	No information available
Relative Density:	2.20
Solubility:	Slightly soluble in water (<0.1%)
Partition Coefficient; n-octanol/water:	No data available
Autoignition Temperature:	No information available
Decomposition Temperature:	No information available
Viscosity:	No information available
Molecular Formula:	SiO <sub>2</sub>
Molecular weight:	60.08

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## Section 10. STABILITY AND REACTIVITY

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### Reactivity

None known based on the information available.

### Chemical Stability

This product is stable under the specified conditions of storage, shipment and use. Avoid storing at high temperatures or in direct sunlight. Do not store above 24 deg. C.

### Possibility of Hazardous Reactions

No data available.

### Conditions to Avoid

Exposure to moisture.

### Incompatible Materials

Reacts with hydrogen fluoride, fluoride, oxygen difluoride, chlorine trifluoride, strong acids, strong bases and oxidizers.

### Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors such as silicon oxides.

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## Section 11. TOXICOLOGICAL INFORMATION

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### Information on Toxicological Effects

#### Acute Toxicity

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Silicon dioxide	>5000 mg/kg (rat) IUCLID (2000)	>5000 mg/kg (rabbit)	>0.139 mg/l/4h IUCLID (2000)

Toxicologically Synergistic Products: No information available

#### Delayed and Immediate Effects as well as Chronic Effects from Short and Long Term Exposure

Irritation: Rabbit not irritating. IUCLID (2000)

Sensitization: Over 10 years exposure, worker did not have any skin sensitization.

**Carcinogenicity** Table below indicates if each agency has listed any ingredient as a Carcinogen.

Component	CAS-No.	IARC	NTP	ACGIH	OSHA	Mexico
Amorphous silica gel	7631-86-9	Not listed	Not listed	Not listed	Not listed	Not listed

**Mutagenic Effects:** Animal testing did not show any mutagenic effects.

**Reproductive Effects:** Animal testing did not show any hazardous effects.

**Developmental Effects:** No information available.

**Teratogenicity:** No information available.

**Specific Target Organ Toxicity (STOT)-single exposure:** None known.

**Specific Target Organ Toxicity (STOT)-repeated exposure:** None known.

**Aspiration:** No information available

**Symptoms / Effects, Both Acute and Delayed:** No information available.

**Endocrine Disruptor Information:** No information available.

**Other Adverse Effects:** The toxicological properties have not been fully investigated.

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## Section 12. ECOLOGICAL INFORMATION

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### Toxicity

No toxicity limit of solubility. Do not empty into drains.

Ingredient	Test	Result	Species	Exposure
Amorphous silica	LC50/96h/fish	>10000 mg/l	Fish	96h
Amorphous silica	EC50/24h/daphnia	=1000 mg/l	Daphnia magna	24h
Amorphous silica	EC50/72h/algae	>10000 mg/l	Algae	72h

### Persistence/ Degradability

No information available.

### Bioaccumulation Potential

Does not bioaccumulate. Accumulation in aquatic organisms is unlikely. Accumulation in terrestrial organisms is unlikely.

### Mobility in Soil

No information available.

### Other Adverse Effects

No information available

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## Section 13. DISPOSAL CONSIDERATIONS

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### Waste Treatment Methods

Product: This product is not considered a hazardous waste. Vacuum or shovel material into a closed container for reuse or disposal. Storage and disposal should be in accordance with applicable local, state and federal laws and regulations.

Contaminated Packaging: Local regulations may be more stringent than state or federal requirements.

RCRA P-Series: None listed

RCRA U-Series: None listed

## Section 14. TRANSPORTATION INFORMATION

Land: **DOT (US):** Not regulated  
**ADR/RID (EU):** Not regulated  
**TDG (Canada):** Not regulated  
Water: **IMO/IMDG:** Not regulated  
Air: **IACO/IATA:** Not regulated

### Special Precautions for User

No information available

## Section 15. REGULATORY INFORMATION

### Safety, Health and Environmental Regulations/ Legislation Specific for the Substance or Mixture International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	IECSC	KECL
Amorphous silica	X	X	-	235-545-4	-		X	X	X	X	X

X indicates listed

### U.S. Federal Regulations

TSCA: CAS# 7631-86-9; 63231-67-4 is listed on the TSCA inventory

CERCLA Hazardous Substances and Corresponding RQs: None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances: None of the chemicals in this product have a TPQ.

SARA Codes: CAS# 7631-86-9; 63231-67-4

SARA 311/312 Hazardous Categorization:

Acute Health Hazard: Yes  
Chronic Health Hazard: Yes  
Fire Hazard: No  
Sudden Release of Pressure: No  
Reactive Hazard: No

SARA Section 313: No chemicals in this product are reportable under Section 313.

Clean Air Act:

This material does not contain any hazardous air pollutants, Class 1 Ozone depletors or Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances, Priority Pollutants or Toxic Pollutants under the CWA.

OSHA: Not applicable

CERCLA: Not applicable

### U.S. Department of Transportation (DOT)

Reportable Quantity (RQ): No

DOT Marine Pollutant: No

DOT severe Marine Pollutant: No

### U.S. Department of Homeland Security (DHS)

This product does not contain any DHS chemicals.

### States Right-to-Know

Amorphous silica CAS# 7631-86-9; 63231-67-4

California Prop 65: Not listed. This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts: Listed.

New Jersey Right to Know: Listed SN 1655

Pennsylvania: Listed.

Florida: Listed

Rhode Island: Not listed

Illinois: Not listed

Connecticut - Hazardous Air pollutants: Not listed

## Canadian Classification

WHMIS: D2b Toxic materials.  
DSL: Listed.

## EEC Council Directives relating to the classification, packaging, and labeling of dangerous substances and preparations.

Risk and Safety Phrases: S22: Do not breath dust  
S24/25: Avoid contact with skin and eyes.

## Mexico—Grade

No information available.

## International Regulations

EINECS Silica Gel 231-545-4  
DSCl (EEC) R36/37/38—Irritating to eyes, respiratory system and skin.

## International lists

Australia (NICNAS): Silica gel  
Japan (MITI): Silica gel  
Korea (TCCL): Silica gel  
Philippines (RA6969): Silica gel  
China: No products found  
USA: TSCA

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## Section 16. OTHER INFORMATION

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### NFPA 704 (National Fire Protection Association) Rating (USA):

Health : 1  
Flammability: 0  
Instability: 0  
Others: none

### HMIS (Hazardous Materials Identification System )Rating (USA):

Health Hazard: 1  
Chronic Health Hazard: \*  
Flammability: 0  
Physical Hazard: 0  
Personal Protection: E (safety glasses, gloves, dust respirator)

0 = Minimal hazard, 1 = Slight hazard, 2 = Moderate hazard, 3 = Severe hazard, 4 = Extreme hazard

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**SDS REVISION SUMMARY:** revision 009 dated 11/07/16  
replaces revision 008 dated 9/29/14.

*This document has been updated to comply with the U.S. OSHA HazCom 2012 Standard replacing the current Legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)*