



# MATERIAL SAFETY DATA SHEET

## NanoSilica HR-50

### Section 1a – Identification of Substance

**Tradenames:** NanoSilica HR-50.  
**Product Uses:** Amorphous silica powder for use as a pozzolan in the cement and concrete industries.  
**Revision Date:** August 29, 2013

### Section 1b – Company Address

**VITRO MINERALS, INC.**  
1505 General Arts Rd  
Conyers, GA 30012  
United States

### Phone/Fax Numbers

**Emergency Phone Number:** 678-729-9333  
**Technical Information:** 678-729-9333  
**Fax Number:** 678-750-0105

### Section 2 – Composition and Ingredient Information

Ingredients	CAS #	Composition	OSHA PEL	ACGIH TLV
Fumed Silica <sup>(1)</sup>	112945-52-5	>99.7%	Not Listed <sup>(2)</sup>	Not Listed <sup>(2)</sup>

Notes: (1) NanoSilica HR-50 is an amorphous product obtained by high temperature oxidative treatment of volatile silicon compounds in the vapor phase. The resulting fumed silica particles fuse and are rapidly cooled to ambient temperature, thus preventing crystallization. The resulting powder is fully amorphous by X-ray diffraction. (2) Exposure to this product may be covered by OSHA inert or nuisance dust limits of 15 mg/m<sup>3</sup> for total dust and 5 mg/m<sup>3</sup> for respirable portion.

### Section 3 – Physical/Chemical Properties

<b>Specific Gravity</b> (H <sub>2</sub> O =1): 2.2	<b>Evaporation Rate:</b> N/A	<b>Appearance/Odor:</b> White Powder / No Odor
<b>Melting (Softening) Point:</b> >1500°C	<b>Solubility in Water:</b> Insoluble	<b>Vapor Pressure</b> (mm Hg and Temp): N/A
<b>Boiling Point:</b> N/A	<b>Water Reactive:</b> Not Reactive	<b>Vapor Density</b> (Air = 1): N/A

N/A = Not Applicable

### Section 4 – Fire and Explosion Hazard Data

**Fire and Explosion Hazard Overview:** This material is considered non-flammable and non-combustible.

**Auto-Ignition Temperature:** N/A

**Flash Point and Method Used:** N/A

**LEL/UEL:** N/A

**Unusual Fire and Explosion Hazards:** None

**Special Fire Fighting Procedures:** No special procedures required.

**Extinguisher Media:** No special media required.

N/A = Not Applicable

## Section 5 – Stability and Reactivity

**Stability:** Stable

**Conditions to Avoid:** None known.

**Hazardous Decomposition Products:** Unknown and not suspected.

**Hazardous Polymerization:** Not known to occur.

**Reactivity:** Material is considered inert in polymer and resin systems. Avoid contact with strong acids, alkalis, reducing agents, and oxidizers.

## Section 6 – Health Hazard Identification

**Emergency Overview:** Not considered hazardous. Stable and non-flammable under normal industrial conditions.

**Primary Routes of Entry:** Inhalation, ingestion, skin absorption.

**Signs and Symptoms of Exposure:** Eye, skin, or respiratory tract irritation.

**Acute:** Dust may irritate eyes, skin, respiratory tract, mucous membranes. Dust hazard should not occur under normal use.

**Chronic:** None known.

## Section 7 – Toxicological Information

**Carcinogenicity:** The following list indicates whether or not the indicated agency has listed the product as a carcinogen:  
NTP, Not listed; IARC, Not listed; OSHA, Not listed.

**LD50:** Oral (g/kg), Not available; Dermal (g/kg), Not available; Inhalation (ppm, 8hrs), Not available.

## Section 8 – First Aid Measures

**Medical Conditions Generally Aggravated by Exposure:** May aggravate existing pulmonary condition if high dust situation is created. Dusting conditions should not occur under normal use.

**Eye Contact:** Immediately flush eyes with water to remove dust particles. If irritation develops, seek medical attention.

**Skin Contact:** Wash skin with soap and water. If irritation develops, seek medical attention.

**Inhalation:** Immediately remove affected person to fresh air. If irritation develops, seek medical attention.

**Ingestion:** Rinse mouth out with water. Induce vomiting if significant quantities ingested. Seek medical attention.

## Section 9 – Exposure Control and Protective Measures

**Respiratory Protection:** If airborne dust exposure approaches the TLV or PEL (Section 2) use half-mask or full-face air purifying respirator equipped with NIOSH or MSHA-approved high efficiency filters for protection against pneumoconiosis-producing dust. An airline respirator may be required where dust levels are extremely high.

**Protective Gloves:** Limit contact with skin. Use rubber or cloth gloves as necessary.

**Eye Protection:** Wear goggles or face shield as appropriate. Avoid contact lenses.

**Ventilation to be Used:** Keep dust levels below PEL. Use general and local exhaust ventilation and dust collection systems to keep dust levels within acceptable limits.

**Other Protective Clothing and Equipment:** None normally required. Wear long sleeves and long pants to reduce skin contact. Use work gloves, goggles and face shield as necessary.

**Hygienic Work Practices:** Do not allow dust to get into eyes, to be inhaled, to be swallowed, or remain on skin if irritation occurs. Practice good personal hygiene. Wash or shower after use. Launder clothes as normal.

## Section 10 – Accidental Release Measures

**Steps to be Taken if Material is Accidentally Spilled or Released:** Avoid creating airborne dust. Pick up with shovel or mechanical equipment. Wet methods and vacuuming may be used on spills.

## Sections 11 & 12 – Disposal and Transportation Considerations

Considered non-hazardous per EPA, RCRA 40CFR, Part 261, 1990. Handle as inert bulk material. Material may be disposed of as a non-hazardous solid waste consistent with state, federal and local disposal regulations. Disposal in a sanitary landfill is usually adequate. Products which are part of a filled plastic or uncured resin systems must be disposed of in accordance with applicable requirements for those plastics or resins where they exist. Not regulated by the Department of Transportation (DOT).

## Section 13 – Handling and Storage

**Precautions to be Taken:** Keep material dry in storage. No special handling required. Avoid creating airborne dust. Not an electrical conductor.

**Other Precautions and/or Special Hazards:** None

## Section 14 – Ecological Information

Considered to be an inert solid waste, and no special precautions should be taken in case it is released or spilled. These products do not contain, nor are manufactured with, Class I or Class II Ozone-Depleting Chemicals (CFCs) identified in the Clean Air Act Amendment, 1990 List of Ozone Depleting Chemicals.

## Section 15 – Additional Regulatory Information

**United States:** (a) EPA Toxic Substances Control Act (TSCA): The applicable CAS number is 112945-52-5, corresponding to “Fumed Silica.” All the raw material components are in the TSCA Inventory. (b) EPA SARA Title III: Vitro considers this product exempt as they do not meet its health or physical hazards definitions nor contain any SARA 313 chemical ingredients in excess of EPA’s de minimus concentrations. (c) OSHA Hazard Communication Standard: Subject to the applicable requirements of this regulation. (d) Right to Know Law: Per this MSDS revision date, this product are not known to contain chemical ingredients listed by the Pennsylvania, New Jersey or Massachusetts Right to Know Law in excess of amounts requiring reporting on such substances’ MSDS or labels. (e) California Proposition 65: No ingredient is listed. (f) Clean Air Act: No ingredient is listed. (g) FDA Classification: NanoSilica HR-50 is a fully amorphous product which falls under Code of Federal Regulations 21 CFR 177 Indirect Food Additives - Polymers, subsections 2410 and 2420.

**Canada:** These products are exempt from Canadian Environmental Protection Act (CEPA) reporting on the Domestic Substances Lists. They are also exempt from Workplace Hazardous Materials Information System (WHMIS) labeling & MSDS requirements.

**European Economic Committee (EEC) Labeling Classification:** This product does not meet the classification for a “dangerous substance” according to 67/548/EEC and 97/69/EC. The composition has been incorporated in the EINECS under CAS number 112945-52-5 as “Fumed Silica.”

**Japan:** Chemical Substances Control Law: Exempt from this law.

## Section 16 – Other Information

HMIS and NFPA Hazard Rating:	Category	HMIS	NFPA
	Acute Health (0-4)	0	0
	Flammability (0-4)	0	0
	Reactivity (0-4)	0	0

**HMIS Personal Protection:** To be supplied by user depending upon use.

**NFPA Unusual Hazards:** None.

For further technical information on NanoSilica HR-50 product contact your Vitro sales representative or the telephone number listed in Section 1b.

**NOTE:** Information herein is based on data considered to be accurate as of date prepared. No warranty or representation, express or implied, is made as to the accuracy or completeness of this data and safety information. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.