

**MATERIAL SAFETY DATA SHEET**

**I PRODUCT IDENTIFICATION**

**Trade Name:** Antimony Telluride  
**CAS #:** 1327-50-0

**Chemical Family:** Metal telluride  
**Formula:** Sb<sub>2</sub>Te<sub>3</sub>

**II HAZARDOUS INGREDIENTS**

<u>Hazardous Components</u>	<u>%</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
Antimony Telluride	0-100	0.1(Te) mg/m <sup>3</sup>	0.1(Te)mg/m <sup>3</sup>

**HMIS Ratings: Health: 2      Flammability: 0      Reactivity: 1**

**III PHYSICAL DATA**

**Boiling Point (°C):** N/E or N/A  
**Specific Gravity:** 6.5 gm/cc @ 20 °C  
**Vapor Density:** N/A  
**Appearance and Odor:** Grey powder and pieces, no odor

**Melting Point:** 629 °C  
**Vapor Pressure:** N/A  
**Solubility in H<sub>2</sub>O:** Insoluble  
**% Volatile:** N/E or N/A

**IV FIRE AND EXPLOSION HAZARDS DATA**

**Flash Point:** N/A  
**Explosive Limits: Lower:** N/A    **Upper:** N/A

**Autoignition Temperature:** N/E

**Extinguishing Media:** Suitable for surrounding fire.

**Special Fire Fighting Procedures:** Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

**Unusual Fire and Explosion Hazards:** When heated to decomposition, antimony telluride may emit toxic metal oxide fumes.

## V HEALTH HAZARD INFORMATION

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### **Effects of Exposure:**

To the best of our knowledge the chemical, physical and toxicological properties of antimony telluride have not been thoroughly investigated and recorded.

Antimony compounds may cause metallic taste, gastrointestinal disturbances, vomiting, diarrhea, dizziness and systemic poisoning. Chronic exposure may cause liver and kidney damage. Dermatitis and eczematous skin eruptions may result from skin contact.

Elemental tellurium has relatively low toxicity. It is converted in the body to dimethyl telluride which imparts a garlic-like odor to the breath and sweat. Heavy exposures may, in addition, result in headache, drowsiness, metallic taste, loss of appetite, nausea, tremors, convulsions, and respiratory arrest (Sax, Dangerous Properties of Industrial Materials).

### **Acute Effects:**

**Inhalation:** May cause irritation to the respiratory system, a dry mouth, metallic taste, gingivitis, garlic odor to breath, sweat and urine.

**Ingestion:** May cause a dry mouth, suppression of sweat, malaise, albuminuria, diarrhea, skin reactions, stomatitis, diarrhea, headache, fever, rheumatic pain, black line on gums, garlic odor to breath and urine.

**Skin:** May cause irritation and itching.

**Eye:** May cause irritation.

### **Chronic Effects:**

**Inhalation:** May cause anorexia, nausea, depression, somnolence and affect the function of the liver and kidneys.

**Ingestion:** May cause anorexia, anemia, black line on gums, ulcerative stomatitis, nausea, depression and somnolence. May affect the function of the liver and kidneys.

**Skin:** May cause dermatitis.

**Eye:** No chronic health effects recorded.

**Target Organs:** May affect the skin, liver, kidneys and central nervous system.

**Medical Conditions Generally Aggravated by Exposure:** Pre-existing skin and respiratory disorders.

**Routes of Entry:** Inhalation, Skin, Eyes, Ingestion

**Carcinogenicity:** NTP: No, IARC: No, OSHA Regulated: No

### **EMERGENCY AND FIRST AID PROCEDURES:**

**INHALATION:** Remove victim to fresh air, keep warm and quiet, give oxygen if breathing is difficult and seek medical attention.

**INGESTION:** Give 1-2 glasses of milk or water and induce vomiting, seek medical attention immediately. Never induce vomiting or give anything by mouth to an unconscious person.

**SKIN:** Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water for 15 minutes, seek medical attention if symptoms persist.

**EYES:** Flush eyes with lukewarm water, lifting upper and lower eyelids, for at least 15 minutes. Seek medical attention if symptoms persist.

## VI REACTIVITY DATA

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**Stability:** Stable

**Conditions to Avoid:** None

**Incompatibility:** Acids

**Hazardous Decomposition Products:** Toxic metal oxide fume.

**Hazardous Polymerization:** Will not occur.

## VII SPILL OR LEAK PROCEDURES

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**Steps to Be Taken in Case Material Is Released or Spilled:** Wear appropriate respiratory and protective equipment specified in Section VIII. Isolate spill area and provide ventilation. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Take care not to raise dust.

**Waste Disposal Method:** Dispose in accordance with Local, State and Federal regulations.

## VIII SPECIAL PROTECTION INFORMATION

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**Respiratory Protection (Specify Type):** Wear a NIOSH-approved dust, mist, vapor cartridge respirator.

**Ventilation:** Use local exhaust to maintain concentration at or below PEL, TLV.

**Protective Gloves:** Neoprene

**Eye Protection:** Safety Glasses

**Other Protective Equipment:** Wear protective clothing to prevent contamination.

## IX SPECIAL PRECAUTIONS

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**Precautions to be Taken in Handling and Storing:** Store in a cool, dry area, Wash thoroughly after handling. Store in tightly sealed container. Do not store together with acids.

**Work Practices:** Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air. Maintain eyewash capable of sustained flushing, safety drench shower and facilities for washing.

Some of the chemicals listed herein are research or experimental substances which may be toxic, as defined by various governmental regulations. In accordance with Environmental Protection Agency regulation and the Toxic Substances Control Act (TSCA), these materials should only be handled by, or under the direct supervision of, a "technically qualified individual", as defined in 40 CFR 710.2(aa).

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Issued by: S. Dierks  
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