

## MSDS - Material Safety Data Sheet

### Material Safety Data Sheet Silica Gel used in Disposable Desiccant Plates

#### Section 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION INFORMATION

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the Canada's Workplace Hazardous Materials Information System (WHMIS); the EC Directive, 1907/2006/EC, Article 31 and Directive 98/24/EC. The sheet information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Spectrum shall not be held liable for any damage resulting from handling or from contact with the product.

**Product Trade Name:** Silica Gel used in Disposable Desiccant Plates

**Company Identification:** Spectrum Laboratories, Inc.  
18617 Broadwick Street  
Rancho Dominguez, CA 90220-6435, USA

**Company Phone Number:** (800) 634-3300

**Emergency Phone Number:** (800) 424-9300

**CHEMTREC Phone Number, US:** (800) 424-9300

**CHEMTREC Phone Number, Europe:** +1 703-527-3887

**For non-emergency assistance, call:** (800) 634-3300

#### Section 2 – COMPOSITION AND INFORMATION ON INGREDIENTS

CAS #	Chemical Name	Weight%	EINECS/ENC
7631-86-9	Silica, amorphous	>99%	231-545-4
7646-79-9	Cobaltous Chloride	0.9%	231-589-4

The components of this product are not regulated as hazardous under 29 CFR and 49 CFR. However, the potential for respiratory tract irritation as a result of inhalation of this material as a respirable dust is recognized. See Sections 8, 11, 14 and 15 for further regulatory information.

#### Section 3 – HAZARDS IDENTIFICATION

##### EMERGENCY OVERVIEW

**HMIS Rating:** (estimated)

Health: 1; Flammability: 0; Reactivity: 0

**NFPA Rating:** (estimated)

Health: 2; Flammability: 0; Reactivity: 0

**Appearance:** Blue granular solid. No odor.

Silica gel is a synthetic amorphous silica, blue, granular, odorless. Although not regulated as a hazardous material, the respirable dust is potential respiratory tract irritant.

##### Potential Health Effects:

**Eye Contact:**

Dust may cause burning, drying, itching and other discomfort, resulting in reddening of the eyes.

450-13073-003

Rev.00

Page 1 of 7

5/25/2010

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## MSDS - Material Safety Data Sheet

<b>Skin Contact:</b>	Exposure to the dust, such as in manufacturing, may aggravate existing skin conditions due to drying effect.
<b>Ingestion:</b>	Low ingestion hazard, however may cause gastrointestinal irritation with nausea, vomiting and diarrhea. If adverse symptoms appear, seek medical attention.
<b>Inhalation:</b>	Exposure to respirable dust may cause respiratory tract and lung irritation and may aggravate existing respiratory conditions. May cause dryness and irritation to mucous membranes.
<b>Chronic Effects:</b>	Possible inhalation cancer hazard based on tests with laboratory animals, otherwise repeated or prolonged exposure is not known to aggravate medical condition.

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### Section 4 – FIRST AID MEASURES

<b>Eye Contact:</b>	Immediately wash eyes after any exposure with plenty of water. Remove particles remaining under the eyelids. Get medical attention if irritation persists.
<b>Skin Contact:</b>	Remove silica gel absorbent dust from skin using soap and water.
<b>Ingestion:</b>	DO NOT induce vomiting. Rinse mouth with water and give 2-4 capfuls of water or milk to drink, if conscious. Seek immediate medical attention. As in any instance of non-food consumption, seek medical attention in the event of any adverse symptoms.
<b>Inhalation:</b>	Remove to fresh air. Seek medical attention if symptoms persist.

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### Section 5 – FIRE FIGHTING MEASURES

<b>Flash Point:</b>	Not Applicable.
<b>Auto Ignition Temperature:</b>	Not Applicable.
<b>Lower Explosion Limit (%):</b>	Not Applicable.
<b>Upper Explosion Limit (%):</b>	Not Applicable.
<b>NFPA Rating:</b> (estimated)	Health: 2; Flammability: 0; Reactivity: 0
<b>Extinguishing Media:</b>	Substance is noncombustible; use agent most appropriate to extinguish surrounding fire...Dry Chemical, Foam, CO <sub>2</sub> , Water Fog.
<b>Fire-fighting Equipment/Procedures:</b>	Firefighters should wear full protective clothing including MSHA/NIOSH approved self-contained breathing apparatus.
<b>Hazardous Combustion Products:</b>	None known.
<b>Unusual Fire Explosion Hazards:</b>	Substance can explode when wet and heated with magnesium.

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### Section 6 – ACCIDENTAL RELEASE MEASURES

<b>Spill and Leak procedures:</b>	Sweep or vacuum material when possible and shovel into a waste container. Residuals may be flushed with water into the drain for normal wastewater treatment. This is a non-hazardous waste suitable for disposal in an approved solid waste landfill.
<b>CAUTION:</b>	Avoid respirable dust inhalation during clean up. Wear appropriate respirator. Use caution after contact of product with water.
<b>Note:</b>	Please see Section 8 for special protection information.

450-13073-003  
Rev.00  
Page 2 of 7

5/25/2010

Uncontrolled hard copies of this document are valid only for the date printed.  
Refer to Document Control's Electronic Directory for the Most Current Revision of this document.

## MSDS - Material Safety Data Sheet

### Section 7 – HANDLING & STORAGE

**Handling:** Handle as an eye and respiratory tract irritant. Wash thoroughly after handling. Use only in a well-ventilated area. Minimize dust generation and accumulation. Do not get in eyes or on skin.

**Storage:** Hygroscopic. Keep in tightly closed containers. Store in a cool, dry place; not above 23°C (73.4°F). Observe all warnings and precautions listed for the product.

### Section 8 – EXPOSURE CONTROLS, PERSONAL PROTECTION INFORMATION

**General Information:** The components of this product are not regulated as hazardous under 29 CFR and 49 CFR. However, the potential for respiratory tract irritation as a result of inhalation of this material as a respirable dust is recognized and process enclosure, local exhaust ventilation or other engineering controls to control airborne levels below recommended exposure limits.

**Respiratory Protection:** Provide local exhaust ventilation to maintain worker exposure to less than allowed. Otherwise wear a suitable respirator with a high efficiency filter (< 10 micron) if particulate concentration in the work area exceeds PELs.

**Protective Gloves:** Impervious

**Eye Protection:** Splash-proof safety goggles.

**Other Protection Equipment:** Impervious apron, eyewash facility, emergency shower.

**Exposure Limits:**

Chemical Name	ACGIH	NIOSH	OSHA – Final PELs
Silica, amorphous	not listed	6mg/m <sup>3</sup> TWA; 3000mg/m <sup>3</sup> IDLH	not listed
Cobaltous Chloride	0.02mg/m <sup>3</sup> TWA (as Co: listed under Cobalt, inorganic compounds)	not listed	not listed

### Section 9 – PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Solid
<b>Appearance:</b>	Clear blue granular powder.
<b>Odor:</b>	No odor
<b>pH:</b>	2.3 - 7.4 (suspension)
<b>Viscosity:</b>	Not Available
<b>Melting or Freezing Point:</b>	1710°C (3110°F)
<b>Boiling Point:</b>	2230°C (4046°F)
<b>Flash Point:</b>	Not Available
<b>Decomposition Temperature:</b>	Not Available
<b>Vapor Pressure (mmHg):</b>	Negligible
<b>Vapor Density (Air = 1):</b>	2.08
<b>Solubility in Water:</b>	Insoluble in water.
<b>Percent Volatile @ 21°C (by volume):</b>	Not Established
<b>Specific Gravity (bulk density):</b>	2.2 - 2.6 g/mL
<b>Evaporation rate (butyl acetate = 1):</b>	Not Available.
<b>Molecular Formula:</b>	SiO <sub>2</sub>
<b>Molecular Weight:</b>	60.08 + xH <sub>2</sub> O g/mole

## MSDS - Material Safety Data Sheet

### Section 10 – STABILITY AND REACTIVITY DATA

**Chemical Stability:** This material is chemically stable at room temperature in closed containers, under normal storage and handling conditions.

**Conditions to Avoid:** Store protected from moisture. Incompatible materials and dust generation.

**Incompatibilities with Other Materials:** Hygroscopic. Incompatible with hydrogen fluoride, xenon hexafluoride, oxygen difluoride and chlorine trifluoride.

**Hazardous Decomposition Products:** Silicon dioxide.

**Hazardous Polymerization:** Has not been reported.

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### Section 11 – TOXICOLOGICAL INFORMATION

**RTECS#:**

**CAS# 7631-86-9:** EU8655000 VV7565000

**CAS# 7646-79-9:** GF9800000

**LD50/LC50:<sup>1</sup>**

**CAS # 7631-86-9:**

Corrosiveness: None

Draize test, rabbit, eye: 25mg/24H Mild

Acute Oral Toxicity, rat: LD50 > 31,600mg/kg (This is data from a 48hr. oral test for DOT hazard classification conducted with finely-ground silica gel.)

Acute Dermal Toxicity, rabbit: LD50 > 2000mg/kg (This is data from a 48hr. dermal test for DOT hazard classification conducted with finely-ground silica gel.)

Skin Contact Sensitization: Slightly hazardous in case of skin contact (irritant)

Symptoms of Exposure: Dust may cause eye, nasal or bronchial irritation

**CAS # 7646-79-9:**

Oral, mouse: LD50 = 80mg/kg

Oral, rat: LD50 = 418mg/kg

**Carcinogenicity:**

CAS# 7631-86-9: Not listed as a carcinogen by ACGIH, NTP or CA Prop.65. Listed as a Group 3 (not classifiable for human) carcinogen by IARC.

CAS# 7646-79-9: Not listed as a carcinogen by ACGIH, NTP or CA Prop.65. Listed as a Group 2B carcinogen by IARC.

**Epidemiology:** No information found.

**Teratogenicity:** No information found.

**Reproductive Effects:** No information found.

**Mutagenicity:** No information found.

**Neurotoxicity:** No information found.

**Chronic Toxicity:** Possible inhalation cancer hazard based on tests with laboratory animals, otherwise repeated or prolonged exposure is not known to aggravate medical condition.

**Other:** See actual entry in RTECS database for complete information.

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### Section 12 – ECOLOGICAL INFORMATION

450-13073-003

Rev.00

Page 4 of 7

5/25/2010

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## MSDS - Material Safety Data Sheet

### Ecotoxicity

#### A: General Product Information

The product itself and its products of degradation are non toxic. BOD5 and COD not available.

#### B: Component Analysis – Ecotoxicity – Aquatic Toxicity

Water flea Daphnia: > 1000mg/L; 24 Hrs; OECD 202

#### C: Environmental Fate

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

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## Section 13 – DISPOSAL CONSIDERATIONS

### Disposal Instructions

This substance is a non-hazardous waste material suitable for approved solid waste landfills. No EPA Waste Numbers are applicable for this product's components. Additionally, the discarding or disposal of this material may be further regulated by state, regional or local regulations. Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Dispose of container and unused contents in accordance with federal, state and local requirements.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

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## Section 14 – TRANSPORT INFORMATION

### DOT

**Proper Shipping Name:** This product is not transport regulated.

**Hazard Class:** N/A

**UN Number:** N/A

**Packing Group:** N/A

### Canadian TDG

No information available.

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## Section 15 – REGULATORY INFORMATION

### US Federal

#### TSCA

CAS# 7631-86-9: Listed on the TSCA inventory.

CAS# 7646-79-9: Listed on the TSCA inventory.

#### Health and Safety Reporting List

None of the chemicals in this product are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals in this product are listed under TSCA Section 12b.

#### TSCA Significant New Use Rule (SNUR)

None of the chemicals in this product have a SNUR under TSCA.

#### CERCLA Hazardous Substances and Corresponding Reportable Quantities (RQs).

None of the chemicals in this product have an RQ.

#### SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

450-13073-003

Rev.00

Page 5 of 7

5/25/2010

Uncontrolled hard copies of this document are valid only for the date printed.  
Refer to Document Control's Electronic Directory for the Most Current Revision of this document.

## MSDS - Material Safety Data Sheet

### SARA Hazard Categories

CAS # 7631-86-9: Immediate, delayed.

### SARA Section 313

This material contains Cobalt dichloride anhydrous (listed as Cobalt, inorganic compounds), 0.9%, (CAS# 7646-79-9) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

### Clean Air Act:

CAS# 7646-79-9 (listed as Cobalt compounds) is listed as a hazardous air pollutant (HAP).

This product does not contain any Class 1 Ozone depleters.

This product does not contain any Class 2 Ozone depleters.

### Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants the CWA.

### OSHA:

None of the chemicals in this product are listed on the Highly Hazardous List.

None of the chemicals in this product are listed on the Specifically Regulated Chemicals List.

### US State Regulations:

CAS# 7631-86-9: is not present on state lists from CA, PA, MN, MA, FL or NJ.

CAS# 7646-79-9: is present on state right to know lists from New Jersey (listed as Cobalt compounds), Pennsylvania (listed as Cobalt compounds), and Minnesota (listed as Cobalt, inorganic compounds). It is not present on state lists from CA, MA or FL.

### California Prop. 65

None of the chemicals in this product are listed as subject as a Prop. 65. chemical known to the state of California.

### California No Significant Risk Level

None of the chemicals in this product are on this list.

## European/International Regulations

### European Labeling in Accordance with EC Directives:

Hazard Symbols: T

Risk Phrases: R49 – May cause cancer by inhalation.

R52/53 – Harmful to aquatic organisms, may cause long-term adverse in the aquatic environment.

Safety Phrases: S24/25 – Avoid contact with skin and eyes.

S53 – Avoid exposure – obtain special instructions before use.

### United Kingdom Occupational Exposure Limits:

Not available.

### United Kingdom Maximum Exposure Limits:

Not available.

### WGK (Water Danger/Protection)

CAS# 7631-86-9: 0

CAS# 7646-79-9: 2

### Canada – DSL/NDSL

CAS# 7631-86-9: is listed on Canada's DSL List.

CAS# 7646-79-9: is listed on Canada's DSL List.

### Canada – WHMIS

This product has a WHMIS classification of D2A.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

### Canadian Ingredient Disclosure List

CAS # 7631-86-9 is listed on the Canadian Ingredient Disclosure List.

CAS # 7646-79-9 is listed on the Canadian Ingredient Disclosure List.

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## Section 16 – OTHER INFORMATION

**Product Use:** Disposable Desiccant Plates (P/N 183578 & 183579) is used to keep water-sensitive materials moisture free. They are plates of silica gel covered with a highly porous membrane. The blue color of the silica gel slowly changes to pale pink as the gel absorbs water. The bottom is clear polystyrene, which allows instant visual inspection of the drying agent. Silica gel is inert, non-corrosive and non-toxic.

450-13073-003

Rev.00

Page 6 of 7

5/25/2010

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## MSDS - Material Safety Data Sheet

**Chemical Name:** Silicon Dioxide Gel

**Synonyms:** Silica Gel used in Disposable Desiccant Plates; Amorphous silica; Synthetic amorphous silica; amorphous silicon dioxide; Silica gel.

**Molecular Weight:** 60.08 + xH<sub>2</sub>O g/mole

**Catalog Nos.:** 183578 & 183579, SilicaGel™ Disposable Desiccant Plates, 50g & 20g silica gel

**Active Ingredients:** Silica, amorphous

**Inert Ingredients:** N/A

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**MSDS Creation Date:** 3/24/2010

**Revision Information:** MSDS Section(s) changed since last revision of document include: N/A

**Disclaimer:**

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450-13073-003

Rev.00

Page 7 of 7

5/25/2010

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