



2950 HIGHWAY DRIVE, TRAIL, BC, V1R 2T3, CANADA  
 PHONE: (250) 364-5605 FAX: (250) 364-5643

## Material Safety Data Sheet Sb (Antimony) Metal

### SECTION 1 – PRODUCT INFORMATION

<b>Product Identifier:</b> Sb (Antimony; high purity; 5N, 6N, 7N)	<b>Product Use:</b> Produced and used in Laboratory settings
<b>Manufacturer's Name:</b> Firebird Technologies Inc.	<b>Emergency Telephone:</b> 1-250-364-5605
<b>Street Address:</b> 2950 Highway Drive	<b>City, Province, Country, Postal Code:</b> Trail, British Columbia, CANADA V1R 2T3

### SECTION 2 – HAZARDOUS INGREDIENTS

Hazardous Ingredients ( <i>specific</i> )	%	CAS Number	LD <sub>50</sub> of Ingredient ( <i>specify species and route</i> )	LC <sub>50</sub> of Ingredient ( <i>specify species</i> )
Antimony Metal: Bar or Shot form	100%	7440-36-0	N/A	N/A

### SECTION 3 – PHYSICAL DATA

<b>Physical State:</b> Crystalline Solid	<b>Odor and Appearance:</b> Odorless, hard, brittle, silvery solid.		<b>Odor Threshold (ppm):</b> N/A
<b>Specific Gravity:</b> 6.62 (300K)	<b>Vapor Density (Air = 1):</b> N/A	<b>Vapor Pressure:</b> Low @ 300K	<b>Evaporation Rate:</b> Very low at 300K
<b>Boiling Point (°C):</b> 1380	<b>Freezing Point (°C):</b> 630.5	<b>pH:</b> N/A	<b>Coefficient of Water/Oil Distribution:</b> N/A

### SECTION 4 – FIRE AND EXPLOSION DATA

<b>Flammability:</b>	Slight. Finely divided powder may ignite if heated in air.		
<b>Means of Extinction:</b>	Dry chemical, water or CO <sub>2</sub> ; never use water on molten metal –use sand or salt instead.		
<b>Hazardous Combustion Products:</b>	Vapor oxidizes to Sb <sub>2</sub> O <sub>3/5</sub> at flame temperatures. Use self-contained breathing apparatus when fighting fires in an enclosed area.		
<b>Flashpoint(°C)and Method:</b> N/A	<b>Explosion Data:</b> N/A	<b>Upper Flammable Limit (% by volume):</b> N/A	
<b>Auto ignition Temperature (°C):</b> N/A	<b>Sensitivity to Impact:</b> None	<b>Lower Flammable Limit (% by volume):</b> N/A	

### SECTION 5 – REACTIVITY DATA

<b>Chemically Stable:</b>	Yes, under normal conditions		
<b>Incompatibility with Other Substances:</b>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	Strong bases and strong oxidizing or reducing agents. In contact with strong acids, antimony forms toxic stibine gas.	
<b>Reactivity:</b>	Avoid temperatures in excess of 200°C to prevent fume. Standard laboratory procedures for any reactions. All exposure to acids, oxidizers or bases must occur in fume hoods with appropriate personal protection.		
<b>Hazardous Decomposition Products:</b>	Vapor oxidizes to Sb <sub>2</sub> O <sub>3/5</sub> at flame temperatures. Keep below 200°C to avoid fumes. Separate from acids to avoid stibine formation.		

**SECTION 6 – TOXICOLOGICAL PROPERTIES**

<b>Route of Entry:</b>	<input checked="" type="checkbox"/> Skin Contact	<input type="checkbox"/> Skin Absorption	<input checked="" type="checkbox"/> Eye Contact	<input checked="" type="checkbox"/> Inhalation	<input checked="" type="checkbox"/> Ingestion
<b>Effects of Acute Exposure to Product:</b>	<p>Fine powder can enter the body through Inhalation and/or eye contact causing irritation of the mucous membranes (i.e. runny nose, itchy eyes, sneezing).</p> <p>Stibine gas (from acid exposure) highly toxic and must be avoided.</p>				
<b>Effects of Chronic Exposure to Product:</b>	Prolonged skin exposure to finely divided powder or fume from overheating could cause dermatitis.				

<b>Exposure Limits:</b>	OSHA 0.5 mg/m <sup>3</sup>	<b>Irritancy (if yes, explain):</b>	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	Skin and eye contact irritation; nose/mouth/lung irritation from inhalation	
<b>Sensitization (if yes, explain):</b>	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<b>Carcinogenicity (if yes, explain):</b>	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	
<b>Reproductive Toxicity (if yes, explain):</b>	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	May decrease fertility	<b>Teratogenicity (if yes, explain):</b>	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes
<b>Mutagenicity (if yes, explain):</b>	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes		<b>Synergistic Products (if yes, explain):</b>	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes

**SECTION 7 – PREVENTIVE MEASURES**

<b>Personal Protective Equipment:</b>	<input checked="" type="checkbox"/> Gloves	<input checked="" type="checkbox"/> Respirator	<input checked="" type="checkbox"/> Eye	<input type="checkbox"/> Footwear	<input type="checkbox"/> Clothing	<input type="checkbox"/> Other
<b>(If PPE checked, specify type)</b>	<p>When handling metal form: Use impervious gloves and lab coat.</p> <p>When handling powder form: Use impervious gloves, safety glasses and a particulate respirator.</p> <p>When handling chemical form: Use impervious gloves, face shield and lab coat.</p> <p>Antimonide Crystal Growth: Fine antimony may be present as condensate in crystal growth equipment.</p> <p>Do not eat, drink or smoke where antimony is present. Wash contaminated clothing before re-use.</p> <p>Wash hands before eating or smoking after any exposure.</p>					
<b>Engineering Controls:</b>	General (mechanical) room ventilation is expected to be satisfactory. If melting or high temperature processing use collection/extraction ventilation.					
<b>Leak and Spill Procedure:</b>	Clean spills using proper tools (broom, dust pan). Minimize dust. Wet cleaning is preferable to dry.					
<b>Waste Disposal:</b>	Dispose of in accordance with all appropriate local regulations.					
<b>Handling Procedures and Equipment:</b>	Handle with gloves. Use a face shield when breaking, etching or reacting. See above for grower precautions.					
<b>Storage Requirements:</b>	Normal precautions should be taken. Keep containers closed to avoid contamination.					
<b>Special Shipping Information:</b>	None known				<b>PIN:</b>	

**SECTION 8 – FIRST AID MEASURES**

<b>Inhalation:</b>	Ingestion of powder, fume from overheating or chemical salts could cause effect similar to those of Sb <sub>2</sub> O <sub>3,5</sub> requiring prompt medical attention.
<b>Ingestion:</b>	Ingestion of powder, fume from overheating or chemical salts could cause effect similar to those of Sb <sub>2</sub> O <sub>3,5</sub> requiring prompt medical attention. Do not induce vomiting, give water or milk and transport to hospital.
<b>Skin Contact:</b>	Wash skin with soap and water.
<b>Eye Contact:</b>	Flush eyes thoroughly with water for several minutes. Remove contact lenses, if worn.

**SECTION 9 – PREPARATION INFORMATION**

<b>Prepared by:</b>	W.F. Micklethwaite	<b>Preparation Date:</b>	2006 July
<b>Telephone Number:</b>	1-250-364-5605 x204	<b>Revised Date:</b>	2009 June

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