

# MATERIAL SAFETY DATA SHEET

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## SECTION A - PRODUCT INFORMATION

**TRADE NAME :** ANTIMONY TRIOXIDE **REVISION DATE :** MARCH 31, 2006  
**CAS NUMBER :** 1309-64-4  
**SYNONYMS :** ANTIMONY OXIDE, ANTIMONIOUS OXIDE, ANTIMONY WHITE  
**CHEMICAL FAMILY :** ANTIMONY COMPOUNDS  
**FORMULA :** Sb<sub>2</sub>O<sub>3</sub>

## SECTION B - HAZARDOUS COMPONENTS

COMPONENT	CAS NO.	%	PEL/TLV
ANTIMONY TRIOXIDE	1309-64-4	99.5 MIN.	0.5 mg/m <sup>3</sup> OSHA & ACGIH TWA as Sb
ARSENIC TRIOXIDE	1327-53-3	0.06 MAX.	0.01 mg/m <sup>3</sup> OSHA & ACGIH TWA as As
LEAD (II) OXIDE	1317-36-8	0.10 MAX.	0.05 mg/m <sup>3</sup> OSHA & ACGIH TWA as Pb

## SECTION C - PHYSICAL PROPERTIES

<b>BOILING POINT (° C) :</b>	APPROX. 1425	<b>SPECIFIC GRAVITY :</b>	APPROX. 5.6
<b>MELTING POINT (° C) :</b>	APPROX. 656	<b>FREEZING POINT (° C) :</b>	N/A
<b>VAPOR PRESSURE (mm Hg) :</b>	N/A	<b>PERCENT VOLATILE (BY WT.) :</b>	0.5%
<b>VAPOR DENSITY (AIR=1) :</b>	N/A	<b>EVAPORATION RATE :</b>	N/A
<b>SOLUBILITY IN WATER :</b>	SLIGHT	<b>pH ( % IN WATER) :</b>	UNKNOWN
<b>ODOR THRESHOLD :</b>	N/A		
<b>APPEARANCE &amp; ODOR :</b>	WHITE POWDER; ODORLESS		

## SECTION D - FIRE & EXPLOSION DATA

**FLASH POINT (°) :** N/A  
**FLAMMABLE LIMITS :** LEL : (N/A) UEL : (N/A) **AUTO IGNITION TEMP (° F) (N/A)**  
**EXTINGUISHING MEDIA :** WATER : (X) FOAM : (X) CO<sub>2</sub> : (X) **DRY CHEMICAL : (X)**  
**SPECIAL FIRE FIGHTING PROCEDURES :** FIRE FIGHTERS MUST BE EQUIPPED WITH SELF-CONTAINED BREATHING APPARATUS AND FULL PROTECTIVE CLOTHING. USE EXTINGUISHING MEDIA SUITABLE FOR SURROUNDING FIRE. ANTIMONY TRIOXIDE CAN RELEASE TOXIC FUMES UNDER FIRE CONDITIONS. DO NOT RELEASE RUNOFF OR SPILLS TO THE ENVIRONMENT.  
**UNUSUAL FIRE & EXPLOSION HAZARDS :** TOXIC ANTIMONY FUMES MAY BE LIBERATED IF PRODUCT IS EXPOSED TO ELEVATED TEMPERATURES OR OPEN FLAME. POWDERED MATERIAL HEATED IN AIR MAY IGNITE AND BURN. AVOID PARTICLE INHALATION. DO NOT INHALE VAPORS FROM SOLUTION.

## SECTION E - REACTIVITY DATA

**STABILITY :** STABLE  
**INCOMPATIBILITY :** INCOMPATIBLE WITH CHLORINATED RUBBER AND HEAT OF 216°C; BrF<sub>3</sub>; STRONG OXIDIZERS, STRONG ACIDS; HALOGENATED ACIDS OR BASES  
**HAZARDOUS DECOMPOSITION PRODUCTS :** WHEN HEATED TO DECOMPOSITION IT EMITS TOXIC ANTIMONY (Sb) FUMES;  
**HAZARDOUS POLYMERIZATION :** WILL NOT OCCUR  
**CONDITIONS TO AVOID :** CONTACT WITH INCOMPATIBLES; USE WITH OR NEAR ACID MAY RELEASE DEADLY STIBINE GAS.

## SECTION F - PERSONAL PROTECTIVE EQUIPMENT INFO

**RESPIRATORY EQUIPMENT :** USE APPROPRIATE NIOSH APPROVED AIR SUPPLIED RESPIRATOR OR A HALF FACE RESPIRATOR WITH A HIGH EFFICIENCY DUST CARTRIDGE SUITABLE TO EXPECTED EXPOSURE. EXPOSURE TO 50 mg/m<sup>3</sup> IS IMMEDIATELY DANGEROUS TO LIFE AND HEALTH. IF POSSIBILITY OF EXPOSURE TO THIS LEVEL OR HIGHER EXISTS, THEN USE A MSHA/NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN CONTINUOUS FLOW  
**PROTECTIVE GLOVES :** IMPERVIOUS GLOVES ARE RECOMMENDED TO PREVENT CONTACT  
**EYE PROTECTION :** USE CHEMICAL GOGGLES IF FULL FACEPIECE RESPIRATOR IS NOT USED. DO NOT WEAR CONTACT LENSES.  
**VENTILATION :** LOCAL OR MECHANICAL EXHAUST AS NEEDED TO MAINTAIN PERMISSIBLE EXPOSURE LEVELS (SEE SECTION B).  
**OTHER PROTECTIVE EQUIPMENT :** HAVE ACCESS TO AN EYEWASH AND SAFETY SHOWER. CLEAN, PROTECTIVE WORK CLOTHES SHOULD BE PROVIDED DAILY.

**SECTION G - HEALTH HAZARD DATA**

**THRESHOLD LIMIT VALUE :** 0.5 mg/m<sup>3</sup>TWA as Sb  
**PRIMARY ROUTES OF EXPOSURE :** EYE & SKIN CONTACT, INHALATION, INGESTION  
**ORAL LD<sub>50</sub> :** >34,600 mg/kg (RAT); DERMAL LD<sub>50</sub>: >2,000 mg/kg (RABBIT)  
**DERMAL IRRITATION-RABBIT :** MINIMALLY IRRITATING; NOT A SKIN SENSITIZER  
**EYE IRRITATION-RABBIT :** UNWASHED EYES WITH 4 SECONDS OF CONTACT – EXTREMELY IRRITATING; WASHED EYES WITH 4 SECONDS OF CONTACT – SEVERELY IRRITATING  
**OSHA PEL :** 0.5 mg/m<sup>3</sup> as Sb - 8 hour TWA  
**ACGIH TLV :** 0.5 mg/m<sup>3</sup> as Sb - 8 hour TWA  
**EFFECTS OF OVEREXPOSURE :** **ACUTE:** CONTACT WITH EYES CAN CAUSE IRRITATION AND POSSIBLE BURNS. CONTACT WITH SKIN MAY CAUSE IRRITATION. INHALATION CAN IRRITATE THE NOSE, MOUTH, THROAT, AND LUNGS CAUSING COUGHING, WHEEZING AND/OR SHORTNESS OF BREATH. METALLIC TASTE MAY OCCUR. INGESTION CAN CAUSE HEADACHES, POOR APPETITE, NAUSEA, VOMITING, DRY THROAT, AND LACK OF SLEEP. **CHRONIC:** PROLONGED OR REPEATED CONTACT AND/OR EXPOSURE CAN CAUSE THE FOLLOWING: ULCERS OR SORES IN THE NOSE; AFFECT THE LUNGS & CAUSE ABNORMAL CHEST X-RAYS; POSSIBLE DAMAGE TO THE KIDNEYS, LIVER, & HEART; AND POSSIBLE DERMATITIS (SOMETIMES REFERRED TO AS “ANTIMONY MEASLES”) RESULTING IN INTENSE ITCHING FOLLOWED BY SKIN ERUPTIONS. THERE IS A LINK BETWEEN PRODUCTION OF ANTIMONY TRIOXIDE IN SMELTING PROCESSES AND AN INCREASE IN LUNG CANCER IN EXPOSED INDIVIDUALS. USE OF OR EXPOSURE TO ANTIMONY TRIOXIDE HAS DEMONSTRATED THAT IT IS UNMISTAKABLY CARCINOGENIC IN ANIMAL EXPERIMENTATION ONLY ACCORDING TO MAK (FEDERAL REPUBLIC OF GERMANY/ DFG) DETERMINATION. THERE IS SOME EVIDENCE THAT ANTIMONY TRIOXIDE IS AN EXPERIMENTAL TERATOGEN WITH OTHER POSSIBLE REPRODUCTIVE EFFECTS AND MUTATION DATA REPORTED.  
**KNOWN EFFECTS ON OTHER ILLNESSES :** MAY AGGRAVATE PRE-EXISTING SKIN DISORDERS, EYE PROBLEMS, OR IMPAIRED LIVER, KIDNEY, OR RESPIRATORY FUNCTION.  
**LISTED CARCINOGEN :** NONE ( ) OSHA ( ) NTP ( ) IARC (2B\*) OTHER (X\*\*) (2B\* - POSSIBLY CARCINOGENIC TO HUMANS) (X\*\*- ACGIH - SUSPECTED HUMAN CARCINOGEN FOR PRODUCTION OF ANTIMONY TRIOXIDE)

**SECTION H - EMERGENCY & FIRST AID DATA**

**SKIN :** REMOVE CONTAMINATED CLOTHING AND FLUSH SKIN WITH WATER FOLLOWED BY WASHING WITH SOAP AND WATER FOR AT LEAST 15 MINUTES. CONSULT PHYSICIAN IF IRRITATION DEVELOPS.  
**EYES :** IMMEDIATELY FLUSH WITH FLOWING WATER FOR AT LEAST 15 MINUTES, LIFTING UPPER AND LOWER LIDS. GET MEDICAL ATTENTION.  
**INHALATION :** MOVE INDIVIDUAL TO FRESH AIR. BEGIN RESCUE BREATHING IF BREATHING HAS STOPPED AND CPR IF HEART ACTION HAS STOPPED. TRANSFER TO A MEDICAL FACILITY PROMPTLY.  
**INGESTION :** IF CONSCIOUS, GIVE 1 OR 2 GLASSES OF WATER TO DRINK TO DILUTE THE CHEMICAL AND IMMEDIATELY CALL A HOSPITAL OR POISON CONTROL CENTER. NEVER GIVE FLUIDS OR INDUCE VOMITING IF PATIENT IS UNCONSCIOUS OR HAVING CONVULSIONS.

**SECTION I - SPILL & DISPOSAL INFORMATION**

**STEPS TO BE TAKEN IN CASE OF SPILL OR LEAK:**  
 WEARING FULL PROTECTIVE EQUIPMENT, CAREFULLY SWEEP UP MATERIAL AND PLACE IN A SUITABLE CONTAINER FOR DISPOSAL. AVOID CREATING A DUSTY ATMOSPHERE. MAY BE HAZARDOUS TO AQUATIC LIFE. DO NOT RELEASE TO THE ENVIRONMENT.  
**WASTE DISPOSAL INFORMATION:**  
 DISPOSE OF MATERIAL AS SOLID WASTE IN A CLOSED CONTAINER. FOLLOW ALL CHEMICAL POLLUTION CONTROL REGULATIONS.  
**RCRA HAZARDOUS WASTE :** NO (X) YES ( ) RCRA # : ( )  
**CERCLA :** NO ( ) YES (X) RQ (1,000 LBS.)  
 FOLLOW ALL LOCAL, STATE AND FEDERAL INFORMATION AND REGULATIONS

**SECTION J - OTHER REGULATORY INFORMATION**

**TSCA:** WE CERTIFY THAT ALL COMPONENTS OF THIS PRODUCT ARE REGISTERED UNDER THE REGULATIONS OF THE TOXIC SUBSTANCES CONTROL ACT.  
**SARA TITLE III, SECT. 313:** LISTED (X-AS ANTIMONY COMPOUND & AS LEAD COMPOUND) NOT LISTED ( )  
**HMIS:** HEALTH (2) FLAMMABILITY (0) REACTIVITY (0)  
**DOT REGULATED:** YES: ( ) NO: (X-IN THE SIZE PACKAGE SOLD, <1000 LBS.) RQ: (1000 LBS.)  
**IF REGULATED, PROPER SHIPPING NAME:** HAZARD CLASS: ( )  
**IDENTIFICATION NO.:** ( ) **PACKING GROUP:** ( ) LABEL REQUIRED: ( )  
**INLAND B/L:**  
**EMERGENCY RESPONSE GUIDE NO.:** ( )

**SECTION K - SPECIAL PRECAUTIONS****FOR INDUSTRIAL USE ONLY**

READ TECHNICAL DATA BULLETIN PRIOR TO USE OF THIS PRODUCT

**HANDLING & STORAGE INFORMATION:**

WEAR PROTECTIVE CLOTHING, RUBBER GLOVES, CHEMICAL GOGGLES, AND RESPIRATORY PROTECTION WHERE POTENTIAL EXPOSURE TO DUST MAY OCCUR. HANDLE FULL AND EMPTY BAGS IN A MANNER WHICH WILL MINIMIZE DUSTING. EMPTY CONTAINERS SHOULD BE DISPOSED OF IN A MANNER WHICH WILL NOT CAUSE DUSTING DURING TRANSPORTATION OR FROM THE ULTIMATE DISPOSAL SITE. NORMAL WAREHOUSE HANDLING AND STORAGE. STORE IN A COOL, DRY, WELL-VENTILATED AREA. DO NOT STORE IN OPEN, UNLABELED OR MISLABELED CONTAINERS.

**OTHER PRECAUTIONS :**

WARNING! MAY BE HARMFUL IF INHALED. MAY CAUSE SKIN IRRITATION. CAN CAUSE SEVERE EYE IRRITATION. MAY IMPAIR FEMALE AND MALE FERTILITY. MAY CAUSE RETARDED DEVELOPMENT OF THE NEWBORN. PREGNANT WOMEN SHOULD AVOID EXPOSURE TO THIS CHEMICAL. POSSIBLE CANCER HAZARD. THIS PRODUCT CONTAINS ANTIMONY OXIDE. AVOID BREATHING DUST. USE WITH EFFECTIVE VENTILATION OR EMPLOY NIOSH APPROVED RESPIRATOR. AVOID CONTACT WITH EYES, SKIN, AND CLOTHING. WASH THOROUGHLY AFTER HANDLING. LAUNDRY CONTAMINATED CLOTHING BEFORE REUSE.

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IN ACCORDANCE WITH GOOD PRACTICES OF PERSONAL HYGIENE, HANDLE WITH DUE CARE AND AVOID ANY UNNECESSARY CONTACT WITH THIS PRODUCT.

THIS INFORMATION IS BEING SUPPLIED TO YOU UNDER OSHA "RIGHT TO KNOW" REGULATION 29 CFR 1910.1200 AND IS OFFERED IN GOOD FAITH AS TYPICAL VALUES AND NOT AS PRODUCT SPECIFICATION. THE INFORMATION IS BELIEVED TO BE TRUE AND ACCURATE. NO WARRANTY, EXPRESSED OR IMPLIED, REGARDING THE ACCURACY OF THIS DATA, THE HAZARD CONNECTED WITH USE OF THE MATERIAL, OR THE RESULTS TO BE OBTAINED FROM THE USE THEREOF, IS MADE. UNITED MINERAL & CHEMICAL CORPORATION AND ITS SUPPLIERS ASSUME NO RESPONSIBILITY FOR DAMAGE OR INJURY FROM THE USE OF THE PRODUCT DESCRIBED HEREIN.  
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