



MATERIAL SAFETY DATA SHEET

Effective Date November 5, 2003
MSDS Number M75

Section 1 – Product and Company Information

Product Name: Silica gel, indicating

Product Use: Desiccant, absorbent

Grades: Silica gel, indicating

Synonyms: Amorphous silica gel, SiO₂, silicon dioxide (amorphous)

Company; Multisorb Technologies, Inc.

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Section 2 – Composition / Information on Ingredients

Component Name	CAS Number	% by Weight
Synthetic amorphous silica gel (SiO ₂)	112926-00-8	100
Cobalt chloride	7646-79-9	.5

While this material is not classified as hazardous under OSHA regulations, this MSDS contains valuable information critical to the safe handling and proper use of this product. This MSDS should be retained and available for employees and other users of this product.

Section 3 – Hazard Identification

Emergency Overview: A blue to pink granular material that poses little or no immediate hazard. This material is not combustible.

Potential Health Effects:

Eyes: Dust and or product may cause eye discomfort and irritation seen as tearing and reddening.

Skin: The product dust may cause drying of the skin. Silica gel may get hot enough to burn skin when it adsorbs moisture rapidly. Use an excess of water to cool the silica gel.

Ingestion: Material is not toxic and will pass through the body normally.

Inhalation: Slight irritation is possible but none is expected.

Medical Effects Generally Aggravated by Exposure: Respiratory ailments.

Chronic Effects/Carcinogenicity: May cause eye, skin and mucous membrane irritation and drying.

Section 4 – First Aid Measures

Eyes: Rinse the eyes well with water while lifting the eye lids. If irritation persists, consult a physician.

Skin: Wash affected area with soap and water.

Ingestion: Ingestion is unlikely, this material will pass through the body normally.

Inhalation: Remove the affected person to fresh air and get medical attention if necessary.

Notes to Physician: Not applicable

Section 5 – Fire Fighting Measures

Flammable Properties: Not flammable

Flash Point: Not applicable

Method: Not applicable

Flammable Limits: Not flammable

Lower Flammability Limit: Not applicable

Upper Flammability Limit: Not applicable

Autoignition Temperature: Not applicable

Hazardous Combustion Products: Not applicable

Extinguishing Media: Use extinguishing media that is appropriate for the surrounding fire. Silica gel is not combustible.

Fire Fighting Instructions: Not combustible

Unusual Fire and Explosion Hazards: None

Section 6 – Accidental Release Measures

Spill: Sweep or vacuum up and place the spilled material in a waste disposal container. Avoid raising dust. Wash with soap and water after handling.

Section 7 – Handling and Storage

Handling: Avoid raising dust and minimize the contact between worker and the material. Practice good hygienic work practices.

Storage: Store in a cool, dry location. Keep in sealed containers away from moisture. The silica gel will readily adsorb moisture.

Section 8 – Exposure Controls/Personal Protection

- Engineering Controls:** Use exhaust ventilation to keep the airborne concentrations below the exposure limits.
- Respiratory Protection:** Use NIOSH approved respirator when the air quality levels exceed the TLV's.
- Skin Protection:** Light gloves will protect against abrasion and drying of the skin.
- Eye Protection:** Safety glasses.

Component Name	Exposure Limits OSHA PEL	ACGIH TLV	Other Recommended Limits
Silica gel	TWA 20 mppcf (80 mg / m ³ % SiO ₂)	TWA 10 mg / m ³	NIOSH REL TWA 6 mg / m ³ IDLH 3000 mg / m ³
Cobalt chloride	.1 mg / m ³ (cobalt metal fume & dust)	TWA .02 mg / m ³ (as cobalt)	NIOSH REL TWA .05 mg / m ³ IDLH 20 mg / m ³ (as cobalt)

Section 9 – Physical and Chemical Properties

Appearance:	Blue to pink granules	Vapor Density:	Not applicable
Odor:	None	Boiling Point:	4046° F (2230° C)
Physical State:	Solid bead	Melting Point:	3110° F (1710° C)
PH:	Not applicable	Solubility:	Insoluble in water
Vapor Pressure:	Not applicable	Specific Gravity:	2.1

Section 10 – Stability and Reactivity

- Stability:** Stable
- Conditions to avoid:** Moisture and high humidity environments.
- Incompatibility:** Water, fluorine, oxygen difluoride, chlorine trifluoride
- Hazardous Decomposition Products:** None
- Hazardous Polymerization:** Will not occur

Section 11 – Toxicological Information

This product and its components are not listed on the NTP or OSHA Carcinogen lists.

Animal Toxicology Tests for DOT Hazard classification
(Tests Conducted on finely ground silica gel)

1 - hour LC₅₀ (rat) > 2 mg / l
48 - hour oral LD₅₀ (rat) est. > 31,600 mg / kg
48 - hour dermal LD₅₀ (rabbit) est. > 2,000 mg / kg
Considered an ocular irritant

ACGIH Cobalt and inorganic compounds, as Co are rated as A3 (confirmed animal carcinogen and unknown relevance to humans).

Human Toxicology Silica gel is a synthetic amorphous silica not to be confused with crystalline silica. Epidemiological studies indicate low potential for adverse health effects. In the activated form, silica gel acts as a desiccant and can cause a drying irritation of the mucous membranes and skin in cases of severe exposure. Multisorb Technologies Inc. knows of no medical conditions that are abnormally aggravated by exposure to silica gel. The primary route of entry is inhalation of dust.

IARC Cobalt and cobalt compounds are rated as Group 2B (possible carcinogens to humans).

Section 12 – Ecological Information

Not known to have any adverse effect on the aquatic environment. Silica gel is insoluble and non-toxic.

Section 13 – Disposal Information

Disposal Information If this product as supplied becomes a waste, it does not meet the criteria of a hazardous waste as defined under the Resource Conservation and Recovery Act (RCRA) 40 CFR 261. Materials of a hazardous nature that contact the product during normal use may be retained on the product. The user of the product must identify the hazards associated with the retained material in order to assess the waste disposal options. Dispose according to federal, state and local regulations.

Section 14 – Transportation Information

U.S. Department of Transportation Shipping Name: Not classified as a hazardous material. Not regulated.

Section 15 – Regulatory Information (Not meant to be all inclusive - selected regulations represented)

TSCA Listed: Yes

DSL/NDSL (Canadian) Listed: Yes

OSHA: TWA 20 mppcf (80 mg / m³ % SiO₂) for Silica gel; .1 mg / m³ (Cobalt metal fume & dust)

NIOSH: REL TWA 6 mg / m³ IDLH 3,000 mg / m³ for silica gel; REL TWA .05 mg / m³, IDLH 20 mg / m³ (as Cobalt)

Animal tests conducted in 1976 - 1978. 18 month exposure at 15 mg / m³ showed silica deposition in respiratory macrophages and lymph nodes, minimum lung impairment, no silicosis.

ACGIH: TLV - 10 mg / m³ for Silica gel; TWA .02 mg / m³ (as Cobalt)

DOT: Not classified as a hazardous material.

Section 16 – Other Information

HMIS – Hazardous Materials Identification System

HMIS Rating	
Health	0
Flammability	0
Reactivity	0

0 - minimal hazard, 1 - slight hazard, 2 - moderate hazard, 3 - serious hazard, 4 - severe hazard

This MSDS was prepared by: George E. Mckedy
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This data and recommendations presented in this data sheet concerning the use of our product and the materials contained therein are believed to be correct but does not purport to be all inclusive and shall be used only as a guide. However, the customer should determine the suitability of such materials for his purpose before adopting them on a commercial scale. Since the use of our products is beyond our control, no guarantee, expressed or implied, is made and no responsibility assumed for the use of this material or the results to be obtained therefrom. Information on this form is furnished for the purpose of compliance with Government Health and Safety Regulations and shall not be used for any other purposes. Moreover, the recommendations contained in this data sheet are not to be construed as a license to operate under, or a recommendation to infringe, any existing patents, nor should they be confused with state, municipal or insurance requirements, or with national safety codes.