SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)
Canada Hazardous Products Regulations (SOR/2015-17)

Revision date 05-Aug-2022 Revision Number 3

1. Identification

Product identifier

Product Name CAB-O-SIL® M-5 Untreated Fumed Silica

Other means of identification

Product Code(s) M5

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

Recommended use of the chemical and restrictions on use

Recommended use Various, Rheological control, Flow agent, Anti-caking agent, Anti-blocking agent, Anti-settling agent, Spray aid, Thickening agent, Carrier, Viscosity control agent, Glossing or matting agent, Chemical intermediate, Stabilization agent, Filler, Reinforcing agent in: Coatings, Adhesives and/or sealants, Silicone Elastomer, Rubber products, suspension, dispersion, Batteries, Cosmetics, Inks and toners, Paints, Hygiene and sanitary products, Other

Restrictions on use None known.

Details of the supplier of the safety data sheet

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2. Hazard(s) identification

Classification

This product is not considered hazardous by either the US 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200) or the Canadian Workplace Hazardous Material Information System (WHMIS 2015)

Label elements

Signal word
None

Hazard statements
None

Precautionary statements
None

Other information

May cause mechanical irritation. Dust may be irritating to respiratory tract.

3. Composition/information on ingredients

Substance

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

Chemical name	CAS No	Weight-%	Hazardous Material Information Review Act registry number (HMIRA registry #)	Date HMIRA filed and date exemption granted (if applicable)
Synthetic Amorphous, Pyrogenic Silica	112945-52-5	> 99.9	-	-

Additional information
Regulatory information is found under the general silica: CAS RN 7631-86-9
The hyphen (-) means "not applicable".

4. First-aid measures

Description of first aid measures

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.

Eye contact In case of eye contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

Skin contact Wash skin with soap and water. Get medical attention if symptoms occur.

Ingestion Do NOT induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms See Section 11 for additional Toxicological Information.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media Silica is non-combustible, therefore no extinguishing media needs to be identified.

Unsuitable extinguishing media None.

Specific hazards arising from the chemical None.

Hazardous combustion products None

Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	This material is an inorganic dust and will not create nor support conditions that would result in a dust explosion or fire. Take precautionary measures against static discharges. Avoid generation of dust. All metal parts of the mixing and processing equipment must be earthed/grounded. Ensure all equipment is electrically earthed/grounded before beginning transfer operations.
Special protective equipment and precautions for fire-fighters	In case of fire: Wear self-contained breathing apparatus. Use personal protection equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid generation of dust. Ensure adequate ventilation. Use personal protective equipment as required. See section 8.

Environmental precautions

Environmental precautions	Local authorities should be advised if significant spillages cannot be contained. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment	Contain spilled product on land, if possible. Prevent further leakage or spillage if safe to do so.
Methods for cleaning up	Clean up promptly by vacuum. Use of a vacuum with high efficiency particulate air (HEPA) filtration is recommended. Do not create a dust cloud by using a brush or compressed air. Pick up and transfer to properly labeled containers. See section 13.

7. Handling and storage

Precautions for safe handling

Advice on safe handling	Avoid contact with skin and eyes. Avoid generation of dust. Do not breathe dust. Provide appropriate local 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 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. Fine dust is capable of penetrating electrical equipment and may cause electrical shorts.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Do not store together with volatile chemicals as they may be adsorbed onto product. Store at ambient conditions. Keep in properly labeled containers.

8. Exposure controls/personal protection

Control parameters

Exposure Limits The table below is a summary. Please see the specific legislation for complete information.

Chemical name	Amorphous Silica 7631-86-9
OSHA PEL	(vacated) TWA: 6 mg/m^3
Chemical name	Dust, or particulates not otherwise specified

	RR-00072-6
ACGIH TLV	TWA: 10 mg/m³ inhalable particles, recommended TWA: 3 mg/m³ respirable particles, recommended
OSHA PEL	TWA: 15 mg/m³ total dust; 5 mg/m ³ respirable fraction (vacated) TWA: 15 mg/m³ total dust; 5 mg/m ³ respirable fraction
Alberta	TWA: 10 mg/m³ total; 3 mg/m³ respirable
British Columbia	TWA: 10 mg/m³ total dust; 3 mg/m³ respirable fraction
Ontario	TWA: 10 mg/m³ inhalable fraction; 3 mg/m³ respirable fraction
Quebec	TWA: 10 mg/m³ total dust

Other information — In its facilities globally, Cabot Corporation manages silica to the Germany TRGS 900 occupational exposure limit of 4 mg/m³, TWA, Inhalable fraction.

Appropriate engineering controls

Engineering controls — Ensure adequate ventilation to maintain exposures below occupational limits. Provide appropriate local exhaust ventilation at machinery and at places where dust can be generated. Ensure that eyewash stations and safety showers are close to the workstation location.

Individual protection measures, such as personal protective equipment

Eye/face protection — Wear safety glasses with side shields (or goggles).

Hand protection — Wear protective gloves to prevent soiling of hands. Use protective barrier cream before handling the product.

Skin and body protection — Wear suitable protective clothing. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

Respiratory protection — Approved respirator may be necessary if local exhaust ventilation is not adequate.

Environmental exposure controls — In accordance with all local legislation and permit requirements as applicable for dusts.

General hygiene considerations — Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Color	white
Odor	None
Odor threshold	Not applicable

Property	Values	**Remarks • Method**
pH	3.6 - 4.5	In-house testing
Melting point / freezing point	1700 °C	NIOSH Pocket Guide to Chemical Hazards
Boiling point / boiling range	2230 °C	NIOSH Pocket Guide to Chemical Hazards
Flash point		Not combustible
Evaporation rate		Not applicable
Flammability (solid, gas)		Not flammable. Product resists ignition and does not promote flame spread
Flammability Limit in Air		Not applicable
Vapor pressure		Not applicable
Relative vapor density		Not applicable
Relative density	2.2	@ 20 °C
Water solubility	Soluble	According to OECD 105, enhanced
Solubility(ies)		No data available
Partition coefficient		Not applicable

Autoignition temperature		Not applicable
Decomposition temperature		Not applicable
Kinematic viscosity		Not applicable
Dynamic viscosity		Not applicable
Other information		
Explosive properties		Non-explosible
Oxidizing properties		No Oxidizing properties
Bulk density	30-150 kg/m³	DIN/ISO 787:11

10. Stability and reactivity

Reactivity	Not reactive. Substance is an inert inorganic solid.
Chemical stability	Stable under normal conditions. Stable under recommended storage conditions.
Possibility of hazardous reactions	None under normal processing.
Hazardous polymerization	Hazardous polymerization does not occur.
Conditions to avoid	None known.
Incompatible materials	None known
Hazardous decomposition products	None known

11. Toxicological information

Acute toxicity

Oral LD50	> 5000 mg/kg (rat). No deaths occurred and no signs of toxicity were seen during the observation periods after single oral administration of silica(OECD 401).
Dermal LD50	> 2000 mg/kg (rabbit). Very slight transient erythema in one animal. No signs of systemic or organ toxicity (OECD 402).
Inhalation LC50	Due to the product's physical characteristics, no suitable testing procedure is available.
Skin corrosion/irritation	Primary irritation index = 0/8 @ 24 hr. Not classified as an irritant (OECD 404).
Serious eye damage/eye irritation	Draize score 1.0/110 @ 24 hr. Not classified as an irritant in rabbit studies (OECD 405). High dust concentrations may cause mechanical irritation.
Respiratory or skin sensitization	No experimental animal data are available. No cases of sensitization in humans have been reported.
Germ cell mutagenicity	Not mutagenic in AMES Test. Negative in the unscheduled DNA synthesis assay. Negative in the chromosome aberration test in Chinese hamster ovary (CHO) cells.
Carcinogenicity	No evidence of carcinogenicity was observed in multiple animal species following repeated oral or inhalation exposure to amorphous silica. Similarly, epidemiology studies show no evidence of carcinogenicity in workers who manufacture amorphous silica.
Reproductive toxicity	No effects on reproductive organs or fetal development have been reported in animal toxicity studies.
STOT - single exposure	Based on available data, specific target organ toxicity is not expected after single oral, single inhalation, or single dermal exposure.

STOT - repeated exposure	Repeated dose toxicity: oral (rat), 2 weeks to 6 months, no significant treatment-related adverse effects at doses of up to 8% silica in the diet. Repeated dose toxicity: inhalation (rat), 13 weeks, Lowest Observed Effect Level (LOEL) = 1.3 mg/m³ based on mild reversible effects in the lungs. Repeated dose toxicity: inhalation (rat), 90 days, LOEL = 1 mg/m³ based on reversible effects in the lungs and effects in the nasal cavity. Repeated dose toxicity using SAS 400 m2/g: inhalation (rat), 90 days, fully reversible inflammation related to clearance processes following recovery period. NOAEC (lung) based on histopathology and inflammatory marker is 5 mg/m³ Based on available data, a STOT-RE classification is not warranted.
Target organ effects	Lungs
Aspiration hazard	Based on industrial experience and available data, no aspiration hazard is expected.
Other adverse effects	No information available.

12. Ecological information

Ecotoxicity	Fish (Brachydanio rerio) LC50 (96 h): > 10,000 mg/l; (Method: OECD 203). No acute toxicity to Daphnia with EL and EL_{50} ranging from >1000 to 10,000 mg/L (OECD 202).
Persistence and degradability	The methods for determining biodegradability are not applicable to inorganic substances.
Bioaccumulation	Not expected due to physicochemical properties of the substance.
Mobility	Not expected to migrate.
Other adverse effects	No information available.

13. Disposal considerations

Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with federal, state and local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable.
US EPA Waste Number	Unused product is not a hazardous waste under U.S. RCRA, 40 CFR 261

14. Transport information

DOT	Not regulated
TDG	Not regulated
MEX	Not regulated
ICAO (air)	Not regulated
IATA	Not regulated
IMDG	Not regulated
RID	Not regulated

ADR Not regulated

ADN Not regulated

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories

TSCA Complies

Chemical name	CAS No	US TSCA Inventory listing	US TSCA inactive/active designation
Synthetic Amorphous, Pyrogenic Silica	112945-52-5	Present	Active

DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
TCSI	Complies
NZIoC	Complies

Note:
Regulatory information is found under the general silica: CAS RN 7631-86-9

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances
TCSI - Taiwan Chemical Substance Inventory
NZIoC - New Zealand Inventory of Chemicals

US Federal Regulations

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

SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

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.

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Synthetic Amorphous, Pyrogenic Silica 112945-52-5	-	X	X

16. Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

Key literature references and sources for data used to compile the SDS
NIOSH Pocket Guide to Chemical Hazards, September 2005. "Silica, amorphous". DHHS (NIOSH) Publication No. 2005-149. National Technical Information Service, Springfield, VA. p. 277

Prepared By	Cabot Corporation - Safety, Health and Environmental Affairs.
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End of Safety Data Sheet