



SHINY MATERIALS SCIENCE & TECHNOLOGY INC

MATERIAL SAFETY DATA SHEET

Section 1. Product and company identification

Product name:	ANTIMONY TRIOXIDE
Manufacturer:	SHINY MATERIAL SCIENCE & TECHNOLOGY INC
Telephone numbers for information:	86-731-85863188(China)
Date prepared:	March 10, 2014
Chemical family:	Metal Oxide
MSDS number:	10001

Section 2. Composition/information on ingredients

Chemical ingredients:	Antimony Trioxide	$\geq 99.8\%$
	Arsenic Trioxide (As ₂ O ₃)	$< 0.05\%$
	Lead Oxide (PbO)	$< 0.05\%$
CAS Number:	Antimony Trioxide	1309-64-4
	Arsenic Trioxide(As ₂ O ₃)	1327-53-3
	Lead Oxide(PbO)	1317-36-8

Section 3. Hazards identification

Emergency overview:	White powder, no odor. May be harmful if swallowed. May be harmful if inhaled. Cancer hazard. Harmful if absorbed through skin.
Potential health effects:	Acute eye: may cause slight irritation. Acute skin: may cause irritation, allergic reaction. Acute inhalation: may cause respiratory tract irritation. Acute ingestion: may cause loss of coordination, burns to mouth and esophagus.
Chronic effects:	This product contains ingredients that are considered to be probable or suspected human carcinogens (see Section 11 — Chronic).

Section 4. First aid measures

Eyes:	Hold eyelids open and flush with a steady, gentle stream of water for at least 15 minutes. Seek immediate medical attention, preferably with an ophthalmologist.
Skin exposure:	In case of contact, wash with plenty of soap and water. Seek medical attention if irritation develops or persists.
Inhalation:	Remove the victim from immediate source of exposure and assure that the victim is breathing. If breathing is difficult, administer oxygen, if available. If victim is not breathing, administer CPR (cardiopulmonary resuscitation). Seek medical attention.
Ingestion:	If victim is conscious and alert, give large amounts of water to drink and do not induce vomiting. Seek immediate medical attention.
Notes to physician:	All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically.

Section 5. Fire fighting measures

Flash point:	Not flammable
Extinguishing media:	All conventional media are suitable
Personal protective equipment:	Wear self-contained breathing apparatus (pressure-demand MSHA/NIOSH approved or equivalent) and full protective gear.
Special procedures:	Contain runoff. Remain upwind. Avoid breathing smoke. Use water spray to cool containers exposed to fire.
Unusual fire and explosion hazards:	Under fire conditions, toxic and irritating fumes may be emitted.
Hazardous products of combustion:	Oxides of antimony; oxides of arsenic; oxides of lead.

Section 6. Accidental release measures

Evacuation procedures and safety:	Wear appropriate protective gear for the situation. See personal protection information in Section 8.
Cleanup and disposal of spill:	Carefully sweep up material and place in suitable labeled containers for disposal. Residual dusts can be removed by vacuuming. Wash spill area after pick-up is complete, collecting all clean up water for appropriate disposal.
Environmental and Regulatory reporting:	Prevent material from entering public sewer system or any waterways. Spills may be reported to the National Response Center (800-424-8802) and to state and/or local agencies.

Section 7: Handling and Storage

Handling:	Do not breathe dust. Do not get on skin or in eyes. Do not ingest. Use handling, storage and disposal procedures that will prevent contamination of water, food or feed.
Storage:	Store in a cool, dry, well-ventilated area away from incompatible materials. Keep container tightly closed. Protect containers against damage.

Section 8. Exposure controls/personal protection

Ingestion:	Prevent eating, drinking, tobacco usage and cosmetic application in areas where there is a potential for exposure to the material. Always wash thoroughly after handling.
Eye contact:	To avoid eye contact, wear safety glasses with side shields or chemical goggles.
Skin contact:	To avoid skin contact, wear rubber gloves, rubber boots, long-sleeved shirt, long pants and a head covering.
Respiratory protection:	To avoid breathing dust, use a particulate filter, NIOSH-approved per 42 CFR Part 84. Select N or R or P type as appropriate for the oil characteristics of any other air contaminants present. Filter efficiency may range from 95% to 99.97% as appropriate for the size distribution of dusts present.
Engineering controls:	If needed, use local exhaust to keep exposures to a minimum.
Exposure guidelines:	Antimony Trioxide: 0.5 mg/m ³ as Sb (OSHA PEL TWA); 0.5 mg/m ³ as Sb (ACGIH TLV TWA) Arsenic: 0.01 mg/m ³ (OSHA PEL TWA); 0.01 mg/m ³ A1 (ACGIH TLV TWA) Lead: 0.05 mg/m ³ (OSHA PEL TWA); 0.05 mg/m ³ A3 (ACGIH TLV TWA)

Section 9. Physical and chemical properties

Color/Appearance	White powder
Odor	Odorless
pH Value	Not applicable
Specific gravity (Water = 1)	5.3-5.7
Vapor density	Not applicable
Vapor pressure	Not applicable
Boiling point	1425 degrees C
Solubility in water	Very slightly soluble

Section 10. Stability and reactivity

Chemical stability	Stable at normal temperatures and storage conditions
Hazardous polymerization	Will not occur
Conditions to avoid	Extreme humidity
Chemical incompatibility	Strong acids; Strong bases; Hot perchloric acid; Strong oxidizers
Hazardous decomposition products	Thermal decomposition products or combustion: oxides of antimony, oxides of arsenic, oxides of lead

Section 11. Toxicological information

Acute Data	
Irritation:	100 mg eyes – Rabbit mild
Oral LD₅₀:	Rat: >34600 mg/kg
Dermal LD₅₀:	Rabbit: >2000 mg/kg
Intraperitoneal LD₅₀:	Mouse: 172 mg/kg Rat: 3250mg/kg
Chronic Data	
Chronic toxicity studies:	In a 90 day oral study in male and female rats, no adverse health effects were observed at doses of 1000, 5000 and 20000 ppm.
Mutagenicity data:	Prolonged and excessive exposures may result in gastrointestinal discomfort and ulcers, blood effects, liver effects and neurological effects.
Reproductive/teratology data:	Prolonged and excessive exposures may result in reproductive effects.
Carcinogenicity data:	Antimony trioxide has been classified by IARC as a Class 2B, which exhibits sufficient evidence in animal tests (possible human carcinogen) and has been determined by ACGIH to be a carcinogenic risk. Antimony trioxide has been identified by the EPA as a suspected lung carcinogen. Arsenic has been found to be a cancer hazard in humans, causing lung and skin cancer. Lead has been classified by IARC as a possible human carcinogen (Class 2B) and identified by ACGIH as a Category A3, Animal Carcinogen.

Section 12. Ecological information

Eco-acute toxicity	<ul style="list-style-type: none"> • Bluegill sunfish, 96-hour LD₅₀: >530 mg/l • Fathead minnow, 96-hour LC₅₀: >833 mg/l • Daphnia magna, 48-hour LC₅₀: 423-530 mg/l • Brachydanio rerio, 96-hour LC₅₀: >1000 mg/l
Environmental fate	<p>Antimony trioxide may biodegrade.</p> <p>This material will persist in the environment.</p> <p>Antimony oxide is not expected to bioconcentrate.</p>

Section 13. Disposal considerations

Procedures:	For disposal, incinerate this material at a facility that complies with local, state and federal regulations.
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Section 14. Transportation information

Proper shipping name:	<p>U.S.DOT:</p> <p>Not regulated for containers less than 400 lb.</p> <p>For containers 400-999 lb: Environmentally hazardous substances, solid, n.o.s. (Contains Arsenic)</p> <p>For containers 1000-4999 lb: Environmentally hazardous substances, solid, n.o.s. (Contains Arsenic and Antimony Trioxide)</p> <p>For containers 5000 lb or greater: Environmentally hazardous substances, solid, n.o.s. (Contains Arsenic, Lead and Antimony Trioxide)</p>
Hazard class	9
UN No.	UN 3077
Packing group	III

Section 15. Regulatory information

OSHA:	For arsenic see OSHA 29 CFR 1910.1018; For lead see OSHA 29 CFR 1910.1025
SARA Title 3:	<p>Sections 311/312 Hazardous Categories (40 CFR 370.21):</p> <p>Acute: Yes; Chronic: Yes; Fire: No; Reactive: No; Pressure: No</p>
SARA 313:	<p>The following materials are subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:</p> <p>Antimony trioxide (de minimis concentration = 1%)</p> <p>Arsenic (de minimis concentration = 0.1%)</p> <p>Lead (de minimis concentration = 0.1%)</p>

TSCA status:	The components of this product are either on the TSCA Inventory or exempt from the Inventory.
CERCLA Reportable Quantity (RQ):	<p>Sections 102a/103 Hazardous Substances (40 CFR 302.4):</p> <p>Antimony trioxide RQ: 1000 lb</p> <p>Arsenic RQ: 1 lb</p> <p>Lead RQ: 10 lb</p>
State Regulations:	<p>Antimony trioxide:</p> <p>New Jersey Right to Know Hazardous Substance List (1% reporting limit)</p> <p>Massachusetts Substance List</p> <p>Pennsylvania Environmental Hazard List</p> <p>California Proposition 65: WARNING: This product contains antimony trioxide, known by the State of California to cause cancer.</p> <p>Arsenic:</p> <p>New Jersey Special Health Hazard Substance List (0.1% reporting limit)</p> <p>Massachusetts Substance List -Carcinogen</p> <p>Pennsylvania Environmental Hazard List and Special Hazardous Substance List</p> <p>California Proposition 65: No-significant risk levels are 0.06 ug/day (inhalation) and 10 ug/day (except inhalation)</p> <p>WARNING: This product contains arsenic, known by the State of California to cause cancer and reproductive toxicity.</p> <p>Lead:</p> <p>New Jersey Special Health Hazard Substance List (0.1% reporting limit)</p> <p>Massachusetts Substance List –Teratogen with sufficient evidence of risk in humans</p> <p>Pennsylvania Environmental Hazard List</p> <p>California Proposition 65: Acceptable intake level is 0.5 ug/day</p> <p>WARNING: This product contains lead, known by the State of California to cause developmental and reproductive toxicity.</p>
International regulations	<p>This material (or each component) is listed on the following inventories:</p> <ul style="list-style-type: none"> Canada – DSL EU – EINECS Australia – AICS Japan – ENCS Korea – ECL Philippines – PICCS China – List I <p>Canadian Disclosure List (1%) – Antimony trioxide</p> <p>Canadian Disclosure List (0.1%) – Arsenic</p> <p>Canadian Disclosure List (0.1%) – Lead</p> <p>Canadian WHMIS Hazard Class and Division = D.2.a, D.2.b</p>

Section 16. Other information

National Fire Protection Association (NFPA) ratings	Health = 3; Flammability = 1; Reactivity = 1
Issue date	03/18/2014
Revised date	08/22/2014
Responsibility for MSDS	SHINY MATERIAL SCIENCE & TECHNOLOGY INC
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