

Section 1: Product and Company Identification:

1.1 Product Identifier

Product Form:	Substance
Identification of Substance:	Silicon Dioxide, Amorphous Silica
Product Name:	DP3970
Synonym:	Amorphous Silica
CAS Number:	7631-86-9
Index Number:	Not available.
EINECS Number:	231-545-4
REACH Registration Number:	05-2117294571-38-0000
Formula:	SiO ₂

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use:	Catalysts. Ceramics.
Restrictions on Use:	For industrial use only, not for food, drug or home use.

1.3 Details of the supplier of the safety data sheet

Company Identification:	Nyacol Nano Technologies, Incorporated Megunko Road, P.O. Box 349, Ashland, MA 01721 U.S.A. 508-881-2220
Email Contact:	info@nyacol.com
Internet:	www.nyacol.com

1.4 Emergency telephone number

In Case of Emergency:	CHEMTREC: 1-800-424-9300 International CHEMTREC: +1 (703) 527-3887 24 Hours/Day: 7 Days/Week
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Section 2: Hazard(s) Identification

2.1 Classification of the substance or mixture

GHS-US Classification

Not classified.

2.1.1 Classification according to Regulation (EC) No. 1272/2008 (CLP)

Silicon Dioxide – Not classified.

2.1.2 Classification according to Directive 67/548/EEC and 1999/45/EC (including amendments)

Silicon Dioxide – Not classified.

2.2 Label Elements – Labelling according to Regulation (EC) No. 1272/2008

No pictogram, no signal word, no Hazard or Precautionary Statement.

Hazard determining components of labelling:	Silicon Dioxide, CAS 7631-86-9
Hazard Statement(s):	Not applicable.
Precautionary Statement(s):	Not applicable.

2.3 Other Hazards

Components do not meet the criteria for a PBT or vPvB substance.

2.4 Unknown acute toxicity (GHS US)

No data available.

Section 3: Composition / Information on Ingredients

Description: Mixture consisting of the following components.

Component Name:	Product Identifier	GHS Classification	Percent By Weight
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Silicon Dioxide:	CAS: 7631-86-9 EINECS: 231-545-4 Index: Not available	Non-hazardous	98
Water:	CAS: 7732-18-5 EINECS: 231-791-2 Index: Not available	Not applicable	2

Impurities: Present at a level below that to be taken into account for classification.

Stabilizing Additives: None

The supplier currently has no knowledge on additional ingredients that are classified and that contribute to the classification of this substance.

See Section 16 for a list of hazards if identified above.

Section 4: First-Aid Measures

4.1 Description of first aid measures

Eye Contact:	Immediately flush eyes with plenty of water for at least 15 minutes. Hold eyelids apart while flushing to rinse entire surface of the eye and lids with water. Get medical attention.
Skin Contact:	Wash skin with plenty of soap and water for several minutes. Get medical attention if skin irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen. Get medical attention immediately.
Ingestion:	If a person is conscious and can swallow, immediately give two glasses of water (16 oz. or 500 ml.) but do not induce vomiting. If vomiting occurs, give fluids again. Have physician determine if condition of person will permit induction of vomiting or evacuation of stomach. Do not give anything by mouth to an unconscious or convulsing person.
First Aid Facilities:	Eye wash station.
Advice to Physicians:	No further relevant information available.

4.2 Most important symptoms and effects, both acute and delayed

Acute or delayed effects are not anticipated.

4.3 Indication of any immediate medical attention and special treatment needed.

No further relevant information available.

Section 5: Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media:	All are suitable. Use water spray, dry chemical, foam or carbon dioxide to extinguish flames. Use water spray to cool fire-exposed containers. Water or foam may cause frothing.
Unsuitable extinguishing media:	None known.

5.2 Special hazards arising from the substance or mixture

Flammability of the product:	Material will not burn in a fire. Containers can build pressure if exposed to heat or fire.
Special Hazard Arising from the Chemical:	None known.
Fire Hazard:	None known.
Explosion Hazard	None known.
Reactivity:	None known.

5.3 Advice for firefighters

Special Protective Equipment for Fire-fighters: Wear standard full firefighter turn-out gear (full bunker gear) and respiratory protection (SCBA).

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal Precautions and PPE: Eye protection and impervious gloves. An approved air-purifying respirator should be worn if dust or mist is present.

6.1.1 For non-emergency personnel

Emergency procedures: Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions

Environmental Precautions: Prevent entry into sewers and waterways.

6.3 Methods and material for containment and cleaning up

Spill: Ventilate area. Avoid breathing vapor. Wear appropriate personal protective equipment, including appropriate respiratory protection. Contain spill if possible. Wipe up or absorb on suitable material and shovel up. Prevent entry into sewers and waterways. Avoid contact with skin, eyes or clothing.

6.4 Reference to other sections

For more information on exposure controls and personal protection or disposal considerations, check section 8 and 13 of this SDS.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Precautions During Handling: Minimum feasible handling, and temperatures should be maintained. Avoid generating mist during use. Use only in well ventilated area.

7.1.1 Protective measures

Use only in well ventilated areas. As a precautionary measure, the wearing of standard work gear is suggested. Keep ignition sources away. Do not smoke. Protect from heat. Protect against electrostatic charges.

7.1.2 Advice on general occupational hygiene

Avoid inhalation or ingestion. General occupational hygiene measures are required to ensure a safe handling of the substance. These measures involve good personal and housekeeping practices (i.e. regular cleaning with suitable cleaning devices), no eating, drinking and smoking at the workplace and wearing standard working clothes and shoes unless otherwise stated.

7.2 Conditions for safe storage, including any incompatibilities

Storage: Periods of exposure to high temperatures should be minimized. Water contamination should be avoided. Provide sufficient ventilation in storage and workrooms. Keep from freezing. Store in a cool dry area.

7.3 Specific end use(s)

No additional information available. Refer to Section 1.2 of this SDS.

Section 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Silicon Dioxide, CAS 7631-86-9

USA OSHA	OSHA PEL Ceiling (mg/M ³)	5 mg/M ³ TWA
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8.2 Exposure Controls

Engineering Controls: Ventilation adequate to meet occupational exposure limits. The OSHA ceiling is 50 ppm: ACGIH ceiling is 50 ppm.

Hygiene Measures:	Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.
Respiratory:	Airborne concentrations should be kept to lowest levels possible. If vapor, mist or dust is generated and the occupational exposure limit of the product, or any component of the product, is exceeded, use appropriate NIOSH or MSHA approved air purifying or air supplied respirator after determining the airborne concentration of the contaminant. Air-supplied respirators should always be worn when airborne concentrations of the contaminant or oxygen content is unknown.
Hands:	Wear impervious gloves such as neoprene.
Eyes:	Safety glasses, chemical type goggles, or face shield recommended to prevent eye contact.
Skin:	Wear clean body-covering clothing; impervious gloves such as neoprene. Workers should wash exposed skin several times daily with soap and water. Soiled work clothing should be laundered or dry-cleaned.
Environmental Exposure Controls:	Adverse effects of this material on the environment have not been evaluated. Proper disposal techniques to isolate and recover material should be implemented.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance (Physical State, Color):	White powder. Solid.
Upper/lower flammability or explosive limits:	Not determined.
Volatile by Weight:	2%
Odor:	Odorless.
Vapor Pressure:	Not applicable.
Odor Threshold:	Not applicable.
Vapor Density:	Not applicable.
pH:	Not applicable.
Bulk Density Untamped:	0.7 g/cc (45 lb.ft. ³)
Melting point/freezing point:	Not applicable.
Solubility in Water:	Negligibly soluble
Initial boiling point and boiling range:	Not applicable.
Flashpoint:	Not applicable.
Evaporation Rate:	Not applicable.
Flammability (solid, gas):	Material will not burn in a fire.
Partition Coefficient:	Not determined.
Auto-ignition temperature:	Not applicable.
Decomposition temperature:	Not applicable.
Viscosity:	Not applicable.
Specific Gravity:	Not applicable.
Freezing Point:	Not applicable.
Explosion Limits:	Not applicable.
Oxidizing Properties:	Not an oxidizer.

9.2 Other information

Not applicable.

Section 10: Stability and Reactivity

10.1 Reactivity

Not determined.

10.2 Chemical Stability

Stable.

10.3 Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4 Conditions to avoid

No recommendation.

10.5 Incompatible materials

Not determined.

10.6 Hazardous decomposition products

Not determined.

Section 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity:

LD50, Rat, Oral Values for classification:

Silicon Dioxide, 7631-86-9

3160 mg/kg

Water:

None.

Skin Contact:

Avoid contact with skin.

Eye Contact:

Avoid contact with eyes.

Inhalation:

Not determined. Use breathing protection when dust is formed.

Breathing dried dust causes irritation. OSHA exposure limit:

Amorphous Silica – 20 mppcf (5mg/M³) SiO₂ respirable dust. 8 hour time weighted average. Exposure analysis method: NIOSH Manual Analytical Methods, 3rd edition, Method 7501.

Sensitization:

No sensitizing effect known.

Chronic Effects:

No further relevant information available.

Carcinogenicity

No data indicating any concern for carcinogenicity.

Section 12: Ecological Information

12.1 Toxicity

Aquatic toxicity, Silicon Dioxide CAS 7631-86-9

Not harmful to aquatic organisms.

12.2 Persistence and degradability

The product is easily biodegradable.

12.3 Bioaccumulative potential

No further relevant information available.

12.4 Mobility in soil

No further relevant information available.

12.5 Results of PBT and vPvB Assessment

The PBT and vPvB criteria of Annex XIII to the Regulation do not apply to this product.

12.6 Other adverse effects

No further relevant information available.

Section 13: Disposal Considerations

This information presented only applies to the materials as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Disposal Considerations:

DP3970 should be recycled or burned in an incinerator or scrubber approved for chemical waste.

United States:

DP3970 is not a RCRA hazardous waste.

Section 14: Transport Information

14.1 UN Number: Not applicable.

14.2 UN Proper Shipping Name: Not applicable.

14.3 Transport hazard class(es) / 14.4 Packing Group:

Regulations	Shipping Name	Hazard Class	Packing Group	UN Number
U.S. D.O.T.:	Not applicable	Not applicable	Not applicable	Not applicable
IMO/IMDG:	Not applicable, does not meet dangerous goods criteria.			
IATA:	Not applicable, does not meet dangerous goods criteria.			
ADR:	Not applicable, does not meet dangerous goods criteria.			
RID:	Not applicable, does not meet dangerous goods criteria.			

14.5 Environmental hazards: Not applicable.

14.6 Special precautions for users: Not applicable.

14.7 Transport bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

Section 15: Regulatory Information

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

Technical Instructions (air): Not determined.

Water hazard class:

Based on available data, Silicon Dioxide is not classified as dangerous for the environment according regulation (EC) 1272/2008.

EPA TSCA Inventory: All ingredients listed.

State Right-to-Know Laws: Section 3 of this SDS lists all components of DP3970.

SARA 313, 304 and CERCLA 102 (A): Contains no listed ingredients.

FDA: 21 CFR 175.105 – Silicon Dioxide may be used as a component of adhesives used to prepare articles intended for the use in packaging, transporting or holding food.

21 CFR 177.1200 – Silicon Dioxide may be used as a component of a polymer used as a base sheet or as a coating applied to a base sheet for use in food packaging.

21 CFR 182.90 – Silicon Dioxide is generally recognized as safe (GRAS) as a substance migrating to food from paper and paper board products used in food packaging.

15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

15.3 International regulations

Classification according to Directive 67/548/EEC or 1999/45/EC

Silicon Dioxide – Not classified.

Classification according to Regulation (EC) No. 1272/2008 (CLP)

Silicon Dioxide – Not classified.

Canadian Regulations:

Domestic Substance List: All ingredients listed.

WHMIS:

Controlled Products Regulations:

Not controlled.

This SDS contains all the information items specified in Schedule 1, Column 3 of the Controlled Products Regulations in a 16-heading format.

International Lists:

Ingredients are included:

Silicon Dioxide

Australia (AICS); Canada (DSL); Europe (EINECS); Japan (ENCS); Korea (ECL); Philippines (PICCS); Asia-PAC; SWISS

Section 16: Other Information

List of hazard phrases:

Regarding physical and chemical hazards, Silicon Dioxide is not classified according to regulation (EC) 1272/2008 (CLP).

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

HMIS® Hazard Rating:

Health-1, Flammability-0, Reactivity-0, Special-None

Health-1, Flammability-0, Reactivity-0, Protective Equipment – B; safety glasses, gloves.

Recommended Use:

DP3970 is recommended for use in catalysts and ceramics. Other uses have not been investigated and may have other hazards. For industrial use only, not for food, drug or home use.

Work Alert:

Workers using DP3970 should read and understand this SDS and be trained in the proper use of this material.

Other Special Considerations:

None known.

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This SDS has been prepared with data from Nyacol Nano Technologies, Inc.'s laboratories, raw material suppliers, and government publications. Information herein is accurate to the best of our knowledge. Suggestions are made without warranty or guarantee of results. Before using, the user should determine the suitability of the products for the intended use, and the user assumes the risk and liability in connection therewith. We do not suggest violation of any existing patents or give permission to practice any patented invention without license.

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