Section 1: Product and Company Identification:

1.1 Product Identifier

Product Form:	Mixture
Identification of Substance:	Colloidal ceria in water
Product Name:	NYACOL® DP6255-NH4
Synonym:	None
CAS Number:	1306-38-3
Index Number:	Not available.
EINECS Number:	215-150-4
REACH Registration Number:	01-2119488673-24-0062
Formula:	CeO_2
Nanoforms:	CeO2 exists as a nanoform
Unique formula identifier (UFI):	Not required

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

Recommended Use:	Catalysts. Coatings.
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. +1 508-881-2220
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

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

3.1 Chemical characterization: Mixtures

Component:	Product Identifier	GHS Classification	Percent By Weight	SCL, M-factor, ATE
Cerium oxide: REACH: 01-2119488673-24-0062	CAS: 1306-38-3 EINECS: 215-150-4 Index: Not available	Not classified	15 - 20	
Organic base	Trade Secret	Eye Irrit. 2A - H319 STOT SE 3 - H335	<3	
Ammonium hydroxide	CAS: 1336-21-6 EINECS: 215-647-6 Index: 007-001-01-2	Skin corr. 1B - H314 Aquatic acute 1 - H400	<1	STOT SE 3 - H335 (C>5%)
Water:	CAS: 7732-18-5 EINECS: 231-791-2 Index: Not available	Not classified.	76-81	

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

Nanoform characteristics:

Name of nanoform: Cerium oxide		
		Value
Number based particle size distribution, nm	D10	2-45
	D50	3-80
	D90	5-120
Shape and aspect ratio		Spherical
Crystallinity		Cubic
Surface functionalization		None
Specific surface area, m2/g		30-170

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: Flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

Inhalation: If inhaled, remove to fresh air; remove person from exposure source. Consult a physician.

Ingestion: If swallowed seek medical attention immediately. Do not induce vomiting unless directed by medical professional. If a person is conscious and can swallow, immediately give two glasses of water (16 oz. or 500 ml.) Never give anything by mouth to an unconscious 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
See Section 2.2

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:	Use fire fighting measures that suit the environment. All are acceptable. Cool containers with water spray.
Unsuitable extinguishing media:	None known.

5.2 Special hazards arising from the substance or mixture

Flammability of the product:	Material is not flammable. Containers can build pressure if exposed to heat or fire.
Special Hazard Arising from the Chemical:	No further relevant information available.
Fire Hazard:	Containers can build pressure if exposed to heat or fire.
Explosion Hazard	No further relevant information available.
Reactivity:	No further relevant information available.

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
Eye protection and impervious gloves. Avoid mist and aerosol formation. An approved air-purifying respirator should be worn if mist is present.

6.1.1 For non-emergency personnel
Wear protective equipment. Keep unprotected persons away. Avoid inhalation of mist, aerosols, or fumes, avoid contact with skin and eyes.

6.2 Environmental precautions
Prevent entry into sewers and waterways or onto the ground.

6.3 Methods and material for containment and cleaning up
Ventilate area. Avoid breathing mist, aerosols, or fumes. Avoid contact with skin, eyes or clothing. Wear appropriate personal protective equipment, including appropriate respiratory protection. Recover for recycle or disposal. Put in appropriate container. Prevent entry into sewers and waterways.

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
Minimum feasible handling, and temperatures should be maintained. Avoid generating mist or aerosols during use. Use only in well ventilated area. Do not breath mist, vapors, or aerosols.

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

7.1.2 Advice on general occupational hygiene

Avoid inhalation, ingestion and contact with eyes. 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

Keep from freezing. Periods of exposure to high temperatures should be minimized. Provide sufficient ventilation in storage and workrooms. Store in a cool dry area. Keep containers tightly sealed.

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

Cerium oxide, CAS #1306-38-3

USA OSHA	OSHA PEL Ceiling (mg/m^3)	Not available.

Ammonium Hydroxide, CAS 1336-21-6

USA OSHA	OSHA PEL Ceiling (mg/$M^{3)}$	17 mg/M^3 TWA

8.2 Exposure Controls

Engineering Controls:	Ventilation adequate to meet occupational exposure limits.
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. When respiratory protection required or concentrations are unknown, use an approved air-purifying respirator equipped with vapor cartridge.
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

Physical State:	Liquid
Color:	Translucent yellow
Odor:	Odorless.
Metling point/freezing point:	Not determined
Boiling point:	100 °C (212 °F)
Flammability:	Not flammable

Lower and upper explosion limit:	Not applicable
Flash point:	Not applicable
Auto-ignition temperature:	Not applicable
Decomposition temperature:	Not applicable
pH:	9
Kinematic viscosity, mm^2/s	<10
Solubility:	Fully miscible with water. Nanoform solubility <0.001% in water.
Partition coefficient, n-octanol/water (log value)	Not determined
Vapor pressure	Not determined
Relative density (specific gravity)	1.2
Relative vapor density	Not determined
Particle characteristics	See Section 3 for nanoform characteristics

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
No further relevant information available.

10.4 Conditions to avoid
Rapid neutralization by acidic materials.

10.5 Incompatible materials
No further relevant information available.

10.6 Hazardous decomposition products
Oxides of carbon and nitrogen.

Section 11: Toxicological Information

11.1 Information on toxicological effects
Acute toxicity:
LD50, Rat, Oral Values for classification:

Cerium oxide, CAS 1306-38-3:	>5000 mg/kg
Ammonium hydroxide, CAS 1336-21-6:	>90 mL/kg

Skin corrosion/irritation:	Corrosive to skin. Avoid contact with skin.
Eye damage/irritation:	Irritating to eyes and may cause serious eye damage. Avoid contact with eyes.
Inhalation:	No further relevant information available.
Sensitization:	No further relevant information available.
Chronic Effects:	No further relevant information available.
Carcinogenicity	No data indicating any concern for carcinogenicity.

Section 12: Ecological Information

12.1 Aquatic Toxicity
Ammonium Hydroxide CAS 1336-21-6

12.2 Persistence and degradability
No further relevant information available.

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 Endocrine disrupting properties
No further relevant information available.

12.7 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)

Disposal Considerations:	The product should be recycled or solidified or disposal. Solids should be put in a landfill approved for chemical waste.
United States:	Not an RCRA regulated waste.

Section 14: Transport Information
The product is not restricted for transportation.

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:
Follow relevant recommendations found in other sections of this SDS.

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:
Worldwide Chemical Inventories

EINECS (EU):	All ingredients listed
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
California Proposition 65:	No ingredients listed.
WHMIS:	Not classified.
SARA Section 311/312 (29 CFR 1910.1200) Hazards:	Not classified according to GHS.
SARA Section 313	Ammonium Hydroxide, CAS 1336-21-6

15. 2 Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

Section 16: Other Information

List of relevant hazard statements:

HMIS® Hazard Rating:	Health-1, Flammability-0, Reactivity-0, Special-None
HMIS® Hazard Rating:	Health-1, Flammability-0, Reactivity-0, Protective Equipment -
Recommended Use:	The product is recommended for use as in catalysts and
Work Alert:	Workers using the product should read and understand this
Other Special Considerations:	None known.
SDS Prepared By:	Andrew Guzelian Nyacol Nano Technologies, Incorporated Telephone: +1 508-881-2220
Revision Date:	March 18, 2026
Supersedes:	June 19, 2019

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.