

1. Chemical Product and Company Identification

Trade Name: NYACOL[®] NYASIL 5
Chemical Name: Silicon Dioxide, Amorphous Silica
Synonyms: Amorphous Silica
Product Code: NYASIL 5
Use: Polymer Additive, Catalysts, Ceramics
Manufacturer: Nyacol Nano Technologies, Inc.
P.O. Box 349, Ashland, MA 01721 U.S.A.
508-881-2220
Emergency Telephone: CHEMTREC: 800-424-9300
E-mail: info@nyacol.com

2. Composition / Information on Ingredients

<u>Component</u>	<u>CAS #</u>	<u>Exposure Limits</u>	<u>Percent By Weight</u>
Silicon Dioxide:	7631-86-9	5 mg/M ³ TWA	95
Water:	7732-18-5	None	5
<u>Component</u>	<u>EINECS #</u>	<u>RTECS #</u>	<u>REACH #</u>
Silicon Dioxide:	231-545-4	VV7310000	05-2117294571-38-0000
Water:	231-791-2	ZC0110000	N/A

3. Hazard Identification

Emergency Overview: White powder. No odor. Keep spills out of surface waters.
Classification: Not applicable.
Symbol: Not applicable.
Risk Phrases: Not applicable.
Safety Phrases: Not applicable.

Potential Health Effects / Health Hazard Identification

Acute Exposure:
Eye: May cause eye irritation.
Skin: May cause irritation.
Ingestion: Not known.
Inhalation: Breathing dust causes irritation.
Chronic Exposure: Not known.

Other Hazards

Known Synergists: None known.
Explosion Hazard: None known.
Fire Hazard: None known.
Corrosion Hazard: None known.

4. First Aid Measures

Eye Contact: Flush eyes thoroughly with water for at least fifteen minutes. Get medical attention.
Skin Contact: In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing. Wash clothing before reuse.
Ingestion: Consult medical professional. Do not induce vomiting unless directed by medical professional. Never give anything by mouth to an unconscious person.
Inhalation: Remove person from exposure source, seek medical professional.
First Aid Facilities: Eye wash station.
Advice to Physicians: No recommendations.

5. Firefighting Measures

Flammability:	Not flammable. Material will not burn in a fire.
Extinguishing Media:	All are acceptable. Cool containers with water spray.
Protective Equipment:	Wear standard full firefighter turn-out gear (full bunker gear) and respiratory protection (SCBA).
Special Exposure Hazard:	None known.

6. Accidental Release Measures

Leaks and Spills:	Dike area to prevent spreading. Absorb with inert material. Put in appropriate container.
Personal Protection:	See Section 8.

7. Handling and Storage

Handling:	Avoid generating dust during use.
Storage:	Store in a cool dry area.

8. Exposure Controls / Personal Protection

Engineering Control:	Use exhaust ventilation to keep airborne concentrations below exposure limits.
Respiratory Protection:	When respiratory protection are required or concentrations are unknown, use an approved air-purifying respirator with dust cartridge.
Skin Protection:	Clean body-covering clothing; impervious gloves such as neoprene.
Eye Protection:	Wear approved safety glasses.

9. Physical and Chemical Properties

Appearance:	White powder
Odor:	None.
Physical State:	Solid
pH:	4 (5 wt. % aqueous slurry)
Boiling Point:	Not applicable.
Freezing Point:	Not applicable.
Flash Point:	Not applicable.
Vapor Pressure:	Not applicable.
Oxidizing Properties:	Not an oxidizer
Solubility in Water:	Negligibly soluble
Bulk Density Untamped:	0.3 g/cc (18 lb/ft ³)
Specific Gravity:	Not applicable.
Volatile by Weight:	5%
Viscosity:	Not applicable.
Explosion Limits:	Not applicable.
Partition Coefficient:	Not available.
Evaporation Rate:	Not applicable.

10. Stability and Reactivity

Chemical Stability:	NYASIL 5 is stable under normal ambient and anticipated storage and handling conditions.
Conditions To Avoid:	No recommendations.
Incompatibility With Other Materials:	None known.
Hazardous Decomposition Products:	None known.
Hazardous Polymerization:	Will not occur.

11. Toxicological Information

<u>Material</u>	<u>LD₅₀, Rat, Oral</u>
Silicon Dioxide:	3160 mg/kg
Water:	None.
Eye Effects:	No published data available. This material should be irritating.
Skin Effects:	No published data available. Workers exposed to this product have reported dried skin.
Inhalation Effects:	Breathing dried dust causes irritation. OSHA exposure limit: Amorphous Silica = 20 mppcf (5mg/M ³) SiO ₂ respirable dust. 8-hour time weighted average. Exposure analysis method: NIOSH Manual of Analytical Methods, 3rd edition, Method 7501.
Ingestion Effects:	Not available.

12. Ecological Information

Ecotoxicity:	No data available.
Persistence:	No data available.

13. Disposal Considerations

Disposal Considerations:	NYASIL 5 should be recycled or disposed of in a landfill approved for chemical waste.
United States:	Not a RCRA regulated waste.

14. Transport Information

<u>Regulations</u>	<u>Shipping Name</u>	<u>Hazard Class</u>	<u>Packing Group</u>	<u>U.N. Number</u>
U.S. D.O.T.:	Not applicable.	Not applicable.	Not applicable.	Not applicable.
ICAO / IATA:	Not applicable.	Not applicable.	Not applicable.	Not applicable.
IMO / IMDG:	Not applicable.	Not applicable.	Not applicable.	Not applicable.
ADR:	Not applicable.	Not applicable.	Not applicable.	Not applicable.

15. Regulatory Information

U.S. Federal Regulations

EPA TSCA Inventory:	All ingredients listed.
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 paperboard products used in food packaging.
SARA Section 313:	Contains no listed ingredients.
D.O.T. Regulations:	See Section 14.

U.S. State Regulations

California Proposition 65:	No ingredients listed.
State Right-to-Know Laws:	Section 2 of this MSDS lists all components of NYASIL 5.

Canadian Regulations

Domestic Substance List:	All ingredients listed.
WHMIS:	Not regulated.
Transportation of Dangerous Goods:	Not applicable.
Controlled Products Regulations:	This MSDS contains all the information items specified in Schedule 1, Column 3 of the CPR in a 16-heading format.

15. Regulatory Information, continuedEC Regulations

Classification: Not applicable.
Symbol: Not applicable.
Risk Phrases: Not applicable.
Safety Phrases: Not applicable.

16. Other Information

NFPA 704 Hazard Rating: Health - 1, Flammability - 0, Reactivity - 0, Special - None
HMIS® Hazard Rating: Health - 1, Flammability - 0, Reactivity - 0
Protective Equipment - B: safety glasses, gloves
Recommended Use: NYASIL 5 is recommended for use in plastics, 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 NYASIL 5 should read and understand this MSDS and be trained in the proper use of this material.
MSDS Prepared By: David L. Catone
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R&D Department
Telephone: 508-881-2220 (U.S.A.)
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This MSDS has been prepared from data from Nyacol Nano Technologies, Inc.'s laboratories, raw material supplier data and government publications.

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