

**1. Chemical Product and Company Identification**

Trade Name: BurnEx™ 6220  
Chemical Name: Antimony Pentoxide  
Synonyms: None  
Product Code: BurnEx 6220  
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:	1314-60-9	0.5mg/M <sup>3</sup> (Antimony)	73
Antimony Oxide:	1327-33-9	0.5mg/M <sup>3</sup> (Antimony)	20
Water:	7732-18-5	None.	7

<u>Component</u>	<u>EINECS #</u>	<u>RTECS #</u>	<u>REACH #</u>
Antimony Pentoxide:	215-237-7	CC6300000	05-2117294568-25-0000
Antimony Oxide:	215-474-6	Not Available	05-2117294604-37-0000
Water:	231-791-2	ZC0110000	None.

**3. Hazard Identification**

Emergency Overview Off-white powder. No odor. Do not breathe dust.  
Classification Harmful.  
Symbol:  Xn St. Andrew's Cross  
Risk Phrases: R20/22 Harmful by inhalation or if swallowed.  
Safety Phrases: S22 Do not breathe dust.  
S36/37 Wear suitable protective clothing, wear suitable 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 has 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.  
First Aid Facilities: Eye wash station, Syrup of Ipecac.

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**4. First Aid Measures, continued**

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 pentavalent antimonial drugs show between 19 and 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. Firefighting Measures**

Flammability: 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: Eye protection and gloves. Approved air-purifying respirator.

**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 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 6220 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.  
Solubility in Water: Not soluble.  
Density: 3900 Kg/M<sup>3</sup>  
Specific Gravity: 3.9  
Volatile by Weight: 7%  
Viscosity: Not applicable.  
Explosion Limits: None.  
Partition Coefficient: Not available.  
Evaporation Rate: Not available.



MATERIAL SAFETY DATA SHEET  
BurnEx™ 6220

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**10. Stability and Reactivity**

Chemical Stability: Stable under normal ambient/anticipated storage/handling conditions.  
Conditions To Avoid: No recommendation.  
Incompatibility With Other Materials: Use of BurnEx 6220 under acidic reducing conditions may form the poisonous gas stibine.  
Hazardous Decomposition Products: None.  
Hazardous Polymerization: Will not occur.

**11. Toxicological Information**

Material  
Antimony Pentoxide: LD<sub>50</sub>, Rat, Oral  
Antimony Oxide: Greater than 4123 mg/kg  
Water: Not available.  
None reported.

Effects  
Eye Effects: No published data available.  
Skin Effects: No published data available. Dry skin has been reported.  
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 6220 should be recycled or disposed of in a landfill approved for chemical waste.  
United States: Should BurnEx 6220 become waste, the EPA TCLP test should be performed. If test is not done then 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

**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	73
Antimony Oxide	1327-33-9	20

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**15. Regulatory Information, continued**

D.O.T. Regulations: See Section 14.

U.S. State Regulations

State Right-to-Know Laws: Section 2 of this MSDS lists all components of BurnEx 6220.

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. BurnEx 6220 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.

Australian Regulations

Australian Inventory of Chemical Substances: All ingredients listed.

Japanese Regulations

Japanese Existing &amp; New Chemical Substances: All ingredients listed.

Korean Regulations

Existing Chemical List: All ingredients listed.

EC Regulations

Classification: Harmful.

Symbol:  Xn St. Andrew's Cross

Risk Phrases: R20/22 Harmful by inhalation or if swallowed.

Safety Phrases: S22 Do not breathe dust.

S36/37 Wear suitable protective clothing, wear suitable gloves.

**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 6220 is recommended for use as a flame retardant. 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 BurnEx 6220 should read and understand this MSDS and be trained in the proper use of this material.

MSDS Prepared By:

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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 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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