

ANTIMONY TRICHLORIDE

ATM

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Antimony (III) chloride Butter of antimony		Solid	White to pale yellow	Sharp unpleasant odor
Sinks and mixes violently with water.				
<p>Restrict access. Evacuate. AVOID CONTACT WITH SOLID AND DUST. Wear dust respirator and rubber overclothing (including gloves). Notify local health and pollution control agencies. Protect water intakes.</p>				
Fire	<p>Not flammable. POISONOUS GASES MAY BE PRODUCED IN FIRE. Irritating gases may be produced when heated. Wear goggles and self-contained breathing apparatus. DO NOT USE WATER ON ADJACENT FIRES.</p>			
Exposure	<p>CALL FOR MEDICAL AID. DUST POISONOUS IF INHALED OR IF SKIN IS EXPOSED. If inhaled will cause coughing, or difficult breathing. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.</p> <p>SOLID Will burn skin and eyes. If swallowed will cause nausea, vomiting or loss of consciousness. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.</p>			
Water Pollution	<p>HARMFUL TO AQUATIC LIFE IN VERY LOW CONCENTRATIONS. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.</p>			

<p>1. CORRECTIVE RESPONSE ACTIONS Dilute and disperse Stop discharge Chemical and Physical Treatment: Neutralize Do not add water to undissolved material</p>	<p>2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: Not listed. 2.2 Formula: SbCl₃ 2.3 IMO/UN Designation: 8/1733 2.4 DOT ID No.: 1733 2.5 CAS Registry No.: 10025-91-9 2.6 NAERG Guide No.: 157 2.7 Standard Industrial Trade Classification: 52329</p>
<p>3. HEALTH HAZARDS</p> <p>3.1 Personal Protective Equipment: Note: The respiratory system is the chief avenue of entrance of antimony and its compounds into the body. Bu. Mines approved respirator, chemical safety goggles; face shield; leather or rubber safety shoes; rubber apron; rubber gloves</p> <p>3.2 Symptoms Following Exposure: Inhalation of small amounts may cause only irritation of the nose, throat and air passages; large exposures result in severe air-passage irritation. Ingestion causes vomiting, purging with bloody stools, slow pulse and low blood pressure; slow, shallow breathing; coma and convulsions sometimes followed by death. Contact with eyes causes severe eye burns or at least severe eye irritation. Contact of dry chemical with skin may result in deep chemical burns.</p> <p>3.3 Treatment of Exposure: INHALATION: move victim at once to fresh air and keep him warm, but not hot; call a physician immediately; nasal passages may be irrigated from a gently flowing hose. INGESTION: induce vomiting by giving large quantities of warm salt water; have a physician see the patient at once. EYES: flush with copious amounts of water for at least 15 min.; call a physician at once. SKIN: flush with large quantities of flowing water followed by washing of skin surfaces with soap and water; remove all contaminated clothing promptly.</p> <p>3.4 TLV-TWA: 0.5 mg/m³ (as antimony) 3.5 TLV-STEL: Not listed. 3.6 TLV-Ceiling: Not listed. 3.7 Toxicity by Ingestion: Grade 2; oral rat LD₅₀ = 675 mg/kg 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Currently not available 3.10 Vapor (Gas) Irritant Characteristics: Currently not available 3.11 Liquid or Solid Characteristics: Currently not available 3.12 Odor Threshold: Currently not available 3.13 IDLH Value: 50 mg/m³ as Sb 3.14 OSHA PEL-TWA: Not listed. 3.15 OSHA PEL-STEL: Not listed. 3.16 OSHA PEL-Ceiling: Not listed. 3.17 EPA AEGL: Not listed</p>	

4. FIRE HAZARDS

- 4.1 **Flash Point:**
Not flammable
- 4.2 **Flammable Limits in Air:** Not flammable
- 4.3 **Fire Extinguishing Agents:** Not pertinent
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Do not use water on adjacent fires.
- 4.5 **Special Hazards of Combustion**
Products: Toxic and irritating antimony oxide and hydrogen chloride may form in fires.
- 4.6 **Behavior in Fire:** Currently not available
- 4.7 **Auto Ignition Temperature:** Not pertinent
- 4.8 **Electrical Hazards:** Not pertinent
- 4.9 **Burning Rate:** Not pertinent
- 4.10 **Adiabatic Flame Temperature:** Not pertinent
- 4.11 **Stoichiometric Air to Fuel Ratio:** Not pertinent
- 4.12 **Flame Temperature:** Not pertinent
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Not pertinent
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** Reacts vigorously to form a strong solution of hydrochloric acid.
- 5.2 **Reactivity with Common Materials:** Corrodes most metals in presence of moisture. Flammable hydrogen gas may collect in enclosed spaces.
- 5.3 **Stability During Transport:** Stable
- 5.4 **Neutralizing Agents for Acids and Caustics:** Large amounts of water followed by sodium bicarbonate or soda ash solution
- 5.5 **Polymerization:** Not pertinent
- 5.6 **Inhibitor of Polymerization:** Not pertinent

6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:**
17 ppm*/96 hr/fathead minnow/TL₅₀/ fresh (hard) water
9 ppm*/96 hr/fathead minnow/TL₅₀/ fresh (soft) water
*as antimony
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** Currently not available
- 6.4 **Food Chain Concentration Potential:** High
- 6.5 **GESAMP Hazard Profile:**
Bioaccumulation: 0
Damage to living resources: 2
Human Oral hazard: 1
Human Contact hazard: II
Reduction of amenities: XX

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Commercial, 99+%; Analytical; Anhydrous
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** Padded
- 7.4 **Venting:** Pressure-vacuum
- 7.5 **IMO Pollution Category:** Currently not available
- 7.6 **Ship Type:** Currently not available
- 7.7 **Barge Hull Type:** Currently not available

8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Corrosive material
- 8.2 **49 CFR Class:** 8
- 8.3 **49 CFR Package Group:** II
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:** Not listed
- 8.6 **EPA Reportable Quantity:** 1000 pounds
- 8.7 **EPA Pollution Category:** C
- 8.8 **RCRA Waste Number:** Not listed
- 8.9 **EPA FWPCA List:** Yes

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid
- 9.2 **Molecular Weight:** 228
- 9.3 **Boiling Point at 1 atm:** 433°F = 223°C = 496°K
- 9.4 **Freezing Point:** 163°F = 73°C = 346°K
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** 3.14 at 20°C (solid)
- 9.8 **Liquid Surface Tension:** Not pertinent
- 9.9 **Liquid Water Interfacial Tension:** Not pertinent
- 9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Not pertinent
- 9.12 **Latent Heat of Vaporization:** Not pertinent
- 9.13 **Heat of Combustion:** Not pertinent
- 9.14 **Heat of Decomposition:** Not pertinent
- 9.15 **Heat of Solution:** -70 Btu/lb = -39 cal/g = -1.6 X 10⁵ J/kg
- 9.16 **Heat of Polymerization:** Not pertinent
- 9.17 **Heat of Fusion:** 13.3 cal/g
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** Currently not available

NOTES

ANTIMONY TRICHLORIDE

ATM

9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T		N O T P E R T I N E N T

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
	R E A C T S	235 240 245 250 255 260 265 270 275 280 285 290 295 300 305 310 315 320 325 330 335	0.415 0.466 0.523 0.586 0.655 0.731 0.815 0.907 1.008 1.119 1.240 1.372 1.516 1.674 1.845 2.031 2.234 2.453 2.691 2.948 3.226	235 240 245 250 255 260 265 270 275 280 285 290 295 300 305 310 315 320 325 330 335	0.01269 0.01416 0.01577 0.01753 0.01947 0.02158 0.02399 0.02640 0.02915 0.03213 0.03536 0.03887 0.04268 0.04680 0.05125 0.05606 0.06124 0.06682 0.07293 0.07929 0.08623		N O T P E R T I N E N T