Material Safety Data Sheet  
Silica Gel Desiccant Grade  

ACC# 45402  

Section 1 - Chemical Product and Company Identification  

MSDS Name: Silica Gel Desiccant Grade  
Synonyms: Amorphous silica; Synthetic amorphous silica; amorphous silicon dioxide; Silica gel  
Company Identification:  
Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410  
For information, call: 201-796-7100  
Emergency Number: 201-796-7100  
For CHEMTREC assistance, call: 800-424-9300  
For International CHEMTREC assistance, call: 703-527-3887  

Section 2 - Composition, Information on Ingredients  

<table>
<thead>
<tr>
<th>CAS#</th>
<th>Chemical Name</th>
<th>Percent</th>
<th>EINECS/ELINCS</th>
</tr>
</thead>
<tbody>
<tr>
<td>7631-86-9</td>
<td>Silica, amorphous</td>
<td>&gt;99</td>
<td>231-545-4</td>
</tr>
<tr>
<td>7646-79-9</td>
<td>Cobaltous chloride</td>
<td>0.9</td>
<td>231-589-4</td>
</tr>
</tbody>
</table>

Section 3 - Hazards Identification  

EMERGENCY OVERVIEW  

Appearance: clear blue solid.  
Warning! Possible cancer hazard. May cause cancer based on animal data. May cause irritation.  
Target Organs: None.  

Potential Health Effects  
Eye: Dust may cause mechanical irritation. Exposure to solid may cause pain and redness.  
Skin: Dust causes mechanical irritation. Excessive drying of the skin may result from repeated or prolonged contact.  
Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Expected to be a low ingestion hazard.  
Inhalation: Dust is irritating to the respiratory tract.  
Chronic: Possible cancer hazard based on tests with laboratory animals. Cobalt dichloride is an IARC Group 2B  

Section 4 - First Aid Measures  

Eyes: Get medical aid. Immediately flush eyes with plenty of water for at least 15 minutes.  
Skin: Get medical aid if irritation develops or persists. Flush skin with plenty of soap and water.  
Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.  

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2/26/2009
**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

**Notes to Physician:** Treat symptomatically and supportively.

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**Section 5 - Fire Fighting Measures**

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

**Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

**Flash Point:** Not applicable.

**Autoignition Temperature:** Not applicable.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 2; Flammability: 0; Instability: 0

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**Section 6 - Accidental Release Measures**

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation.

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**Section 7 - Handling and Storage**

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation.

**Storage:** Store in a cool, dry place. Keep containers tightly closed.

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**Section 8 - Exposure Controls, Personal Protection**

**Engineering Controls:** Use process enclosure, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silica, amorphous</td>
<td>none listed</td>
<td>6 mg/m3 TWA 3000 mg/m3</td>
<td>none listed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>IDLH</td>
<td></td>
</tr>
<tr>
<td>Cobaltous chloride</td>
<td>0.02 mg/m3 TWA (as Co) (listed under Cobalt, inorganic compounds).</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** Silica, amorphous: No OSHA Vacated PELs are listed for this chemical. Cobaltous chloride: No OSHA Vacated PELs are listed for this chemical.

**Personal Protective Equipment**

**Eyes:** Wear dust-proof goggles.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

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2/26/2009
Clothing: Wear appropriate protective clothing to prevent skin exposure.
Respirators: 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.

Section 9 - Physical and Chemical Properties

Physical State: Solid
Appearance: clear blue
Odor: odorless
pH: 2.3-7.4 (suspension)
Vapor Pressure: Negligible
Vapor Density: 2.08
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: 2230 deg C
Freezing/Melting Point: 1710 deg C
Decomposition Temperature: Not available.
Solubility: Insoluble in water.
Specific Gravity/Density: 2.2-2.6
Molecular Formula: SiO2
Molecular Weight: 60.08

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.
Conditions to Avoid: Incompatible materials, dust generation.
Incompatibilities with Other Materials: Fluorides, hydrochloric acid, strong oxidizers, vinyl acetate.
Hazardous Decomposition Products: Silicon dioxide.
Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#: 
CAS# 7631-86-9: EU8655000; VV7565000
CAS# 7646-79-9: GF9800000
LD50/LC50:
CAS# 7631-86-9:
  Draize test, rabbit, eye: 25 mg/24H Mild;

CAS# 7646-79-9:
  Oral, mouse: LD50 = 80 mg/kg;
  Oral, rat: LD50 = 80 mg/kg;
  Oral, rat: LD50 = 418 mg/kg;

Carcinogenicity:
CAS# 7631-86-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 7646-79-9:

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2/26/2009
ACGIH: A3 - Confirmed Animal Carcinogen with Unknown Relevance to Humans (listed as 'Cobalt, inorganic compounds').
California: Not listed.
NTP: Not listed.
IARC: Group 2B carcinogen

Epidemiology: Amorphous silica has been tested for carcinogenicity in a variety of animal studies by a number of routes. Most tests were either negative or inadequate because of poorly defined physiochemical characteristics of the silica.
Teratogenicity: No data available.
Reproductive Effects: No data available.
Mutagenicity: No data available.
Neurotoxicity: No data available.
Other Studies:

Section 12 - Ecological Information

Ecotoxicity: Water flea Daphnia: >1000mg/l; 24 Hrs.; OECD 202 No data available.
Environmental: Because of its low water solubility, amorphous silica gel is expected to cause little oxygen depletion in aquatic systems. It is expected to have a low potential to affect aquatic organisms. It is expected to be resistant to biodegradation but is unlikely to bioconcentrate.
Physical: No information available.
Other: No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.

Section 14 - Transport Information

<table>
<thead>
<tr>
<th></th>
<th>US DOT</th>
<th>Canada TDG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shipping Name:</td>
<td>Not regulated as a hazardous material</td>
<td>No information available.</td>
</tr>
<tr>
<td>Hazard Class:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UN Number:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Packing Group:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Section 15 - Regulatory Information

US FEDERAL

TSCA
CAS# 7631-86-9 is listed on the TSCA inventory.
CAS# 7646-79-9 is listed on the TSCA inventory.

Health & Safety Reporting List
http://fscimage.fishersci.com/msds/45402.htm
None of the chemicals 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 are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**
- None of the chemicals in this material have a SNUR under TSCA.

**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 # 7646-79-9: immediate, delayed.

**Section 313**
- This material contains Cobaltous chloride (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 material does not contain any Class 1 Ozone depletors.
- This material does not contain any Class 2 Ozone depletors.

**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 under the CWA.

**OSHA:**
- None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**
- CAS# 7631-86-9 can be found on the following state right to know lists: California, Pennsylvania, Minnesota, Massachusetts.
- CAS# 7646-79-9 can be found on the following state right to know lists: New Jersey, (listed as Cobalt compounds), Pennsylvania, (listed as Cobalt compounds), Minnesota, (listed as Cobalt, inorganic compounds).

**California Prop 65**
- California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:**
- T

**Risk Phrases:**
- R 49 May cause cancer by inhalation.
- R 52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Safety Phrases:**
- S 24/25 Avoid contact with skin and eyes.
- S 53 Avoid exposure - obtain special instructions before use.

**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 Not controlled.
- This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and

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2/26/2009
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 - Additional Information**

**MSDS Creation Date:** 11/11/1997  
**Revision #6 Date:** 10/28/2008

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, however arising, even if Fisher has been advised of the possibility of such damages.