Material Safety Data Sheet

Date of issue 14 December 2010
Version 1

1 . Product and company identification

Product name : Hi-Sil™ 255C-D

Code : 19760

Synonym : Synthetic Precipitated Silicas; Hydrated Amorphous Silica; Silicon Dioxide; Flo-Gard®; Hi-Sil®; Lo-Vel®; San-Sil®; Silene®; SiO2

Supplier : PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

Emergency telephone number : (412) 434-4515 (U.S.)

Technical Phone Number : 1-800-243-6745 (Silica) 8am-5pm Eastern time

2 . Hazards identification

Emergency overview : CAUTION!

PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. May be irritating to eyes and respiratory system. Product forms slippery surface when combined with water.

Use only with adequate ventilation. Wash thoroughly after handling.

Potential acute health effects

Inhalation : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.

Ingestion : No known significant effects or critical hazards.

Skin : PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION.

Eyes : No significant irritation expected other than possible mechanical irritation.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
Respiratory tract irritation
coughing

Ingestion : No specific data.

Skin : Adverse symptoms may include the following:
dryness

Eyes : Adverse symptoms may include the following:
irritation
redness

Medical conditions aggravated by over-exposure : None known.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

3 . Composition/information on ingredients

Name	CAS number	%
Silica, amorphous, precipitated and gel	112926-00-8	>87

Contains no detectable crystalline silica (detection limit <0.1% by weight).

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4 . First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Ingestion : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.

Notes to physician : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5 . Fire-fighting measures

Flammability of the product : Not applicable. When transferring material into flammable solvents, use proper grounding to avoid electrical sparks.

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Hazardous combustion products : None known.

Special protective equipment for fire-fighters : No special recommendations.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Product forms slippery surface when combined with water. Put on appropriate personal protective equipment (see Section 8).

Environmental precautions : Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Large spill : Vacuum or sweep up material and place in a designated, labeled waste container. Product forms slippery surface when combined with water. Note: see section 1 for emergency contact information and section 13 for waste disposal.

Small spill : Vacuum or sweep up material and place in a designated, labeled waste container. Product forms slippery surface when combined with water.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Avoid contact with eyes, skin and clothing. When transferring material into flammable solvents, use proper grounding to avoid electrical sparks. Avoid alteration of product properties before use. Calcining (which may result in crystalline formation) or mixing with additives may alter toxicological properties.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Do not store in unlabeled containers.

8 . Exposure controls/personal protection

Name	Result	ACGIH	OSHA	Ontario	Mexico	PPG
Silica, amorphous, precipitated and gel	TWA	Not established	Not established	10 mg/m³	10 mg/m³	Not established

Key to abbreviations

A	=	Acceptable Maximum Peak	S	=	Potential skin absorption
ACGIH	=	American Conference of Governmental Industrial Hygienists.	SR	=	Respiratory sensitization
C	=	Ceiling Limit	SS	=	Skin sensitization
F	=	Fume	STEL	=	Short term Exposure limit values
IPEL	=	Internal Permissible Exposure Limit	TD	=	Total dust
OSHA	=	Occupational Safety and Health Administration.	TLV	=	Threshold Limit Value
R	=	Respirable	TWA	=	Time Weighted Average
Z	=	OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances			

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses with side shields.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Gloves : Leather, Cloth, Rubber

Respiratory : Use appropriate respiratory protection if there is a risk of exceeding any exposure limits. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state	:	powder, solid or Granular solid.
Flash point	:	Closed cup: Not applicable.
Color	:	White.
Odor	:	Not available.
pH	:	5.2 to 7.5 [5% Suspension]
Boiling/condensation point	:	Not applicable.
Melting/freezing point	:	Not applicable.
Specific gravity	:	2.1 (silicon dioxide)
Vapor pressure	:	Not applicable.
Vapor density	:	Not applicable.
Odor threshold	:	Not available.
Evaporation rate	:	Not applicable.
Partition coefficient: n-octanol/water	:	Not available.
% Solid. (w/w)	:	100

10 . Stability and reactivity

Stability	:	Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid	:	High temperature (>800 C) treatment (calcining).
Materials to avoid	:	Reactive or incompatible with the following materials:,acids,oxidizing materials,strong alkalis
Hazardous decomposition products	:	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	:	Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Chronic toxicity

Conclusion/Summary : An epidemiological study was conducted which included 165 precipitated silica workers who had been exposed an average time span of 8.6 years. Of these 165 workers, 44 had been exposed for an average of 18 years. No adverse effects were noted in complete medical examinations (including chest roentgenograms) of these workers. Pulmonary function decrements were correlated only with smoking and age but not with the degree or duration of dust exposures. Laboratory studies have also been conducted in small animals via inhalation of levels of precipitated silica dust of up to 126 mg/cu.m. per periods from six months to two years. Although precipitated silica was temporarily deposited in the animals´ lungs, most of the deposited material was cleared soon after the dust exposure ended. The results of all studies performed by, or known to, PPG indicate a very low order of pulmonary activity for synthetic precipitated silicas. PPG recommends that persons with breathing problems or lung disease should not work in dusty areas unless a physician approves and certifies their fitness to wear respiratory protection.

Carcinogenicity

Carcinogenicity : No known significant effects or critical hazards.

Classification

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
Silica, amorphous, precipitated and gel	-	3	-	-	-	-

11 . Toxicological information

Mutagenicity

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity

Teratogenicity : No known significant effects or critical hazards.

Reproductive toxicity

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

12 . Ecological information

Environmental effects : Not readily biodegradable. This product shows a low bioaccumulation potential.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
silica, amorphous, precipitated and gel	NOEC >1000 ppm	Daphnia - Daphnia magna	24 hours
	Acute NOEC >10000 ppm	Fresh water Fish	96 hours
	Acute NOEC >10000 ppm	Fish - Brachydanio rerio	Static 4 days Static

Other adverse effects : No known significant effects or critical hazards.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14 . Transport information

Regulation	UN number	Proper shipping name	Classes	PG*	Additional information
UN	None.	Not regulated.	None.	-	-
IMDG	None.	Not regulated.	None.	-	-
DOT	Not available.	Not regulated.	None.	-	-

PG* : Packing group

Reportable quantity RQ : CERCLA: Hazardous substances. : No products were found.

15 . Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.
Australia inventory (AICS) : All components are listed or exempted.
Canada inventory (DSL) : All components are listed or exempted.
China inventory (IECSC) : All components are listed or exempted.
Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.
Japan inventory (ENCS) : All components are listed or exempted.
Korea inventory (KECI) : All components are listed or exempted.
New Zealand (NZIoC) : All components are listed or exempted.
Philippines inventory (PICCS) : All components are listed or exempted.

United States

U.S. Federal regulations :

SARA 302/304/311/312 extremely hazardous substances: No products were found.
SARA 302/304 emergency planning and notification: No products were found.
SARA 302/304/311/312 hazardous chemicals: No products were found.
CERCLA: Hazardous substances.: No products were found.

SARA 311/312 MSDS Distribution - Chemical Inventory - Hazard Identification:

Chemical name	CAS #	Acute	Chronic	Fire	Reactive	Pressure
Silica, amorphous, precipitated and gel	**112926-00-8**	N	N	N	N	N
Product as-supplied :		N	N	N	N	N

Canada

WHMIS (Canada) : None identified.

Mexico

Classification

Flammability : 0 **Health :** 1 **Reactivity :** 0

16 . Other information

Hazardous Material Information System (U.S.A.)

Health : 1 **Flammability :** 0 **Physical hazards :** 0
(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 1 **Flammability :** 0 **Instability :** 0

Date of previous issue : **No previous validation.**

Organization that prepared the MSDS : EHS

Indicates information that has changed from previously issued version.

Disclaimer

16 . Other information

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.