



# MATERIAL SAFETY DATA SHEET

Prepared in accordance with ISO 11014-1/ ANSI standard  
Z400.1-2004

Revision Date: 05/July/2007

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** CAB-O-SIL® Untreated Fumed Silica

**Synonyms:** Silicon Dioxide, Synthetic Amorphous Silica, Pyrogenic (Fumed) Amorphous Silica

**This SDS is valid for the following grades:** CAB-O-SIL® Fumed Silica, L-50, L-90, LM-130, LM-150, M-5, M-5K, PTG, MS-55, H-5, H-7D, HS-5, EH-5, LM-130D, LM-150D, M-7D, MS-75D, S-17D, HP-60, M-8D

**Use of the Substance/Preparation:** Rheological control, Flow agent, Reinforcing agent in: Coatings, Adhesives, Various

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## 2. HAZARDS IDENTIFICATION

### EMERGENCY OVERVIEW - CAUTION:

White powder. Odorless. Dust irritating to respiratory tract. Irritating, but will not permanently injure eye tissue. Repeated exposure may cause skin dryness or cracking. Take precautionary measures against static discharges. All metal parts of the mixing and processing equipment must be earthed/grounded. Ensure all equipment is electrically earthed/grounded before beginning transfer operations.

**Principle Routes of Exposure:** Inhalation, Skin contact, Eye contact

### POTENTIAL HEALTH EFFECTS

**Eye Contact:** May cause mechanical irritation. Irritating, but will not permanently injure eye tissue. Low hazard for usual industrial or commercial handling.

**Skin Contact:** Repeated exposure may cause skin dryness or cracking.

**Inhalation:** Dust may be irritating to respiratory tract. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. See also Section 8.

**Ingestion:** Health injuries are not known or expected under normal use. Low hazard for usual industrial or commercial handling.

**Carcinogenic Effects:** Does not contain any substances greater than 0.1% listed by IARC (International Agency for Research on Cancer), NTP (National Toxicology Program), OSHA (Occupational Safety and Health Administration), ACGIH (American Conference for Governmental Industrial Hygienists) or EU (European Union). See also Section 11.

**Target Organ Effects:** Lungs

**Medical Conditions Aggravated by Exposure:** Asthma, Respiratory disorder

**Potential Environmental Effects:** No special environmental precautions required.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	EINECS Number	Weight %	EU Classification
Synthetic Amorphous, Pyrogenic Silica	112945-52-5	*	> 99.9	None

\* See Section 15.

### 4. FIRST AID MEASURES

**Skin Contact:** Wash thoroughly with soap and water. Seek medical attention if redness, swelling, itching, or burning occurs.

**Eye Contact:** Flush eyes immediately with large amounts of water for 15 minutes. Seek medical attention if redness, swelling, itching, burning or visual disturbances occur.

**Inhalation:** If cough, shortness of breath or other breathing problems occur, move to fresh air. Seek medical attention if symptoms persist. If necessary, restore normal breathing through standard first aid measures.

**Ingestion:** Do not induce vomiting. If conscious, give several glasses of water. Never give anything by mouth to an unconscious person.

**Notes to Physician:** Treat symptomatically.

### 5. FIRE AND IGNITION INFORMATION

**Flash Point:** Not determined  
**Explosion Limits in Air - Upper (%):** Not determined  
**Explosion Limits in Air - Lower (%):** Not applicable  
**OSHA Flammability Classification:** Not applicable

**Autoignition Temperature:** Not determined  
**Method:** Not determined

**Extinguishing Media:** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Special Protective Equipment for Firefighters:** Wear suitable protective equipment. In the event of fire, wear self-contained breathing apparatus.

**Specific Hazards:** Product resists ignition and does not promote flame spread.

**Hazardous Decomposition and/or Combustion Products:**

None.

**Risk of Dust Explosion:**

This material is an inorganic dust and will not create nor support conditions that would result in a dust explosion or fire.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal Precautions:**

Avoid dust formation. Remove all sources of ignition. Ensure adequate ventilation. Use personal protective equipment. See also Section 8.

**Methods for Cleaning Up:**

Clean up promptly by vacuum. Use a suitable vacuum cleaner. Do not create a dust cloud by using a brush or compressed air. Pick up and transfer to properly labelled containers. See Section 13.

**Environmental Precautions:**

No special environmental precautions required. Local authorities should be advised if significant spillages cannot be contained.

## 7. HANDLING AND STORAGE

**Handling:**

Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated. Do not create a dust cloud by using a brush or compressed air. Take precautionary measures against static discharge. All metal parts of the mixing and processing equipment must be earthed/grounded. Ensure all equipment is electrically earthed/grounded before beginning transfer operations.

**Storage:**

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store together with volatile chemicals as they may be adsorbed onto product. Keep at ambient temperatures.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**EXPOSURE LIMITS**

<b>Amorphous Silica, The regulatory exposure limits are found under the general silica, CAS RN 7631-86-9:</b>	Australia:	2 mg/m <sup>3</sup> , TWA, Respirable
	Austria MAK:	4 mg/m <sup>3</sup> , TWA, Inhalable fraction
	Finland:	5 mg/m <sup>3</sup>
	Germany TRGS 900:	4 mg/m <sup>3</sup> , TWA, Inhalable fraction (a1)
	India:	10 mg/m <sup>3</sup> , TWA
	Ireland:	2.4 mg/m <sup>3</sup> , TWA, Respirable dust
	Norway:	1.5 mg/m <sup>3</sup> , TWA, Respirable dust
	Switzerland:	4 mg/m <sup>3</sup> , TWA
	UK WEL:	6 mg/m <sup>3</sup> , TWA, Total inhalable fraction 2.4 mg/m <sup>3</sup> , TWA, Respirable fraction
	US OSHA PEL:	6 mg/m <sup>3</sup>

<b>Dust, or Particulates Not Otherwise Specified:</b>	US ACGIH - TLV:	10 mg/m <sup>3</sup> , TWA, Inhalable 3 mg/m <sup>3</sup> , TWA, Respirable
	Belgium:	10 mg/m <sup>3</sup> , TWA, Inhalable 3 mg/m <sup>3</sup> , TWA, Respirable
	China:	8 mg/m <sup>3</sup> , TWA 10 mg/m <sup>3</sup> , STEL
	Italy:	10 mg/m <sup>3</sup> , TWA, Inhalable 3 mg/m <sup>3</sup> , TWA, Respirable
	Malaysia:	10 mg/m <sup>3</sup> , TWA, Inhalable 3 mg/m <sup>3</sup> , TWA, Respirable
	Spain:	10 mg/m <sup>3</sup> , VLA, Inhalable 3 mg/m <sup>3</sup> , VLA, Respirable

(a1) - In its facilities globally, Cabot Corporation manages to the Germany TRGS 900 occupational exposure limit of 4 mg/m<sup>3</sup>, TWA, Inhalable fraction.

**MAK: Maximale Arbeitsplatzkonzentration (Maximum Workplace Concentration)**

**OEL: Occupational Exposure Limit**

**PEL: Permissible Exposure Limit**

**STEL: Short Term Exposure Limit**

**TLV: Threshold Limit Value**

**TRGS: Technische Regeln für Gefahrstoffe (Technical Rule for Hazardous Materials)**

**TWA: Time Weighted Average**

**US ACGIH: United States American Conference of Governmental Industrial Hygienists**

**US OSHA: United States Occupational Safety and Health Administration**

**VLA: Valore Limite Ambientales (Environmental Limit Value)**

**WEL: Workplace Exposure Limit**

## **ENGINEERING CONTROLS**

Ensure adequate ventilation to maintain exposures below occupational limits. Provide appropriate exhaust ventilation at machinery and at places where dust can be generated.

## **PERSONAL PROTECTIVE EQUIPMENT**

**Respiratory Protection:** Approved respirator may be necessary if local exhaust ventilation is not adequate.

**Hand Protection:** Repeated exposure may cause skin dryness or cracking. Use protective skin cream before handling the product. Wear suitable gloves.

**Eye Protection:** Wear eye/face protection. Safety glasses with side-shields. Goggles.

**Skin and Body Protection:** Wear suitable protective clothing. No special protective equipment required.

**Other:** Handle in accordance with good industrial hygiene and safety practice. Emergency eyewash and safety shower should be located nearby.

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	White Powder
<b>Odor:</b>	None
<b>pH:</b>	3.6 - 4.5
<b>Vapor Pressure:</b>	Not determined
<b>Boiling Point/Range:</b>	2230°C
<b>Melting Point/Range:</b>	1700°C
<b>Water Solubility:</b>	Insoluble

Density:	2.2 g/cm <sup>3</sup> @ 20°C
Specific Gravity:	Not applicable
% Volatile (by Volume):	Not applicable
Evaporation Rate:	Not determined
Viscosity:	Not determined
Partition Coefficient (n-octanol/water):	Not applicable

## 10. STABILITY AND REACTIVITY

Stability:	Stable
Hazardous Polymerization:	Hazardous polymerization does not occur.
Mechanical Sensitivity (shock):	Not sensitive to mechanical impact.
Conditions to Avoid:	Keep away from heat and sources of ignition. Avoid dust formation. Product resists ignition and does not promote flame spread.
Hazardous Decomposition and/or Combustion Products:	None.
Static Discharge Effects:	Take precautionary measures against static discharges. Avoid dust formation. All metal parts of the mixing and processing equipment must be earthed/grounded. Ensure all equipment is electrically earthed/grounded before beginning transfer operations. This material is an inorganic dust and will not create nor support conditions that would result in a dust explosion or fire.

## 11. TOXICOLOGICAL INFORMATION

### ACUTE TOXICITY

**Oral LD50:** LD50/oral/rat = > 5000 mg/kg.

**Inhalation LC50:** Due to the product's physical characteristics, no suitable testing procedure is available.

**Dermal LD50:** LD50/dermal/rabbit = > 2000 mg/kg.

**Eye Irritation:** Draize score 0.7/110 @ 24 hr. Non-irritating.

**Skin Irritation:** 0/8. Non-irritating.

### SUBCHRONIC TOXICITY

No data are available on the product itself.

### CHRONIC TOXICITY

**Carcinogenic Effects:** Does not contain any substances greater than 0.1% listed by IARC (International Agency for Research on Cancer), NTP (National Toxicology Program), OSHA (Occupational Safety and Health Administration), ACGIH (American Conference for Governmental Industrial Hygienists) or EU (European Union).

**Mutagenic Effects:** Not mutagenic in AMES Test, unscheduled DNA synthesis, chromosomal aberration in Chinese hamster ovary (CHO) cells.

**Reproductive Toxicity:** Did not show teratogenic effects in animal experiments. According to experience not expected.

**Sensitizing Effects:** A delayed contact hypersensitivity study in guinea pigs utilizing the Magnusson and Kligman Maximization technique was performed. No sensitization responses were observed.

**Synergistic Materials:** None reasonably foreseeable.

## 12. ECOLOGICAL INFORMATION

**Aquatic Toxicity:** Fish (Brachydanio rerio) ECO (96 hours): > 10,000 mg/l; (Method: OECD 203)  
Daphnia magna ECO (24 hours): > 10,000 mg/l; (Method: OECD 202)

### ENVIRONMENTAL FATE

**Mobility:** Not expected to migrate.

**Bioaccumulation:** According to experience not expected.

**Persistence / Degradability:** The methods for determining biodegradability are not applicable to inorganic substances.

**Distribution to Environmental Compartments:** Not determined.

## 13. DISPOSAL CONSIDERATIONS

**Disclaimer:** Information in this section pertains to the product as shipped in its intended composition as described in Section 2 of this MSDS. Contamination or processing may change waste characteristics and requirements. Regulations may also apply to empty containers, liners or rinsate. State/provincial and local regulations may be different from federal regulations.

**RCRA Classification (40 CFR 261):** Not a hazardous waste.

**Unused and Uncontaminated Product:** Can be burned in suitable incineration plants or disposed of in a suitable landfill in accordance with the regulations issued by the appropriate federal, provincial, state and local authorities.

## 14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

- US Department of Transportation
- Canadian Transport of Dangerous Goods Regulation
- European Transport of Dangerous Goods Regulation
- GGVS, GGVE, RID, ADR, IMDG Code, ICAO-TI
- United Nations (no UN number)

## 15. REGULATORY INFORMATION

**Regulatory information is found under the general silica: CAS RN 7631-86-9, EINECS RN 231-545-4.**

### Hazard Classification

**United States - OSHA (29 CFR 1910.1200):** Hazardous.

**Mexico - NOM-018-STPS-2000:** Refer to HMIS Rating in Section 16.

**Canada - WHMIS Classification (CPR, SOR/88-66):** Not controlled.

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

Chemical Name	WHMIS Ingredient Disclosure List:
Synthetic Amorphous, Pyrogenic Silica	General Silica, CAS RN 7631-89-9, is Listed

## International Inventories

All components of this product are listed on or exempt from the following inventories:

- YES - Australian Inventory of Chemical Substances (AICS)
- YES - Canadian Domestic Substances List (DSL)
- YES - Chinese Inventory
- YES - European Inventory of Existing Commercial Chemical Substances (EINECS)
- YES - Japanese Existing and New Chemical Substances (ENCS)
- YES - Korean Existing Chemicals List (KECL)
- YES - New Zealand Hazardous Substances and New Organisms Act (HSNO)
- YES - Philippine Inventory of Chemicals and Chemical Substances (PICCS)
- YES - United States Toxic Substances Control Act (TSCA) Inventory

## U.S. Federal Regulations

**TSCA 12(b) Export Notification:** This product does not contain any components that are subject to TSCA 12(b) Export Notification.

**Clean Air Act Amendments of 1990 (CAA, Section 112, 40 CFR 82):** This product does not contain any components listed as a Hazardous Air Pollutant, Flammable Substance, Toxic Substance, or Class 1 or 2 Ozone Depletor.

**Clean Water Act (CWA, 40 CFR 116) Priority Pollutants:** This product does not contain any listed Priority Pollutants.

**Comprehensive Environmental Response, Compensation and Liability Act (CERCLA, 40 CFR 302):** This product does not contain any listed Hazardous Substances.

### Superfund Amendments and Reauthorization Act, Title III (SARA):

**SARA Section 302 (40 CFR 355) Extremely Hazardous Substances:** No components are listed as extremely hazardous chemicals under SARA Section 302.

**SARA Sections 311/312 (40 CFR 370) Hazard Category:** This product does not meet any of the MSDS Requirement definitions for a hazardous material under SARA Sections 311/312. Reporting may be required if the material is present at any one time in amounts equal to or greater than 10,000 pounds.

**SARA Section 313 (40 CFR 372) Toxics Release Inventory:** Does not contain any of the substances identified under Section 313 as toxic chemicals in excess of the de minimis concentrations necessary to be subject to the supplier notification requirements.

### **Food and Drug Administration (FDA):**

The use of CAB-O-SIL has been cleared by the United States Food and Drug Administration (FDA) for many food applications as both a direct food additive at levels up to 2 percent by weight and as a substance allowed in the manufacture of materials that come in direct contact with food in various producing, manufacturing, packing, preparing, transporting and holding operations. Pertinent sections can be found in Title 21 Code of Federal Regulations, Part 172 Food Additives Permitted for Direct Addition to Food for Human Consumption. Additional information on the use of CAB-O-SIL fumed silica in foods is available in the publication, CAB-O-SIL Fumed Silica as a Conditioning Agent for the Food Processing Industry.

**Cosmetic Use:** Listed by the Cosmetic, Toiletry and Fragrance Association (CTFA) for use in cosmetics and personal care products.

**Pharmaceutical Information:** Not recommended.

## U.S. State Regulations

**California Proposition 65:** This product is not listed on California Proposition 65.

**US Coalition of NorthEastern Governors (CONEG) Metals List:** This product meets the CONEG Source Reduction Council limits for the sum of the levels of lead, cadmium, mercury and hexavalent chromium of less than 100 parts per million by weight.

**16. OTHER INFORMATION**

**HMIS Rating**

HMIS Index: \* - chronic, 0 - minimal, 1 - slight, 2 - moderate, 3 - serious, 4 - severe

Health: 1

Flammability: 0

Physical Hazard: 0

**Additional Contacts:**

Prepared by: Cabot Corporation - Safety, Health and Environmental Affairs

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Reason for Revision: Revisions throughout

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