



## Safety Data Sheet (SDS)

Revision / Review Date: 5/26/2015

### 1. Chemical Product and Company Identification

Product Name:	Antimony Oxide
Distributed By:	HB Chemical 1665 Enterprise Parkway Twinsburg Oh 44087 Phone - 330-920-8023
SDS Prepared By (w Suppliers Input):	HB Chemical
Chemical Name / Family:	(Di)antimony trioxide('ATO') /Twinkling Star
CAS NO:	1309-64-4
EC No:	215-175-0
REACH:	01-2119475613-35-0014
Product Use:	Use in PET(films/fibers, resin) production, plastic and rubber Industry. Industrial use of pigments, fire retardant, paints, coating, ceramics, brake pads, and production and formulation of fine chemicals.
OSHA Status:	Not Hazardous

\*The major use of (di)antimony trioxide (ATO) is as a flame retardant. However, it does not have flame retarding properties itself; instead, it is a synergist for halogenated flame retardants in plastics, paints, adhesives, sealants, rubber, and textile back-coatings. Other uses of ATO include: polymerization catalyst in PET resin manufacture, clarifying aid in certain glasses, and in pigments

For emergency health, safety, and environmental information, calls 330-920-8023

For emergency transportation information, in the United States: call CHEMTREC at 800-424-9300

### 2. Hazard(s) Identification

Classification according to Regulation

(EC) No.1272/2008(CLP):

Carcinogen Category2

Classification according to Directive 67/548/EEC:

Harmful;Xn; Carcinogen Category3;R40: Limited evidence of a carcinogenic effect.

Signal word:

Warning



Hazard pictogram:

Hazard statement:

H351: Suspected of causing cancer by inhalation.

H412: Harmful to aquatic life with long lasting effects.

Symptoms of Exposure:

Harmful if swallowed or inhaled. Causes irritation to skin, eyes, and respiratory tract. Use only with adequate ventilation and protective equipment. Wash thoroughly after handling.

Precautionary statement:

P202: Do not handle until all safety precautions have been read and understood.  
P273: Avoid release to the environment.  
P281: Use personal protective equipment as required.  
P308+P313: If exposed or concerned: get medical advice/attention.  
P405: Store locked up.  
P501: dispose of contents/container to an approved waste disposal plant.

Primary Entry Routes:

Inhalation, Skin, Eye.

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.

Principal Hazardous Components:

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Antimony Oxide	0.5 mg/m <sup>3</sup>	None established	0.5 mg/m <sup>3</sup>	None established
Lead Monoxide	None established	None established	None established	None established
Arsenic Trioxide	None established	None established	0.01 mg/m <sup>3</sup>	None established

Other hazards:

The substance does not meet the criteria for PBT or vPVB substance. No environmental or physico-chemical hazards identified.

**3. Composition / Information on Ingredients**

Ingredient Name	CAS Number	% By wt
(di)antimony trioxide	1309-64-4	>98.0
lead monoxide	1317-36-8	<0.1%
(di)arsenic trioxide	1327-53-3	<0.1%

**4. First Aid Measures**

General advice:

If exposed or concerned: Get medical advice/attention. Take off all contaminated clothing. First-aiders should wear suitable

<u>Inhalation:</u>	personal protection equipment in case of insufficient ventilation or possible skin or eye contact.
<u>Eyes:</u>	Move affected person to fresh air. If not breathing, give artificial respiration. Seek medical attention.
<u>Skin:</u>	Flush eyes thoroughly with water, also under eyelids for at least 15 minutes. Consult a physician.
<u>Ingestion:</u>	Wash off with soap and plenty water. Consult a physician.
<u>Most important symptoms and effects, both acute and delayed:</u>	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
<u>Indication of any immediate medical attention and special treatment needed:</u>	None anticipated.
	None anticipated.

### **5. Fire-Fighting Measures**

<u>Suitable Extinguishing Media:</u>	Use water Spray, Dry Chemical, Carbon Dioxide CO2, alcohol-resistant foam.
<u>Unsuitable Extinguishing Media:</u>	None.
<u>Special Fire Fighting Procedures:</u>	Wear self-contained breathing apparatus for firefighting and fully protective suit and gloves. The product is not combustible and does not support the combustion. Dispose of fire debris and contaminated firefighting media in accordance with official regulations.
<u>Special hazards arising from the substance or mixture:</u>	(Di) antimony trioxide dust.

### **6. Accidental Release Measures**

<u>Personal precautions, protective equipment and emergency procedures:</u>	Avoid formation of dust. Ensure adequate ventilation. Keep unprotected persons away. Although the substance has no acute toxicity, it is advised to avoid contact with skin, eyes, and clothing-wear suitable protective equipment. Avoid inhalation of dust.
<u>Environmental precautions:</u>	Although the substance is not classified as dangerous to the environment, it is advised that in the event of an accidental release the product should be prevented from reaching the sewage system or any water course and penetrating the soil. Dispose of spilled material in accordance with the relevant regulations.

Methods & materials for containment and cleaning up: In any case avoid dust formation. Seep all spilled material or use an appropriate industrial vacuum cleaner. Collect spilled material in suitable containers or closed plastic bags for recovery or disposal.

**7. Handling and Storage:**

Precautions to be taken in handling:

Do not handle until all safety precautions have been read and understood. As a precautionary measure, the wearing of chemical resistant gloves, long sleeved overalls, and closed footwear designed to minimize skin contact is suggested. Use PPE as required. Provide showers, eye-baths and self-contained breathing apparatus nearby. Avoid inhalation or ingestion. General occupational hygiene measures are required to ensure a safe handling of the substance. These measures involved good personal and housekeeping practices (i.e. regular cleaning with suitable cleaning devices), no eating, drinking, or smoking at the workplace and wearing standard working clothes and shoes unless otherwise stated. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas. Shower and change clothes at end of work shift. Do not wear contaminated clothing at home. Do not blow dust off with compressed air.

Storage:

Store in well-ventilated dry area. Do not store in open inadequate mislabeled packaging.

**8. Exposure Controls / Personal Protection**

**Components with workplace control parameters**

Component	CAS-No.	Value	Control parameters	Basis
Antimony trioxide	1309-64-4	TWA	0.500000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
	Remarks	Pneumoconiosis Lung cancer Exposure by all routes should be carefully controlled to levels as low as possible. Suspected human carcinogen		
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		TWA	0.500000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		TWA	0.500000 mg/m3	USA. NIOSH Recommended Exposure Limits
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		TWA	0.5 mg/m3	USA. NIOSH Recommended Exposure Limits

Exposure Controls:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Respiratory Protection:

Use NIOSH/MSHA approved dust respirator.

Ventilation:

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

Administrative Controls:

Prevent formation of dust where possible. Any deposit of dust which cannot be avoided must be regularly removed using preferably appropriate industrial vacuum cleaners or central vacuum systems. Waste air is to be released into the atmosphere only when it has passed through suitable dust separators. Waste water generated during the production process or cleaning operations should be collected and should preferably be treated in an on-site waste water treatment plant which ensures efficient removal of antimony.

Hand Protection:

Any dust-tight material (e.g. rubber-dipped cotton/rubber/nitrile/leather) suitable for the type of work could be used as material for gloves protecting against ATO exposure (non-corrosive inorganic substance). Breakthrough times are not relevant because corrosion and diffusion are excluded by the nature of the substance. Change gloves when damaged or according to manufacturer's instructions.

Eye Protection:

Safety glasses.

Skin and Body Protection:

Long-sleeves, closed footwear.

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.

Ingredient	OSHA PEL		ACGIH TLV	
	TWA	STEL	TWA	STEL
Antimony Oxide	0.5 mg/m <sup>3</sup>	None established	0.5 mg/m <sup>3</sup>	None established
Lead Monoxide	None established	None established	None established	None established
Arsenic Trioxide	None established	None established	0.01 mg/m <sup>3</sup>	None established

Other national limit values (8hr TWA):

UK	Germany (MAK)	Finland	Belgium	France	Spain	Austria
0.5 mg/m <sup>3</sup> (as Sb)	Not established	0.5 mg/m <sup>3</sup>	0.5 mg/m <sup>3</sup> (as Sb)	0.5 mg/m <sup>3</sup> (as Sb)	0.5 mg/m <sup>3</sup> (as Sb)	0.1 mg/m <sup>3</sup> or 0.3 mg/m <sup>3</sup> (as Sb) depending on activity

PNEC and DNELs		
Description	Route of exposure/Environmental protection target	DNEL/PNEC
<b>DNEL (Derived No Effect Level)</b>		
	Dermal-Long term/systemic effects	281 mg/kg bw/day
	Inhalation-Long term/systemic effects	0.5 mg/m <sup>3</sup>
<b>PNEC (Predicted No Effect Concentration)</b>		
	Freshwater	0.113 mg Sb/L
	Marine water	0.0113 mg Sb/L
	Sediment freshwater	7.8 mg Sb/kg wwt
	Sediment marine	1.56 mg Sb/kg wwt
	Soil	37 mg Sb/kg dw (32.6 mg Sb/kg wwt)
	STP (sewage treatment plant)	2.55 mg Sb/L

## 9. Physical and Chemical Properties

<u>Physical Form:</u>	Crystalline Powder
<u>Appearance:</u>	White
<u>Odor:</u>	Odorless
<u>PH:</u>	Not applicable to powders.
<u>Melting Point/freezing point:</u>	1213°F (656°C) @ 1013 hPa
<u>Initial boiling point and boiling range:</u>	2597°F (1425°C) @ 1013 hPa
<u>Flash point:</u>	No data available.
<u>Evaporation Rate:</u>	No data available.
<u>Flammability (solid, gas):</u>	No data available.
<u>Upper/lower flammability or explosive limits:</u>	Nonexplosive.
<u>Vapor pressure:</u>	~133 Pa at 574 °C
<u>Vapor density:</u>	No data available.
<u>Relative density:</u>	5.897 at 20 °C
<u>Water solubility:</u>	0.0287 g/l at 20 °C (68 °F)
<u>Partition coefficient: n-octanol/water:</u>	Not applicable to inorganic substances.
<u>Auto-ignition temperature:</u>	No data available.
<u>Decomposition temperature:</u>	Does not decompose.
<u>Viscosity:</u>	No data available.
<u>Explosives properties:</u>	No data available.
<u>Oxidizing properties:</u>	No data available.

## 10. Stability and Reactivity

<u>Reactivity:</u>	Not applicable.
<u>Stability:</u>	Under normal conditions of use and storage, the product is stable.
<u>Incompatibility (Materials to Avoid):</u>	Strong acids, strong bases, reducing agents.
<u>Conditions to Avoid:</u>	Avoid dust formation.
<u>Possibility of hazardous reactions:</u>	Reaction with H-equivalents releases antimony hydride (stibine, SbH <sub>3</sub> ).

Hazardous Polymerization:

Hazardous polymerization will not occur.

Hazardous Decomposition Products:

Does not decompose if used as intended.

## 11. Toxicological Information

Absorption:

Oral = 1% (ECB, 2008)  
Dermal = 0.26% (negligible) (ECB, 2008)  
Inhalation = 6.82% (ECB, 2008)

Acute Toxicity:

Based on the available data, the classification criteria for acute toxicity are not met.  
Oral: LD50 rat >20,000 mg/kg bw (Fleming, 1938; Gross et al, 1955; Weil et al, 1978)  
Dermal: LD50 rabbit > 8300 mg/kg bw (Gross et al, 1955)  
Inhalation: LC50 rat > 5200 mg/m3 (Leuschner, 2006)

Skin corrosion/irritation:

Based on available data, the classification criteria as skin irritant are not met. However, under conditions of substantial heat and sweating, high levels of dermal dust exposure may cause mechanical/physical blocking of sweat glands in the absence of any intrinsic substantial primary skin irritating potential of the substance and also in consideration of the poor solubility of ATO. The Committee for Risk Assessment (RAC) decided in July 2009 that a harmonized skin irritation classification was not supported (ECHA/PR/09/09, 2009). ATO is not a corrosive agent.

Serious eye damage/eye irritation:

Eyes –Rabbit Result: Mild eye irritation (Draize Test)  
Based on available data, the classification criteria for eye irritation are not met

Respiratory or skin sensitization:

Maximisation Test (GPMT) – Guinea pig Result: Does not cause Skin sensitization (OECD Test Guideline 406).  
Based on available data, the classification for skin sensitization (Chevalier, 2005; Moore, G.E, 1994) and for irritation to the respiratory system (Leuschner, 2006) are not met.

Germ cell mutagenicity:

ATO does not cause systemic mutagenicity in vivo after oral administration. Negative in vivo results on chromosome aberrations and micronuclei were obtained in two different species via oral application-mouse (Elliot et al., 1998) and rat (Whitwell, 2006), (Kirkland et al., 2007). An in vivo UDS assay in rats was also negative (Elliot et al., 1998). Based on available data, the classification criteria according to regulation (EC) 1272/2008 as germ cell mutagen are not met.

Carcinogenicity:

Rat-Inhalation Tumorigenic: Carcinogenic by TREC criteria.  
Lungs, Thorax, or Respiration: tumors. Liver: Tumors.  
Limited evidence of carcinogenicity in animal studies.  
ACGIH classifies antimony trioxide as TLV-A2 suspected human carcinogen. OSHA, IARC, and NTP do not classify antimony

trioxide as a carcinogen.

ACGIH classified arsenic trioxide as TLV-A1 confirmed human carcinogen. OSHA, IARC, and NTP do not classify arsenic trioxide as a carcinogen.

German MAK Commission classified arsenic trioxide as MAK-1 confirmed human carcinogen.

ACGIH, OSHA, IARC, and NTP do not classify lead oxide as a carcinogen.

(Di) antimony trioxide is classified as inhalation carcinogen category 2 (according to Regulation (EC) 1272/2008).

Three chronic inhalation studies in rats are available for the carcinogenicity assessment of (di) antimony trioxide (Watt, 1983; Groth et al., 1986a, Newton et al., 1994). The exposure duration in all three animal studies is 12 months and thus all studies deviates from the OECD guideline on chronic toxicity/carcinogenicity, which prescribes and exposure period of 24 months for rats. The study by Newton et al., (1994) showed no (di)antimony trioxide related lung tumors, neither in males nor females, at any dose level up to 4.5 mg/m<sup>3</sup>. The study shows that (di)antimony trioxide reduced the pulmonary clearance rate in a dose dependent manner. However, it is well known that reduced lung clearance rate at chronic exposure of rats to poorly soluble particles (PSPs) can result in pulmonary overload, subsequently followed by an inflammatory response, epithelial cell hypertrophy and/or hyperplasia and squamous metaplasia. The persistence of these tissue responses over chronic time periods can lead to secondary development of lung tumors (Hext, 1994). Due to the deviations from the OECD guidelines and the critical shortcoming in all three studies, US NTP (National Toxicology Program) has embarked on a testing program leading to a new, full 2-year bioassay; finalized end 2010 and reporting expected in 2013. The overall expert judgment by TC NES was that the most likely mechanism for carcinogenicity appears to be impaired lung clearance and particle overload followed by an inflammatory response, fibrosis and tumors. Consequently, (di)antimony trioxide can be regarded as a threshold carcinogen and as a starting point for a quantitative risk characterization the NOAEC of 0.51 mg/m<sup>3</sup> derived for local repeated dose toxicity is also used for carcinogenicity. However, in this context, it is questionable whether effects caused by pulmonary overload in the rat are also relevant for humans.

NOAEC: 0.51 mg/m<sup>3</sup> / Target organ: respiratory: lung

#### Reproductive Toxicity:

Reproductive toxicity-Rat-Inhalation

Effects on Fertility: post-implantation mortality (e.g., dead and or resorbed implants per total number of implants)

Effects on Embryo or Fetus: Fetal death.

Based on the available long-term toxicity studies in rodent (Omura et al, 2002) and the relevant information on the toxicokinetic behavior in rats, it is concluded that the classification criteria for reproductive toxicity are not met



because of the lack of absorption and systemic distribution, and a correspondingly negligible exposure of reproductive organs in male and female mammalian species to ATO. The reference Schroeder R.E. (2003) was identified as key study for developmental toxicity and will be used for classification and labelling. This study suggests that the NOAEC for developmental toxicity is  $>6.3$  mg ATO/m<sup>3</sup>. Thus, based on available data, the classification criteria as developmental toxicant according to regulation (EC) 1272/2008 are not met.

Specific target organ toxicity – single exposure:

Based on available data, the classification criteria as STOT-single exposure, oral and inhalation are not met since no reversible or irreversible adverse health effects were observed immediately or delayed after exposure.

Specific target organ toxicity- repeated exposure:

NOAEC<sub>inhalation</sub> = 0.51 mg/m<sup>3</sup> (Newton et al, 1994)  
NOAEL<sub>oral</sub> = 1686 mg/kg/d (Hext et al, 1999)  
The NOAEC was determined in a study with a high background incidence of lung inflammation in controls, therefore there is considerable uncertainty regarding the reliability of this numerical value. The NOAEC is based on impaired lung clearance that was observed at 4.50 mg/m<sup>3</sup>. Based on available data, the classification criteria as STOT-repeated exposure, oral are not met since no reversible or irreversible adverse health effects were observed immediately or delayed after exposure (NOAEL is above the guidance value). Based on available data, the classification criteria as STOT-repeated exposure, inhalation are not met since there is an absence of consistent identifiable toxic effects other than the non-specific PSP overload, which is an adaptive response not triggering a STOT classification.

Aspiration hazard:

ATO as an inorganic metal oxide is void of a low surface tension effect and as a solid does have a very high viscosity, i.e. an aspiration hazard can safely be excluded. Based on available data, the classification criteria are not met.

Additional information:

RTECS:Not available. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## 12. Ecological Information

Acute aquatic toxicity test results:		
Marine fish ( <i>Pagrus major</i> )	96 hr LC <sub>50</sub>	6.9 mg Sb/L (Takayanagi, 2001)
Freshwater fish ( <i>Pimephales promelas</i> )	96 hr LC <sub>50</sub>	14.4 mg Sb/L (Brooke et al, 1986)
Invertebrates ( <i>Chlorohydra viridissimus</i> )	96 hr LC <sub>50</sub>	1.77 mg SB/L (TAI, 1990)
Algae ( <i>Pseudokirchneriella subcapitata</i> )	72 hr ErC <sub>50</sub> (growth rate)	>36.6 mg Sb/L (Heijerick et al, 2004)
Plants ( <i>Lemna minor</i> )	4 d EC <sub>50</sub>	>25.5 mg Sb/L (Brooke et al, 1986)
Chronic aquatic toxicity test results:		
Freshwater fish ( <i>Pimephales promelas</i> )	28 d NOEC/LOEC (growth; length)	1.13/2.31 mg Sb/L (Kimball, 1978)
Invertebrates ( <i>Daphnia magna</i> )	21 d NOEC/LOEC (reproduction)	1.74/3.13 mg Sb/L (Heijerick et al, 2003)
Algae ( <i>Pseudokirchneriella subcapitata</i> )	72 h NOEC/LOEC (growth rate)	2.11/4.00 mg Sb/L (Heijerick et al, 2004)
Chronic sediment toxicity test results:		
Midge ( <i>Chironomus riparius</i> )	14 d NOEC (growth)	78 mg Sb/kg ww (Heijerick et al, 2005)
Chronic terrestrial toxicity test results (values were determined in a soil spiked with Sb <sub>2</sub> O <sub>3</sub> and aged for 31 weeks before testing):		
Soil invertebrates	NOEC	999 mg Sb/kg dw (Moser, 2007)
Plants	NOEC	999 mg Sb/kg dw (Smolders et al., 2007)
Soil microorganisms	NOEC	2930 mg Sb/kg dw (Smolders et al., 2007)
Toxicity tests for microorganisms (for STP)		
Aquatic microorganisms	NOEC	2.55 mg Sb/L (EPAS, 2005)
Inhibition of nitrification	EC <sub>50</sub>	27 mg Sb/L (EPAS, 2005)

### Persistence and degradability:

Whereas antimony formally meets the criterion for persistence based on the absence of any degradation, this criterion is considered not to be applicable to inorganic elements. In addition, under conditions of a standard EUSES lake and the median partition coefficient for suspended matter, antimony meets the criteria for rapid removal from the water column.

### Bio accumulative potential:

Antimony does not meet the criteria for bioaccumulation: a BCF for aquatic organisms of 40 and a BSAF of 1 for earthworms are derived, and are all much lower than the threshold of 2,000 /kg. Also, there is evidence to support that antimony does not biomagnified in the food chain. Therefore, antimony is not considered bio accumulative (B) or very bio accumulative (vB) based on the definitive criteria.

### Mobility in soil:

A log Kp of 2.07 has been determined for soil.

### Results of PBT and vPvB assessment:

The PBT and vPvB criteria of Annex XIII to the Regulation do not apply to inorganic substances, such as antimony and its inorganic compounds.

### Other adverse effects:

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life with long lasting effects.

## 13. Disposal Considerations

### Waste treatment methods:

Whatever cannot be save for recovery or recycling should be managed in an appropriate and approved waste disposal facility. If the percentage of ATO in waste is greater than 1%,

then the waste must be treated as hazardous under Directive 91/689/EEC. If the concentration is below 1%, then ATO-containing waste shall be handled as non-hazardous waste. All waste should be removed by licensed waste removal company, incinerated, or recycled. If only the total antimony concentration is known then waste with greater than 1% antimony should be treated as hazardous under Directive 91/689/EEC. Processing, use, or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state, and local requirements. The used packaging is only meant for packing this product. After usage, empty the packaging completely.

Suitable disposal of hazardous waste for manufacturing and industrial use:

Keep separate and dispose of to either. Hazardous waste incineration operated according to Council Directive 2008/98/EC on waste, Directive 2000/76/EC on the incineration of waste and the Reference Document on the Best Available Techniques for Waste Incineration of August 2006. Hazardous landfill operated under Directive 1999/31/EC.

Suitable disposal of non-hazardous waste for manufacturing and industrial use:

Disposal of wastes is possible via incineration (operated according to Directive 2000/76/EC on the incineration of waste) or landfilling (operated according to Reference document on the Best Available Techniques for Waste Industries of August 2006 and Council Directive 1999/31/EC and Council Decision 19 December 2002).

Suitable disposal of waste for professional use:

Waste from end-of-life articles can be disposed of as municipal waste, except when they are separately regulated, like electronic devices, batteries, vehicles, etc. Disposal of wastes is possible via incineration (operated according to Directive 2000/76/EC on the incineration of waste) or landfilling (operated according to Reference Document on the Best Available Techniques for Waste Industries of August 2006 and Council Directive 1999/31/EC and Council Decision 19 December 2002).

**14. Transport Information**

(Di)antimony trioxide which does not contain more than 0.5% arsenic is considered not dangerous and does not need to be classified for transportation.

D.O.T. Shipping Name

UN number: 3077, Class 9, Packaging group III, Proper shipping name: Environmentally hazardous substances, solid, n.o.s. (Antimony Trioxide), Reportable quantity (RQ) :1000 lbs.

Air - ICAO (international Civil Aviation Organization): Not restricted.

<u>Sea - IMDG (International Maritime Dangerous Goods):</u>	Not restricted.
<u>RID/ADR:</u>	Not restricted.
<u>ADNR/AND:</u>	Not restricted.
<u>UN Number:</u>	Not applicable
<u>UN proper shipping name:</u>	Not applicable
<u>Transport hazard class:</u>	Not applicable
<u>Packaging group:</u>	Not applicable
<u>Environmental hazards:</u>	No environmental hazard
<u>Special precautions for user:</u>	Not available
<u>Transport in bulk according to Annex II or MARPOL72/78 and the IBC code:</u>	Not available Harmonized Tariff Code for Antimony Oxide is 2825.80.0000

## 15. Regulatory Information

(Di)antimony trioxide is not a SEVESO substance, not an ozone depleting substance and not a persistent organic pollutant.

### **SARA 302 Components**

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### **SARA 313 Components**

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
Antimony trioxide	1309-64-4	1993-04-24

### **SARA 311/312 Hazards**

Chronic Health Hazard

### **Massachusetts Right To Know Components**

	CAS-No.	Revision Date
Antimony trioxide	1309-64-4	1993-04-24

### **Pennsylvania Right To Know Components**

	CAS-No.	Revision Date
Antimony trioxide	1309-64-4	1993-04-24

### **New Jersey Right To Know Components**

	CAS-No.	Revision Date
Antimony trioxide	1309-64-4	1993-04-24

### **California Prop. 65 Components**

	CAS-No.	Revision Date
WARNING! This product contains a chemical known to the State of California to cause cancer. Antimony trioxide	1309-64-4	2007-09-28

EINECS (EU): conform	ENCS (Japan): 1-543
TSCA (USA): listed	ECL(Korea): KE/09846
DSL(Canada): listed	PICCS (Philippines): listed
AICS (Australia):listed	IECSC(China): listed

(Di)antimony trioxide is not a SEVESO substance, not an ozone depleting substance and not a persistent organic pollutant.

**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**

Canada: Listed on the DSL.  
Canada: 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 Class1, 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.

## **16. Other Information**

The above information has been compiled from what we believe to be credible sources. To our knowledge the information is accurate and reliable, however, it is not guaranteed. Any recommendations issued by HB Chemical personnel or literature is derived from experience and by no means should be taken as fact or construed as a recommendation to violate of any law, regulation or patent. It is the users responsibility to determine the suitability of any HB supplied material in their application. The individual conditions of each customer are well outside of our control and we cannot be held liable for its functionality and use. Please contact our office should you need specific information beyond what is supplied above. As with all Chemical usage safety precautions beyond the stated are highly recommended.