



MATERIAL SAFETY DATA SHEET
BurnEx™ 30-107

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1. Chemical Product and Company Identification

Trade Name: BurnEx™ 30-107
Chemical Name: Antimony Pentoxide
Synonyms: None.
Product Code: 30-107
Use: Flame Retardant
Manufacturer: Nyacol Nano Technologies, Inc.
Megunko Road, P.O. Box 349, Ashland, MA 01721 U.S.A.
Emergency Telephone: 508-881-2220
E-mail Contact: info@nyacol.com

2. Composition / Information on Ingredients

<u>Component</u>	<u>CAS #</u>	<u>Exposure Limits</u>	<u>Percent By Weight</u>
Antimony Pentoxide partially ion-exchanged with sodium ions:	1314-60-9	0.5mg/M ³ (Antimony)	92
Water	7732-18-5	None.	8
<u>Component</u>	<u>EINECS #</u>	<u>RTECS #</u>	<u>REACH #</u>
Antimony Pentoxide:	215-237-7	CC6300000	05-2117294568-25-0000
Water:	231-791-2	ZC0110000	None.

3. Hazard Identification

Emergency Overview Off-white powder. No odor. Do not breathe dust.
Classification Harmful.
Symbol:  Xn
Risk Phrases: R20/22 Harmful by inhalation or if swallowed.
Safety Phrases: S20; S36/37 Do not breathe dust; wear suitable protective clothing, gloves.

Potential Health Effects / Health Hazard Identification

Acute Exposure

Eye: Irritant.
Skin: Irritation, drying or cracking of skin due to drying effect.
Ingestion: Gastrointestinal effects such as vomiting and diarrhea have been reported in both humans and animals after ingesting antimony compounds.
Inhalation: Pneumoconiosis and upper airway inflammation.
Chronic Exposure: Chronic exposure to antimony compounds have caused damage to the heart with altered ECG, high blood pressure, ulcers and disturbances in menstruation.

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 with large quantities of water. If irritation persists get medical attention.
Skin Contact: Wash with soap and water.
Ingestion: If swallowed seek medical attention immediately. If medical attention is not available induce vomiting. Never give anything by mouth to an unconscious person.
Inhalation: Remove person from exposure source, consult medical professional.

CONTINUED →

4. First Aid Measures, continued

First Aid Facilities: Eye wash station, Syrup of Ipecac.
Advice to Physicians: Reports of occupational exposure to inorganic antimony compounds include skin rash, gastrointestinal disturbances and ECG alterations. Therapeutic administration of antimonial drugs has reported side effects of ECG changes in the T wave and possible heart failure. Liver damage has also been reported. Studies with penta-valent antimonial drugs show between 19-43% of the antimony being excreted after 24 hours. See U.S. Department of Health, Education and Welfare document Occupational Exposure to Antimony for details.

5. Fire Fighting Measures

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: Prevent dusting, cover spill if windy. Vacuum or shovel into containers for reuse or disposal.
Personal Protection: Emergency responders should wear eye protection and gloves. An approved air-purifying respirator should be worn.

7. Handling and Storage

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

8. Exposure Controls / Personal Protection

Engineering Control: Use exhaust ventilation to keep airborne concentrations below exposure limits.
Respiratory Protection: When respiratory protection required or concentrations unknown, use approved air purifying respirator equipped 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: Off-white powder.
Odor: None.
Physical State: Solid. BurnEx 30-107 is a powder material.
pH: 7, 20% slurry in water
Boiling Point: Not available.
Freezing Point: Not available.
Flash Point: None.
Vapor Pressure: Not available.
Oxidizing Properties: Not an oxidizer.
Density: 3900 Kg/M³
Solubility in Water: Not soluble.
Specific Gravity: 3.9
Volatile by Weight: 7%
Viscosity: Not applicable.
Explosion Limits: None.
Partition Coefficient: Not available.
Evaporation Rate: Not available.

10. Stability and Reactivity

Chemical Stability: BurnEx 30-107 is stable under normal ambient and anticipated storage and handling conditions.

Conditions To Avoid: No recommendation.

Incompatibility With Other Materials: Use of BurnEx 30-107 under acidic reducing conditions may form the poisonous gas stibine.

Hazardous Decomposition Products: None.

Hazardous Polymerization: Will not occur.

11. Toxicological Information

Material LD₅₀, Rat, Oral

Antimony Pentoxide Greater than 4123 mg/kg

Water None reported.

Effects

Eye Effects: No published data available.

Skin Effects: No published data available. Workers exposed to this product have reported dry skin.

Inhalation Effects: Published reports claim respiratory irritation for mixed antimony compounds.

Ingestion Effects: Published reports claim gastrointestinal effects such as vomiting and diarrhea after ingesting antimony compounds.

12. Ecological Information

Ecotoxicity: Antimony does not appear to bioconcentrate appreciably in fish. Plant uptake of antimony from soil is minor and correlates to the amount of available antimony. Antimony does not appear to biomagnify from lower to higher trophic levels in the food chain.

Persistence: Reports claim that antimony compounds released in the environment are absorbed by soil with no general mobility except in sandy soils. Some methylated antimony compounds can form in reducing conditions such as found in anaerobic sediment.

13. Disposal Considerations

Disposal Considerations: BurnEx 30-107 should be recycled or disposed of in a landfill approved for chemical waste.

United States: Should BurnEx 30-107 become a waste, the EPA TCLP test should be performed. If test is not done the waste should be treated as an EP toxic material and given EPA waste numbers D004 and D008.

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.



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15. Regulatory Information

U.S. Federal Regulations

EPA TSCA Inventory: All ingredients listed.
SARA Section 313: This product contains the following toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 372:

<u>Chemical Name</u>	<u>CAS #</u>	<u>Percent By Weight</u>
Antimony Pentoxide	1314-60-9	92

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 BurnEx 30-107.

Canadian Regulations


Domestic Substance List: All ingredients listed.
WHMIS: Class D, Division 2, material causing other toxic effects.

Transportation of Dangerous Goods (TDG): Not applicable. Does not meet dangerous goods criteria.

Controlled Products

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

EC Regulations

Classification: Harmful.
Symbol:  Xn
Risk Phrases: R20/22 Harmful by inhalation or if swallowed.
Safety Phrases: S20; Do not breathe dust.
S36/37 Wear suitable protective clothing and gloves.

International Inventory Status

Ingredients are included: Australia (AICS); Canada (DSL); China (IECSC); Europe (EINECS); Japan (ENCS); Korea (ECL); Philippines (PICCS); SWISS

16. Other Information

NFPA 704 Hazard Rating: Health - 0, Flammability - 0, Reactivity - 0, Special - None

HMIS® Hazard Rating: Health - 1, Flammability - 0, Reactivity - 0

Protective Equipment - E safety glasses, gloves, dust respirator

Recommended Use: BurnEx 30-107 is recommended for use as a flame retardant. For industrial use only, not for food, drug or home use.

Work Alert: Workers using BurnEx 30-107 should read and understand this MSDS and be trained in the proper use of this material.

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This MSDS 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 product for its 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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