

Section 1: Product and Company Identification:

1.1 Product Identifier

Product Form: Mixture
 Identification of Substance: Silicon Dioxide and Water
 Product Name: NexSil 85NH4
 Synonym: Colloidal Silica Sol
 CAS Number: 7631-86-9
 Index Number: Not available.
 EINECS Number: 231-545-4
 REACH Registration Number: 01-2119379499-16-0220
 Formula: SiO₂

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

Recommended Use: Papermaking. 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: USA/Canada CHEMTREC: +1 (703) 527-3887
 International CHEMTREC: +1 (703) 741-5970
 24 Hours/Day: 7 Days/Week

Section 2: Hazard(s) Identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Not classified.

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

Not classified.

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

Not labelled.

Signal Word: Not applicable.

Hazard Pictogram: Not applicable.

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
Ammonium Hydroxide: REACH: Not registered by NNT	CAS: 1336-21-6 EINECS: 215-647-6 Index: Not available	Skin corr. 1B – H314 	<0.25*
Silicon Dioxide:	CAS: 7631-86-9 EINECS: 231-545-4 Index: Not available	Not classified.	40

Water:	CAS: 7732-18-5 EINECS: 231-791-2 Index: Not available	Not applicable	60
*Does not meet environmental classification as the concentration is below cut-off levels (<1%).			

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:	In case of contact, immediately flush skin with plenty of water for several minutes. Remove contaminated clothing. Get medical attention if skin irritation develops or persists.
Inhalation:	If inhaled, remove to fresh air; remove person from exposure source. Get medical attention immediately.
Ingestion:	Consult medical professional. Do not induce vomiting unless directed by medical professional. Never give anything by mouth to an unconscious person.
First Aid Facilities:	Eye wash station. Syrup of Ipecac.
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 acceptable. 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 or onto the ground.

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. Dike area to prevent spreading. Absorb with inert material. Put in appropriate container. 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 or dust 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. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home.

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
8.1.1 National Limit Values

Silicon Dioxide, CAS 7631-86-9

Country	Occupational exposure limit	Reference period	Reference

USA	80 mg/m ³ /SiO ₂	8 hours	OSHA PEL – http://www.cdc.gov/niosh/idlh/7631869.html
UK	6 mg/m ³ (inhalable)	8 hours	Health and Safety Executive– http://www.hse.gov.uk/pubns/psd/eh40.pdf
Germany	4 mg/m ³ (inhalable)	8 hours	Senate Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (MAK Commission): http://www.dfg.de/en/dfg_profile/statutory_bodies/senate/health_hazards/index.html
Belgium	10 mg/m ³	8 hours	Service public fédéral Emploi, Travail et Concentration sociale: http://www.emploi.belgique.be/WorkArea/showcontent.aspx?id=23914
Austria	2 mg/m ³ (inhalable)	8 hours	http://www.arbeitsinspektion.gv.at/NR/rdonlyres/F173280B-D4FB-44D2-8269-8DB2CB1D2078/0/GKV2011.pdf

Ammonium Hydroxide, CAS 1336-21-6

USA OSHA	OSHA PEL Ceiling (mg/M ³)	17 mg/M ³ TWA
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8.1.2 DNELs and PNECs

Silicon Dioxide, CAS 7631-86-9

DNEL (Derived No Effect Level)

Route of Exposure/Environmental protection target	DNEL
Inhalation – Long term/systemic effects	4 mg/m ³

PNEC (Predicted No Effect Concentration)

No information available

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):	Translucent white liquid. NexSil 85NH4 is a water-based material.
Upper/lower flammability or explosive limits:	Not determined.
Volatile by Weight:	60%
Odor:	Ammonia
Vapor Pressure:	2260 kPa (17 mm Hg) at 20° C.
Odor Threshold:	Not determined.
Vapor Density:	Not determined.
pH:	9.5
Relative Density:	1200 kg/M ³
Melting point/freezing point:	Not determined.
Solubility in Water:	Disperses in water but is negligibly soluble.
Initial boiling point and boiling range:	100° C (212° F) water
Flashpoint:	Not applicable.
Evaporation Rate:	Slow (Butyl Acetate = 1)
Flammability (solid, gas):	Material will not burn in a fire.
Partition Coefficient:	Not determined.
Auto-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Viscosity:	Less than 10 cP.
Specific Gravity:	1.3
Freezing Point:	0° C (32° F) water
Explosion Limits:	Not applicable.
Oxidizing Properties:	Not an oxidizer.

9.2 Other information

Not applicable.

Section 10: Stability and Reactivity

10.1 Reactivity

There are no known reactivity hazards associated with this product.

10.2 Chemical Stability

Stable under normal ambient and anticipated storage and handling conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4 Conditions to avoid

No further relevant information available.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

No further relevant information available.

Section 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity:

LD50, Rat, Oral Values for classification:

Silicon Dioxide, 7631-86-9

Water:

Skin Contact:

Eye Contact:

>5000 mg/kg

None reported.

Avoid contact with skin.

Avoid contact with eyes. Should be irritating based on pH.

Inhalation:	Use breathing protection when aerosol or mist is formed. Breathing dried dust or spray mist causes irritation. OSHA exposure limit: Amorphous Silica = 20 mppcf (5 mg/M3) SiO2 respirable dust or mist. 8-hour time weighted average. Exposure analysis method: NIOSH Manual of 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:
 Ammonium Hydroxide CAS 1336-21-6
 EC50/48 hrs., 89 mg/l (Daphnia Magna (Water flea))
 LC50/96 hrs., <1 mg/l (fish)

12.2 Persistence and degradability

There is no data on the degradability of this product.

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:	Recycle/solidify NexSil 85NH4 for disposal in a chemical waste approved landfill.
United States:	NexSil 85NH4 is not a RCRA hazardous waste.

Section 14: Transport Information

Sections 14.1 – 14.4

Regulations

U.S. D.O.T.: Not regulated.
 ICAO/IATA: Not regulated.
 IMO/IMDG: Not regulated.
 ADR: Not regulated.

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 the substance or mixture

Worldwide Chemical Inventories

EINECS (EU): All ingredients conform

TSCA (USA): All ingredients listed

DSL (Canada): All ingredients listed

AICS (Australia): All ingredients listed

ENCS (Japan): All ingredients listed

ECL (Korea): All ingredients listed

PICCS (Philippines): All ingredients listed

IECSC (China): All ingredients listed

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.

WHMIS: Not regulated.

State Right-to-Know Laws: Section 3 of this SDS lists all components of NexSil 85NH4.

California Proposition 65: No ingredients listed.

SARA 313, 304 and CERCLA 102 (A): Ammonium Hydroxide, CAS 1336-21-6 is listed in SARA 313.

SARA 311/312 (40 CFR 370) Hazard: Not classified according to GHS.

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.

Transportation of Dangerous Goods: Not applicable.

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

Section 16: Other Information

List of relevant phrases from section 2 and 3:

H314 Causes severe skin burns and eye damage.

National Fire Protection Association (U.S.A.) 704

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:

NexSil 85NH4 is recommended for use in papermaking and ceramics. Other uses have not been investigated and may have other hazards. For industrial use only, not for food, drug or home use.



SAFETY DATA SHEET

NexSil™ 85NH4

REVISION: June 3, 2020
SUPERSEDES: May 17, 2018
VERSION NO.: 3

Work Alert:

Workers using NexSil 85NH4 should read and understand this SDS and be trained in the proper use of this material.

Other Special Considerations:

None known.

SDS Prepared By:

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