Section 1: Product and Company Identification:

1.1 Product Identifier

Product Form:	Powder
Identification of Substance:	Yttrium Oxide
Product Name:	NYACOL® Y2O3-SD
Synonym:	Colloidal Yttria, Colloidal Yttrium Oxide, Yttria, Y2O3
CAS Number:	1314-36-9
Index Number:	Not available.
EINECS Number:	215-150-4
REACH Registration Number:	It is not required to list the identified uses because the substance is not subject to registration according to REACH (< 1 t/a).
Formula:	Y_2O_3
Unique formula identifier (UFI):	Not required

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

Recommended Use:	Ceramics. Catalysts.
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.

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

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.

Section 3: Composition / Information on Ingredients

3.1 Chemical characterization: Mixtures

Description: Mixture consisting of the following components.

Component Name:	Product Identifier	GHS Classification	Percent By Weight

Component:	Product Identifier	GHS Classification	Percent By Weight	SCL, M-factor, ATE
Yttrium oxide:	CAS: 1314-36-9 EINECS: 215-233-5 Index: Not available	Not classified.	100	

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:	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. Get medical attention.
Ingestion:	If swallowed seek medical attention immediately. Do not induce vomiting unless directed by medical professional. Give large quantities of water with Milk of Magnesia or other medical antacid. Never give anything by mouth to an unconscious person.
First Aid Facilities:	Eye wash station. Milk of Magnesia or other medical antacid.
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:	Use fire fighting measures that suit the environment. All are acceptable. Cool containers with water spray.
Unsuitable extinguishing media:	No further relevant information available.

5.2 Special hazards arising from the substance or mixture

Flammability of the product:	Not flammable.
Special hazard arising from the chemical:	Acid fumes may be generated. Combustible products may include carbon monoxide and carbon dioxide.
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. An approved air-purifying respirator should be worn if dust, vapor or mist is present.

6.1.1 For non-emergency personnel

Avoid breathing vapors, mist or dust. Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions

Prevent entry into sewers and waterways or onto the ground. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Avoid breathing dust, aerosols, mist or vapors. Contain spill or leak with sand, clay or absorbents. Prevent entry into sewers or surface waters. Place waste products and contaminated soil into containers for disposal. Dispose of material via a licensed waste disposal contractor.

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 should be maintained. Use only in well ventilated area. Avoid generating dust during use. Do not breath dust, aerosols, mist or vapors. Keep container tightly closed when not in use.

7.1.1 Protective measures

Use only in well ventilated areas. As a precautionary measure, the wearing of standard work gear is suggested. Protect from heat.

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

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

Yttrium oxide, CAS #1314-36-9

USA OSHA	OSHA PEL Ceiling (mg/M$^{3)}$	1 mg/m^3 (Yttrium)

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:	Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical State:	Powder
Color:	White
Odor:	Odorless
Metling point/freezing point:	Not determined
Boiling point:	Not applicable
Flammability:	Not flammable
Lower and upper explosion limit:	Not applicable
Flash point:	Not applicable
Auto-ignition temperature:	Not applicable
Decomposition temperature:	Not applicable
pH:	Not applicable
Kinematic viscosity, mm^2/s	Not applicable
Solubility:	Insoluble in water
Partition coefficient, n-octanol/water (log value)	Not determined
Vapor pressure	Not determined
Relative density (specific gravity)	5
Relative vapor density	Not determined

9.2 Other information

No further relevant information available.

Section 10: Stability and Reactivity

10.1 Reactivity

No further relevant information available.

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

No further relevant information available.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

Oxides of carbon.

Section 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity:

LD50, Rate, Oral Values for classification:

Yttrium Oxide, 1314-36-9	>10 mg/kg

Skin corrosion/irritation:	Avoid contact with skin. May cause irritation.
Eye damage/irritation:	Avoid contact with eyes. May cause irritation.
Inhalation:	No further relevant information available.
Sensitization:	No further relevant information available.
Chronic Effects:	No further relevant information available.
Carcinogenicity	No classification data on carcinogenic properties of this material is available from the EPA, IARC, ACGIH, NTP or OSHA.

Section 12: Ecological Information

12.1 Toxicity

No further relevant information available.

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

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

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) 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:	The product should be recycled or solidified for disposal in a landfill approved for chemical waste.
United States:	The product is not a RCRA hazardous 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 an environmental hazard for transport.

14.6 Special precautions for users:

None.

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
State Right-to-Know Laws:	Section 3 of this SDS lists all components of the product.
California Proposition 65:	No ingredients listed.
SARA Section 311/312 (29 CFR 1910.1200) Hazards:	Not classified according to GHS.
SARA 313:	No ingredients listed.
SARA 313, 304 and CERCLA 102 (A):	Not applicable.

15. 2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

Section 16: Other Information

National Fire Protection Association (U.S.A.) 704	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:	The product is recommended for use in catalyst, ceramics and polishing. 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 this product should read and understand this SDS and be trained in the proper use of this material.
Other Special Considerations:	None known.
SDS Prepared By:	Andrew A. Guzelian Nyacol Nano Technologies, Incorporated Telephone: 508-881-2220 U.S.A.
Revision Date:	September 3, 2026
Supersedes:	None.

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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