

# Safety Data Sheet

Antimony Oxide

MSDS No. 9680.10

Date of Preparation: 3/3/97

Revision: 2/4/13

## Section 1 - Chemical Product and Company Identification

**Product/Chemical Name:** Antimony Oxide

**Synonyms:** Antimony white, Antimony Trioxide

**General Use:** Fire retardant, ceramic industry.

**Manufacturer:** Marshall Additive Technologies

Division of the R. J. Marshall Company

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**Date Revised:** 2/4/13

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## Section 2 - Hazards Identification

☆☆☆☆☆ Emergency Overview ☆☆☆☆☆

**HMIS**  
**H** 2  
**F** 0  
**R** 0  
**PPE**† E  
†Sec. 8

### Potential Health Effects



**Warning:** Carcinogen Irritant

**Primary Entry Routes:** Inhalation, Skin, Eye.

#### Acute Effects

**Inhalation:** Inhalation of high concentrations of products containing antimony oxide can result in irritation of the respiratory tract, pneumoconiosis, and possibly adverse cardiac effects.

**Eye:** May cause irritation through mechanical abrasion.

**Skin:** May cause irritation through mechanical abrasion. May cause skin rashes with itching.

**Ingestion:** May cause irritation of the gastrointestinal tract.

**Carcinogenicity:** ACGIH lists antimony oxide as a suspected human carcinogen for production. ACGIH, OSHA, NTP, and IARC list arsenic trioxide as a carcinogen.

## Section 3 - Composition / Information on Ingredients

Ingredient Name	CAS Number	% By wt
Antimony Oxide	1309-64-4	>99.0
Arsenic	7440-38-2	Max 0.08

#### Trace Impurities:

Ingredient	OSHA PEL		ACGIH TLV		Carcinogenicity Category
	TWA	STEL	TWA	STEL	
Antimony Oxide	None established	None established	None established	None established	IARC-2B, MAK-2
Arsenic Trioxide	None established	None established	None established	None established	MAK-1, TLV-A1

## Section 4 - First Aid Measures

**Inhalation:** If overcome by high dust concentrations, remove to a ventilated area. Seek medical attention for any symptoms that may develop.

**Eye Contact:** Flush eyes thoroughly for 15 minutes taking care to rinse under eyelids. Do not scrub. Abrasion may cause irritation. If discomfort continues, continue to wash with water. If irritation persists, consult a physician.

**Skin Contact:** Wash skin thoroughly with soap and water for at least 15 minutes. Consult a physician if irritation persists.

**Ingestion:** If person is conscious, give large quantities of milk or water, and then induce vomiting. Consult a physician immediately.

*After first aid, get appropriate in-plant, paramedic, or community medical support.*

**Note to Physicians:** n/a

**Special Precautions/Procedures:** n/a

### Section 5 - Fire-Fighting Measures

**Flash Point:** None known.

**Flash Point Method:** n/a

**Burning Rate:** Not determined.

**Auto-ignition Temperature:** Not determined.

**Flammability Classification:** Non-flammable.

**Extinguishing Media:** Water spray, carbon dioxide, or other dry chemical.

**Unusual Fire or Explosion Hazards:** Under fire conditions, toxic and irritating fumes may be emitted.

**Hazardous Combustion Products:** Oxides of antimony, oxides of arsenic, oxides of lead.

**Fire-Fighting Instructions:** Do not release runoff from fire control methods to sewers or waterways.

**Fire-Fighting Equipment:** Because fire may produce toxic thermal decomposition products, wear a self-contained breathing apparatus (SCBA) with a full face-piece operated in pressure-demand or positive-pressure mode.

### Section 6 - Accidental Release Measures

**Spill /Leak Procedures:** Vacuum all visible spilled material and place in closed plastic bags for disposal. Wash spill area after vacuuming is complete and collect all clean up water for disposal. Do not flush spilled material to sewer.

**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).

### Section 7 - Handling and Storage

**Handling Precautions:** Wear long sleeved shirt, rubber gloves, and chemical safety goggles. Wear respiratory protection approved for protection against dust.

**Storage Requirements:** Store in a cool, dry, well-ventilated area. Keep container tightly closed.

### Section 8 - Exposure Controls / Personal Protection

**Engineering Controls:**

**Ventilation:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2). Local exhaust ventilation is preferred because it prevents contaminant dispersion into the work area by controlling it at its source.

**Administrative Controls:**

**Respiratory Protection:** Use NIOSH/MSHA approved dust respirator.

**Protective Clothing/Equipment:** Wear safety glasses with side shields or goggles.

**Contaminated Equipment:** Separate contaminated work clothes from street clothes. Launder before reuse. Remove this material from your shoes and clean personal protective equipment.

**Comments:** Never eat, drink, or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

### Section 9 - Physical and Chemical Properties

**Physical State:** white solid

**Appearance and Odor:** odorless powder

**Formula Weight:** 292

**Water Solubility:** Very slight

**Boiling Point:** 2597°F (1425°C)

**Specific Gravity (H<sub>2</sub>O=1, at 4 °C):** 5.2-5.7

### Section 10 - Stability and Reactivity

**Stability:** Antimony oxide is stable at room temperature in closed containers under normal storage and handling conditions.

**Polymerization:** Hazardous polymerization cannot occur.

**Chemical Incompatibilities:** Strong acids, strong bases, hot perchloric acid, strong oxidizers.

**Conditions to Avoid:** Extreme humidity.

**Hazardous Decomposition Products:** n/a

## Section 11- Toxicological Information

### Toxicity Data:\*

Irritation: 100mg eyes (Rabbit mild)

Oral LD50: Rat >34600 mg/kg

Dermal LD50: Rabbit >2000mg/kg

Intraperitoneal LD50: Mouse 172mg/kg

Intraperitoneal LD50: Rat 3250 mg/kg

**Chronic Effects:** No adverse health effects were observed at doses of 1000, 5000, and 20000ppm in a 90 day oral study in male and female rats.

**Mutagenicity:** Prolonged and excessive exposures may result in gastrointestinal discomfort and ulcers, blood effects, liver effects, and neurological effects.

**Reproductive/teratology:** Prolonged and excessive exposures may result in reproductive effects.

## Section 12 - Ecological Information

Bluegill sunfish, 96hr LD50 >530 mg/l; Fathead minnow, 96hr LC50 >833 mg/l; Daphnia magna, 48hr LC50 423-530 mg/l  
Brachydanio rerio, 96hr LC50 >1000 mg/l

Antimony trioxide may biodegrade. This material will persist in the environment. It is not expected to bioconcentrate.

## Section 13 - Disposal Considerations

**Disposal:** Recycle if possible or landfill. This substance is inert and does not require special disposal methods. Follow applicable Federal, state, and local regulations.

## Section 14 - Transport Information

### DOT Transportation Data (49 CFR 172.101):

Packing Size: <400 lbs (not regulated)

Packing Size: 400-999lbs

DOT shipping name: RQ environmentally hazardous substance, solid, N.O.S., (contains Arsenic)

Packing Size: 1,000-4999lbs

DOT shipping name: RQ environmentally hazardous substance, solid, N.O.S., (contains Antimony Trioxide, Arsenic)

Packing Size: 5000+ lbs

DOT shipping name: RQ environmentally hazardous substance, solid, N.O.S., (contains Antimony Trioxide, Arsenic, and Lead)

DOT Hazard Class: 9

UN No. UN 3077

Packing Group III

Note: From column 7 of the Hazardous Materials table, special provision 35 states, "Antimony sulphides and oxides which do not contain more than 0.5% of arsenic calculated on the total mass do not meet the definition of Division 6.1."

### Air/Water (IATA/IMO)

Per IMO (International Maritime Organization), Antimony Oxides containing not more than 0.5% of Arsenic calculated on the total mass do not need to be classified according to the IMDG code.

Per IATA 4.5 Special Provisions, Section A, 12: Antimony Oxides which do not contain more than 0.5% of Arsenic calculated on the total mass are considered non-dangerous.

Harmonized Tariff Code for Antimony Oxide is 2825.80.0000

## Section 15 - Regulatory Information

### EPA Regulations:

RCRA Hazardous Waste Number: Not listed (40 CFR 261.33)  
 RCRA Hazardous Waste Classification (40 CFR 261.??): Not classified  
 CERCLA Hazardous Substance (40 CFR 302.4) Antimony Trioxide =1000lbs final RQ; Arsenic = 1lb, Lead = 10lbs  
 SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed  
 Antimony Oxide is subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.0 (de minimis concentration = 1%)  
 Arsenic is subject to the reporting requirement of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR 372.0. (de minimis concentration = 0.1%)  
 Antimony Oxide is subject to the reporting requirements of California's Safe Drinking Water and Toxic Enforcement Act of 1986 ("Proposition 65").  
 CWA (Clean Water Act) Hazardous Substances (40 CFR 116.4): Present; 1000lb RQ.

### OSHA Regulations:

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed

### TSCA

This substance is listed on the Chemical Substances Inventory of the Toxic Substance Control Act (TSCA Inventory [USA]). Please note that this product is not subject to any legal reporting requirements under these acts.

**FDA-Indirect Food Additives:** 21CFR175.105.

### UNITED STATES REGULATIONS

California: 22CCR Presumed Hazardous Wastes List: Present  
 California: 8 CCR Section 339 Directors List of Hazardous Substances: Present  
 California: Air Toxics Hot Spots Act Chronic Reference Exposure Levels (RELs): 0.2 ug/m3 REL (inhalation).  
 California: Air Toxics Hot Spots Act-Emission Inventory Criteria & Guidelines: known or potential carcinogen: 9/90; ADOA 1.0 lbs/yr.  
 California: Toxic Air Contaminant List (AB 1807, AB2728): Category IIa.  
 Connecticut: Hazardous Air Pollutants- HLVs (30 min): 25 ug/m3 HLV (handling use and production as Sb);  
 HLVs (8hr): 5ug/m3 HLV (handling use and production as Sb).  
 Delaware: Pollutant Discharge Requirements: 1000lb RQ.  
 Massachusetts: Oil and Hazardous Material List: 50lb RQ.  
 Michigan: Polluting Materials List: 100lb TRQ.  
 Minnesota: Hazardous Substance List: Carcinogen (handling and use as Sb production).  
 New Jersey: Discharge Prevention List of Hazardous Substances: Present.  
 New York: Reporting of Releases Part 597-List of Hazardous Substances: 1000lb RQ (air); 100lb RQ (land/water).  
 Pennsylvania: RTK Environmental Hazard List: Present.  
 Rhode Island: Hazardous Substance List: Toxic.  
 Texas: Effect Screening Levels-Long Term: 0.5ug/m3 ESL. Effect Screening Levels-Short Term: 5ug/m3 ESL.

### INTERNATIONAL REGULATIONS

Canadian Domestic Substances List: Components of this product are listed on the Canadian DSL.  
 Canadian WHMIS: Classification of Substances: D2A. Ingredient Disclosure List 1%.  
 European Community: This product is listed on EINECS, the European Inventory of Existing Commercial Chemical Substances # 215-175-0.  
 EU Dangerous Substances Directive: Carc. Cat. 3; R-40, Labels Xn; R-40 Safety Phrases: S-2, S-22, S-36.  
 Australia: This product is listed on the List of Designated Hazardous Substances-Carc. Cat.3; R-40.  
 Australia: This product is listed on the Inventory of Chemical Substances (AICS).  
 Bahrain: This product is listed on the Restricted Chemicals List (production).  
 Belgium: This product is listed on the Limits on Substances and Preparations list.  
 China: This product is listed on the Chinese Inventory.  
 Denmark: This product is listed on the List of Undesirable Substances.  
 Germany Water Classification (VwVwS): Water Hazard Class-hazard Class2, hazard to waters.  
 Japan: This product is listed on the Existing and New Chemical Substances list- #1-543 and on the Deleterious Substances List.  
 Italy: Listed as a Category 3 Carcinogen.  
 Korea: This product is listed on the Existing and Evaluated Chemical Substances List # KE-09846.  
 New Zealand: This product is listed on the HSNO Composite List of Single Component Substances Considered for Transfer.  
 Philippines: This product is listed on the Inventory of Chemicals and Chemical Substances (PICCS) List.  
 Switzerland: This product is listed on the Toxic Substances Classification List: Class 4.  
 Taiwan: Listed on NECL.

United Kingdom: This product is listed on the Dangerous Substances CHIP Approved Supply List; Classification: Xn; R-40, Labels: Xn, Safety Phrases: S-2, S-22, S-36.

### Section 16 - Other Information

**Prepared By:** Stephanie Nichols

**Revision Notes:** updated to SDS

**Product Grades Available from the R. J. Marshall Company** (this list may be incomplete):

C-TEC AO

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