nanoComposix

www.nanoComposix.com

SAFETY DATA SHEET

Preparation Date: 06/11/2019
Revision Date: 02/15/2022

SECTION 1: Identification

1.1 Product Identifier

Product Name	Non-Functionalized Mesoporous NanoXact™ Silica Nanoparticle Powder (SHSD)
Registration Number (REACH)	It is not required to list the identified uses because the substance is not subject to registration according to REACH (<1 t/a)

1.2 Other Means of Identification

Item Number(s): SHSDXXX-XXMG, SHSDXXX-XXXMG.

Where XXX-XX, XXX-XXX represents the size of the particle.

1.3 Recommended Use of the Chemical and Restrictions on Use

Relevant identified Uses	Laboratory chemicals, Manufacture substances
Uses Advised Against	Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household).

1.4 Suppliers Details

Name:	nanoComposix, Inc.	:
Address:	4878 Ronson CT STE K San Diego, CA 92111-1806	
Telephone:	(858) 565-4227	
Email:	techsupport@nanocomposix.com	

1.5 Emergency Phone Number(s)

Technical Support:	(+1) 858 565 4227
CHEMTREC (EMERGENCY ONLY):	(800) 424-9300
POISON CENTER:	(800) 562-8236

SECTION 2: Hazards Identification

2.1 Classification of the Substance or Mixture

Not a hazardous substance or mixture.

2.2 GHS Label Elements, Including Precautionary Statements

Not a hazardous substance or mixture.

2.3 Hazards not Otherwise Classified (HNOC)

None

Results of PBT and vPvB Assessment: Not Applicable

EMERGENCY OVERVIEW:

OSHA Hazards: Inhalation of mist or dust may be harmful. Avoid repeated or prolonged breathing of spray mist or dust.

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS): Specific target organ toxicity – repeated exposure (category 1), H372: Causes damage to lungs through prolonged or repeated exposure by inhalation

Pictogram

Signal word: Danger

HMIS CLASSIFICATION

Health Hazard:	2
Flammability:	0
Physical Hazards:	0

NFPA RATING

Health Hazard:	2
Fire:	0
Reactivity Hazard:	0

APPEARANCE: Dry crystalline powder.

EYE CONTACT: May cause transient eye irritation. Prolonged exposure may cause eye damage.

SKIN CONTACT: May be harmful if absorbed through skin. Can cause transient skin irritation.

INHALATION: May be harmful to the respiratory tract and lungs if powder is inhaled.

INGESTION: May be harmful if ingested.

ACUTE HEALTH EFFECTS: May be irritating to skin, eyes and digestive tract. Prolonged exposure to dust/mist can produce pneumoconiosis.

CHRONIC HEALTH EFFECTS: Repeated and prolonged exposures have not been studied.

SECTION 3: Composition and Information on Ingredients

3.1 Substances

Not Applicable

3.2 Mixtures

INGREDIENTS	CAS #	EINECS Number (EC No.)	% by Mass (Concentration)	Hazardous
Silica	7631-86-9	>99%	6mg/m3	20Million particles per cubic foot

CHEMICAL NAME: Colloidal silica nanoparticle dispersion

CAS REGISTRY NUMBER: 7631-86-9 (silica colloid)

FORMULA: SiO_2

EINECS NUMBER: NA (See components)

CHEMICAL FAMILY: metal composite

SYNONYM: NanoXact™ mesoporous silica nanoparticles, mesoporous silicon dioxide nanoparticle powder, dry mesoporous silicon dioxide, amorphous silica

SECTION 4: First Aid Measures

4.1 Description of Necessary First-Aid Measures

If inhaled	If breathed in, move person to fresh air. Treat symptoms. If not breathing, give artificial respiration. Seek medical attention if necessary
In case of skin contact	Wash the affected area with soap and water. Remove contaminated clothes if necessary. Seek medical assistance if irritation persists.
In case of eye contact	Remove contacts if present. Immediately flush the eyes with water for at least 10-15 minutes. Seek medical attention if irritation persists.
If swallowed	Do NOT induce vomiting. If the person is conscious, rinse their mouth out with water and give water. Never give anything by mouth to an unconscious person.

PRIMARY ROUTES OF EXPOSURE: Ingestion, dermal contact.

4.2 Most Important Symptoms/Effects, Acute and Delayed

Particulates may cause abrasive eye injury. Inhalation of dust may cause respiratory tract irritation. Symptoms of exposure may include cough, sore throat, nasal congestion, sneezing, wheezing and shortness of breath.

4.3 Indication of Immediate Medical Attention and Special Treatment Needed, If Necessary

Treat symptomatically and supportively. Immediate medical attention is not required.

SECTION 5: Fire Fighting Measures

5.1 Suitable Extinguishing Media

The product itself is not flammable, combustible, or explosive Use water spray,

alcohol-resistant foam, dry chemical or carbon dioxide as Appropriate for surrounding fire.

5.2 Specific Hazards Arising from the Chemical

No data Available.

HAZARDOUS COMBUSTION AND DECOMPOSITION PRODUCTS: None.

UNUSUAL FIRE OR EXPLOSION HAZARDS: None.

5.3 Special Protective Actions for Fire-fighters

Wear self-contained breathing apparatus for firefighting, if necessary.

Further Information

No data available

SECTION 6: Accidental Release Measures

6.1 Personal Precautions, Protective Equipment, and Emergency Procedures

See Section 8 for personal protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

6.2 Environmental Precautions

No special environmental precautions required.

6.3 Methods and Materials for Containment and Clean Up

Small spills can be swept up or diluted flushed with water to dilute according to local, state, and federal disposal guidelines. Solid surface should be wiped with a detergent-based cleaner to clean any remaining materials.

Reference to Other Sections

For disposal see Section 13.

SECTION 7: Handling and Storage

7.1 Precautions for Safe Handling

Handle in accordance with good industrial hygiene and safety practices. Use in well ventilated areas. Observe good housekeeping practices. Avoid contact with skin, eyes and clothing. Avoid prolonged or repeat exposure.

7.2 Conditions for Safe Storage, Including any Incompatibilities

Keep container closed when not in use and store in a dry area or desiccator.

Storage class (TRGS 510): Non-Combustible Solid

Specific End Use(s)

Apart from the uses mentioned in Section 1 no other specific uses are stipulated.

SECTION 8: Exposure Controls and Personal Protection

8.1 Control Parameters

Component	CAS #	Value	Control Parameters	Basis
Silicon dioxide	7631-86-9	TWA	20 Million particles per cubic foot	USA. Occupational Exposure Limits (OSHA) – Table Z-3 Mineral Dusts
	Remarks	Based on impinger samples counted by light-field techniques. Mppcf X 35.3 = million particles per cubic meter = particles per c.c.		
		TWA	80 mg / m3 / %SiO2	USA. Occupational Exposure Limits (OSHA) – Table Z-3 Mineral Dusts
		TWA	6 mg / m3	USA. NIOSH Recommended Exposure Limits
		PEL	6 mg / m3	California permissable exposure limits for chemical contaminants (Title 8, Article 107)

8.2 Appropriate Engineering Controls

General industrial hygiene practice.

8.3 Individual Protection Measures, such as Personal Protective Equipment (PPE)

Pictograms

EYE PROTECTION: Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Use protective eyewear to guard against splash of liquids.

SKIN PROTECTION: Wear protective clothing and gloves.

VENTILIATION: General ventilation recommended

RESPIRATOR: Respiratory protection not required. For nuisance exposures use type OV/AG (US) or type ABEK (EU EN 14387) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

ADDITIONAL PROTECTION: No additional protection required.

SECTION 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

FORM:	Dry Powder, individual particles 10nm – 1µm total diameter.
APPEARANCE/COLOR:	White/colorless.
UPPER/LOWER FLAMMABILITY LIMIT:	No data available.
ODOR:	No data available.
VAPOR PRESSURE:	No data available.
ODOR THRESHOLD:	No data available.
VAPOR DENSITY:	No data available.
pH:	No data available.
RELATIVE DENSITY:	No data available.
MELTING/FREEZING POINT (°C):	No data available
SOLUBILITY:	No data available.
BOILING POINT (°C):	No data available.
FLASH POINT (°C):	No data available.
EVAPORATION RATE:	No data available.
FLAMMABILITY:	No data available.
PARTITION COEFFICIENT:	No data available.
AUTO-IGNITION TEMPERATURE (°C):	No data available.
DECOMPOSITION TEMPERATURE (°C):	No data available.
MOLECULAR WEIGHT:	No data available.
VISCOSITY:	No data available.
SPECIFIC GRAVITY:	No data available.

9.2 Other Information

Information with regard to physical hazard classes: Hazard classes according to GHS (physical hazards): Not Relevant

SECTION 10: Stability and Reactivity

10.1 Reactivity

No data available.

10.2 Chemical Stability

Stable under recommended storage conditions. Silica is soluble in water; significant dilution or washing with water or other solvents may cause particles to dissolve. DO NOT FREEZE

10.3 Possibility of Hazardous Reactions

Avoid contact with strong acids (e.g. sulfuric, phosphoric, nitric, hydrochloric, chromic, sulfonic) which can generate heat, splattering or boiling and the release of toxic fumes. Avoid contact with aluminum.

10.4 Conditions to Avoid

DO NOT FREEZE

10.5 Incompatible Materials

Strong oxidizing agents.

10.6 Hazardous Decomposition Products

Hazardous decomposition products may be formed under fire conditions – Nature of decomposition products not known.

SECTION 11: Toxicological Information

11.1 Information on Toxicological Effects

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation.

HUMAN HAZARD CHARACTERIZATION: Potential human hazard is low. Although amorphous silica is not a carcinogen as purchased in this product, portions of it may convert to crystalline silica (cristobalite) when subjected to higher temperatures (1700°F). IARC and NTP define silica, crystalline (respirable) as a known human carcinogen.

ACUTE TOXICITY

Based on available data, classification data are not met.

Oral LD50:	No data available.
Inhalation LD50:	No data available.
Dermal LD50:	No data available.
Other information on acute toxicity:	No data available.

Components:

Silica	7631-86-9	>99%	No

SKIN CORROSION/IRRITATION:	No data available.
SERIOUS EYE DAMAGE/IRRITATION	No data available.
RESPIRATORY OR SKIN SENSITIZATION	No data available.
GERM CELL MUTAGENICITY	No data available.

CARCINOGENICITY

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

REPRODUCTIVE TOXICITY:	No data available
TERATOGENICITY:	No data available
SPECIFIC TARGET ORGAN TOXICITY	No data available
ASPIRATION HAZARD	No data available

POTENTIAL HEALTH EFFECTS

Inhalation:	May be harmful if inhaled. May cause respiratory tract irritation.
Ingestion:	May be harmful if swallowed.
Skin:	May be harmful if absorbed through skin. May cause skin irritation.
Eyes:	May cause eye irritation.

SIGNS AND SYMPTOMS OF EXPOSURE: Exposure to silica compounds can cause contact dermatitis. The toxicological properties have not been thoroughly investigated. The data supplied are for closely related compounds. No data available.

SYNERGISTIC EFFECTS:	No data available.
ADDITIONAL INFORMATION:	RTECS not available

SECTION 12: Ecological Information

No ecotoxicity data is available. This product is not expected to present an environmental hazard.

TOXICITY	No data available.
AQUATIC/TERRESTRIAL ORGANISM TOXICITY:	No data available.
ASPIRATION HAZARD	No data available.
PERSISTANCE AND DEGRADABILITY:	No data available.
BIOACCUMULATIVE POTENTIAL:	No data available.
MOBILITY IN SOIL:	No data available.
PBT AND vPvB ASSESSMENT:	PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
OTHER ADVERSE EFFECTS:	An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13: Disposal Considerations

Disposal of Product: Dispose of according to local, state and federal regulations. Local regulations may be more stringent than State or Federal Requirements. (Refer to Section 8)

Disposal of Contaminated Packaging: Dispose of as unused product.

SECTION 14: Transportation Information

14.1 UN-Number

Not Applicable

14.2 UN Proper Shipping Name

Not Applicable

14.3 Transport Hazard Class(es)

Not Applicable

DOT (US):	Not dangerous goods.
IMDG:	Not dangerous goods.
IATA:	Not dangerous goods.
SHIPPING NAME (CFR):	Non-hazardous.
SHIPPING NAME (IATA):	Non-hazardous.

14.4 Packing Group

Not Applicable

14.5 Environmental Hazards

No data available

14.6 Special Precautions for User

No data available

14.7 Transport in Bulk According to Annex II of MARPOL and the IBC Code

Not Applicable

SECTION 15: Regulatory Information

15.1 Safety, Health, and Environmental Regulations Specific for the Product in Question

OSHA HAZARDS: This product is classified as a hazardous chemical. Silica (amorphous) =TWA 10 mg/m3 (ACGIH) 6 mg/m3 OSHA. Target Organ Effect, Irritant.

DSL STATUS: All components of this product are on the Canadian DSL list

TOXIC SUBSTANCE CONTROL ACT: The chemical ingredients in this product are on the 8 (b) Inventory List (40 CFR 710).

CERCLA/SUPERFUND, 40 CFR 117,302: Notification of spills of this product is not required.

CANADIAN WHMIS: This is a controlled product under The House of Commons of Canada Bill C-71 (Class D2B)

SARA 302 COMPONENTS: No chemicals in this material are subject the reporting requirements of SARA Section 302.

SARA 313 COMPONENTS: No chemicals in this material are subject to the reporting requirements of SARA Section 313.

SARA 311/312 HAZARDS: No SARA Hazards.

MA RIGHT TO KNOW COMPONENTS: No components are subject to the MA Right to Know Act.

PA RIGHT TO KNOW COMPONENTS:

Exposure Limits in Air

INGREDIENTS;	CAS #	% by Mass	ACGIH TLV or TWA	OSHA PEL	Hazardous
Silica	7631-86-9	>99%	6mg/m3	20Million particles per cubic foot	No

NJ RIGHT TO NOW COMPONENTS:

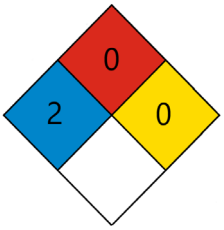
			Exposure Limits in Air		
INGREDIENTS;	**CAS #**	**% by Mass**	**ACGIH TLV or TWA**	**OSHA PEL**	**Hazardous**
Silica	7631-86-9	>99%	6mg/m3	20Million particles per cubic foot	No

CA PROP 65 COMPONENTS: This product does not contain any chemicals known to the State of CA to cause cancer, birth defects, or any other reproductive harm.

HMIS Rating

Health	2
Flammability	0
Instability	0
Personal Protection	

NFPA Rating



SECTION 16 Other Information

16.1 Further Information/Disclaimer

Date of Issue: February 15, 2022

DISCLAIMER: The information herein is believed to be accurate and reliable as of the date compiled and represents the best information currently available to us. However, nanoComposix, Inc. makes no representation, warranty of merchantability or any other warranty, express or implied, or guarantee of any kind, and we assume no liability resulting from its use. Users should make their own investigation to determine the suitability, with respect to the information contained in this document or any use of the product based on this information, for their particular purposes. All materials may present unknown hazards and should be used with caution. In no event shall nanoComposix be held liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if we have been advised of the possibility of such damages.