Section 1: Product and Company Identification:

1.1 Product Identifier

Product Form:	Powder
Identification of Substance:	Tin Antimony Gray Cassiterite
Product Name:	NYACOL® SN902SD
Synonyms:	Antimony tin oxide, Tin antimony oxide
CAS Number:	68187-54-2
Index Number:	Not available.
EINECS Number:	269-105-9
REACH Registration Number:	05-2117294628-27-0000
Formula:	Sb_xSnO_2

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

Recommended Use:	Polymer additive.
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

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 further relevant information available.

Section 3: Composition / Information on Ingredients

Description: Mixture consisting of the following components.

Component Name	Product Identifier	GHS Classification	Percent By Weight
Tin Antimony Gray Cassiterite: REACH: 05-2117294628-27-0000	CAS: 68187-54-2 EINECS: 269-105-9 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. Do not allow victim to rub eyes or keep eyes closed. 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: Remove person from exposure source. Get medical attention immediately. If not breathing, clear person's airway and give artificial respiration. If breathing is difficult, qualified medical personnel may administer oxygen.

Ingestion: If a person is conscious and can swallow, immediately give water, however stop if person feels sick as vomiting should be avoided. 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.

4.2 Most important symptoms and effects, both acute and delayed

Tin oxide (stannic oxide) has a very low order of toxicity. Colloidal tin oxide has been used as a hepatolienographic agent by intravenous injection in rabbits and dogs without reaction or obvious harm, see The American Journal of Roentgenology, Radium Therapy and Nuclear Medicine, Vol. LXXVII, No. 1 January, 1957, "A New Hepatolienographic Agent: Tin Oxide", Harry W. Fischer, M.D. For a general overview see Toxicological Profile for Tin, U.S. Department of Health and Human Services; PB93-110864.E61.

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

Treat symptomatically.

Section 5: Fire-Fighting Measures

5.1 Extinguishing Media

Suitable Extinguishing Media: Use water, dry chemical, chemical foam, or alcohol-resistant foam. Water or foam may cause frothing. Use agent most appropriate to extinguish fire.

Unsuitable extinguishing media: None known.

5.2 Special hazards arising from the substance or mixture

Flammability of the product:	Not combustible.
Special Hazard Arising from the Chemical:	No further relevant information available.
Fire Hazard:	No further relevant information available.
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 vapor or mist is present.

6.1.1 For non-emergency personnel

Wear protective equipment. Keep unprotected persons away. Avoid inhalation of dust, contact with skin and eyes.

6.2 Environmental precautions

Do not allow product to reach sewage system or water bodies. Such contamination must be report to local health authority or other responsible authorities.

6.3 Methods and material for containment and cleaning up

Ventilate area. Avoid breathing dust. 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

Avoid generating dust or mist during use. Minimum feasible handling and temperatures should be maintained.

7.1.1 Protective measures

Use only in well ventilated areas. As a precautionary measure, the wearing of standard work gear is suggested. An approved air-purifying respirator should be worn if dust or mist is present. Keep ignition sources away. Do not smoke.

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

Provide sufficient ventilation at store and workrooms. Store in cool, dry area. Periods of exposure to high temperatures should be minimized. Water contaminations should be avoided.

7.3 Specific end use(s)

No further relevant information available.

Section 8: Exposure Controls / Personal Protection

8.1 Control Parameters

Tin Antimony Gray Cassiterite, CAS #68187-54-2

USA OSHA	OSHA PEL Ceiling (mg/m^3)	2 mg/m^3 as tin

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. 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.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance (Physical State, Color):	Solid. Blue-colored powder.
Upper/lower flammability or explosive limits:	Not determined.
Volatile by Weight:	Not determined.
Odor:	Odorless
Vapor Pressure:	Not applicable.
Odor Threshold:	Not applicable.
Vapor Density:	Not determined.
pH:	Not applicable.
Relative Density:	Not available.
Melting point/freezing point:	Not determined.
Solubility in Water:	Not soluble.
Initial boiling point and boiling range:	Not applicable.
Flashpoint:	None
Evaporation Rate:	Not applicable.
Flammability (solid, gas):	Product is not self igniting.
Partition Coefficient:	Not determined.
Auto-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Viscosity:	Not applicable.
Specific Gravity:	Not applicable.
Freezing Point:	Not applicable.
Explosion Limits:	Not applicable.

Oxidizing Properties:	Not an oxidizer.

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.

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

No further relevant information available.

Section 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity:

LD50, Rat, Oral Values for classification:

Tin Oxide:	>5,000 mg/kg
Skin corrosion/irritation:	Avoid contact with skin. Potentially irritating to skin.
Eye damage/irritation:	Avoid contact with eyes. Irritating to eyes.
Inhalation:	Published reports claim respiratory irritation from stannic oxide.
Ingestion:	No further relevant information available.
Sensitization:	No sensitizing effect known.
Chronic Effects:	Chronic inhalation of stannic oxide causes a benign form of pneumoconiosis known as stannosis.
Carcinogenicity	No data indicating any concern for carcinogenicity.

Section 12: Ecological Information

12.1 Aquatic Toxicity

No further relevant information available.

12.2 Persistence and degradability

Tin is generally regarded as being relatively immobile in the environment (WHO 1980).

12.3 Bioaccumulative potential

Not bioaccumulative.

12.4 Mobility in soil

Tin is generally regarded as being relatively immobile in the environment (WHO 1980).

Ecotoxical effects:

No further relevant information available.

12.5 Results of PBT and vPvB Assessment

Not available.

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:	The product should be recycled or solidified for disposal in an approved landfill.
United States:	The product is not a 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:

No further relevant information available.

14.6 Special precautions for users:

No further relevant information available.

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

Not applicable, the product is not sold in bulk quantities.

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
Technical Instructions (air):	Not determined.
California Proposition 65:	No ingredients listed.
State Right-to-Know Laws:	Section 3 of this SDS lists all components of the product.
SARA Section 311/312 (29 CFR 1910.1200) Hazards:	Not classified according to GHS.
SARA Section 313:	Antimony compounds.
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.
Technical Instructions (air):	Not determined.
Water hazard class:	Not determined.

FDA Food Contact:	The product is approved by the FDA for use as a heating enhancer in authorized PET polymers in contact with all types of food including infant formula and breast milk for use at levels of up to 0.05 wt% of the polymer. Listed under FCN 001437 with CAS No. 12673-86-8.

15. 2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

Section 16: Other Information

List of relevant phrases from section 2 and 3: None

National Fire Protection Association (U.S.A.) 704 Hazard Rating:	Health-1, Flammability- 0, Reactivity-0, Special-None
HMIS® Hazard Rating:	Health-1, Flammability- 0, Reactivity-0, Protective Equipment - E; safety glasses, dust respirator.
Recommended Use:	The product is recommended for use as a polymer additive. 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 the product 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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