

## Material Safety Data Sheet

Date Printed: 14/DEC/2004

Date Updated: 12/MAR/2004

Version 1.2

According to 91/155/EEC

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1 - Product and Company Information

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Product Name                   ANTIMONY(III) OXIDE, 99.999%  
Product Number                202649

Company                        Sigma-Aldrich Pte Ltd  
                              #08-01 Citilink Warehouse  
                              Singapore 118529  
                              Singapore

Technical Phone #             65 271 1089  
Fax                             65 271 1571

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2 - Composition/Information on Ingredients

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Product Name	CAS #	EC no	Annex I Index Number
ANTIMONY (III) OXIDE	1309-64-4	215-175-0	051-005-00-X

Formula                        Sb<sub>2</sub>O<sub>3</sub>  
Molecular Weight             291.5 AMU  
Synonyms                       A 1582 \* A 1588LP \* Amspec-KR \* Antimonious  
                              oxide \* Antimony(3+) oxide \* Antimony  
                              sesquioxide \* Antimony trioxide \* Antimony  
                              trioxide production (ACGIH) \* Antimony White \*  
                              Antox \* AP 50 \* AT 3 (fireproofing agent) \* Atox  
                              F \* Atox S \* Chemetron fire shield \* C.I. 77052  
                              \* C.I. Pigment White 11 \* Dechlorane A-O \*  
                              Diantimony trioxide \* Exitelite \* Fireshield  
                              FSPO 405 \* Flowers of antimony \* NCI-C55152 \*  
                              Nyacol A 1530 \* Nyacol A 1510LP \* Patox C \*  
                              Patox H \* Patox L \* Patox M \* Patox S \* Stibiox  
                              MS \* Thermoguard B \* Thermoguard L \* Thermoguard  
                              S \* Timonox \* Timonox White Star \* Twinkling  
                              star \* Weisspiessglanz (German) \* White star

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3 - Hazards Identification

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## SPECIAL INDICATION OF HAZARDS TO HUMANS AND THE ENVIRONMENT

Limited evidence of a carcinogenic effect.  
Carc. Cat.3

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4 - First Aid Measures

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## AFTER INHALATION

If inhaled, remove to fresh air. If breathing becomes difficult,  
call a physician.

## AFTER SKIN CONTACT

In case of contact, immediately wash skin with soap and copious  
amounts of water.

## AFTER EYE CONTACT

In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

AFTER INGESTION

If swallowed, wash out mouth with water provided person is conscious. Call a physician.

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5 - Fire Fighting Measures

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EXTINGUISHING MEDIA

Suitable: Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

SPECIAL RISKS

Specific Hazard(s): Emits toxic fumes under fire conditions.

SPECIAL PROTECTIVE EQUIPMENT FOR FIREFIGHTERS

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

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6 - Accidental Release Measures

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PERSONAL PRECAUTION PROCEDURES TO BE FOLLOWED IN CASE OF LEAK OR SPILL  
Evacuate area.

PROCEDURE(S) OF PERSONAL PRECAUTION(S)

Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves. Wear disposable coveralls and discard them after use.

METHODS FOR CLEANING UP

Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

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7 - Handling and Storage

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HANDLING

Directions for Safe Handling: Do not breathe dust. Do not get in eyes, on skin, on clothing. Avoid prolonged or repeated exposure.

STORAGE

Conditions of Storage: Keep tightly closed.

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8 - Exposure Controls / Personal Protection

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ENGINEERING CONTROLS

Use only in a chemical fume hood. Safety shower and eye bath.

GENERAL HYGIENE MEASURES

Wash contaminated clothing before reuse. Wash thoroughly after handling.

EXPOSURE LIMITS - DENMARK

Source	Type	Value
OEL	TWA	0.5 mg/m <sup>3</sup>

EXPOSURE LIMITS - GERMANY

Source	Type	Value
TRGS 900	OEL	0.3 mg/m <sup>3</sup> , E

Remarks: 4

Remarks: 25,TRGS 901-22

EXPOSURE LIMITS - SWITZERLAND

Source	Type	Value
OEL	OEL	0.1 mg/m3

Remarks: E K

EXPOSURE LIMITS - UNITED KINGDOM

Source	Type	Value
OEL	TWA	0.5MG(SB)/M3

PERSONAL PROTECTIVE EQUIPMENT

Respiratory Protection: Government approved respirator in nonventilated areas and/or for exposure above the TLV or PEL.  
Hand Protection: Compatible chemical-resistant gloves.  
Eye Protection: Chemical safety goggles.

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9 - Physical and Chemical Properties

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Appearance	Physical State: Solid	
Property	Value	At Temperature or Pressure
pH	N/A	
BP/BP Range	N/A	
MP/MP Range	655 °C	
Flash Point	N/A	
Flammability	N/A	
Autoignition Temp	N/A	
Oxidizing Properties	N/A	
Explosive Properties	N/A	
Explosion Limits	N/A	
Vapor Pressure	N/A	
SG/Density	5.2 g/cm3	
Partition Coefficient	N/A	
Viscosity	N/A	
Vapor Density	N/A	
Saturated Vapor Conc.	N/A	
Evaporation Rate	N/A	
Bulk Density	N/A	
Decomposition Temp.	N/A	
Solvent Content	N/A	
Water Content	N/A	
Surface Tension	N/A	
Conductivity	N/A	
Miscellaneous Data	N/A	
Solubility	N/A	

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10 - Stability and Reactivity

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STABILITY

Stable: Stable.  
Materials to Avoid: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS

Hazardous Decomposition Products: Nature of decomposition products not known.

HAZARDOUS POLYMERIZATION

Hazardous Polymerization: Will not occur

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11 - Toxicological Information

RTECS NUMBER: CC5650000

ACUTE TOXICITY

LD50  
Oral  
Rat  
> 34600 mg/kg  
Remarks: Behavioral:Somnolence (general depressed activity).  
Skin and Appendages: Other: Hair.

LD50  
Intraperitoneal  
Rat  
3250 MG/KG

LD50  
Subcutaneous  
Rat  
7904 MG/KG

LD50  
Intraperitoneal  
Mouse  
172 MG/KG

IRRITATION DATA

Eyes  
Rabbit  
100 mg  
Remarks: Mild irritation effect

ROUTE OF EXPOSURE

Skin Contact: May cause skin irritation.  
Skin Absorption: May be harmful if absorbed through the skin.  
Eye Contact: May cause eye irritation.  
Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.  
Ingestion: May be harmful if swallowed.

CHRONIC EXPOSURE - CARCINOGEN

Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Rat  
Route of Application: Inhalation  
Exposure Time: 52W-  
Result: Tumorigenic:Carcinogenic by RTECS criteria. Lungs, Thorax, or Respiration:Tumors. Liver:Tumors.

Rat  
Route of Application: Inhalation  
Exposure Time: 1Y-  
Result: Tumorigenic:Equivocal tumorigenic agent by RTECS criteria. Lungs, Thorax, or Respiration:Tumors. Liver:Tumors.

Rat  
Route of Application: Inhalation  
Exposure Time: 52W-

Result: Tumorigenic:Neoplastic by RTECS criteria. Liver:Tumors.  
Skin and Appendages: Other: Tumors.

Rat

Route of Application: Inhalation

Exposure Time: 7H/52W-

Result: Tumorigenic:Carcinogenic by RTECS criteria. Lungs,  
Thorax, or Respiration:Tumors.

#### IARC CARCINOGEN LIST

Rating: Group 2B

#### CHRONIC EXPOSURE - MUTAGEN

Human

50 MG/L

Cell Type: lymphocyte

Cytogenetic analysis

Hamster

90 UG/L

Cell Type: lung

Sister chromatid exchange

#### CHRONIC EXPOSURE - REPRODUCTIVE HAZARD

Species: Rat

Dose: 270 UG/M3

Route of Application: Inhalation

Exposure Time: (1-21D PREG)

Result: 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.

Species: Rat

Dose: 82 UG/M3

Route of Application: Inhalation

Exposure Time: (1-21D PREG)

Result: Effects on Fertility: Pre-implantation mortality (e.g.,  
reduction in number of implants per female; total number of  
implants per corpora lutea). Effects on Embryo or Fetus:

Fetotoxicity (except death, e.g., stunted fetus).

Species: Rat

Dose: 270 UG/M3/24H

Route of Application: Inhalation

Exposure Time: (1-21D PREG)

Result: Effects on Fertility: Pre-implantation mortality (e.g.,  
reduction in number of implants per female; total number of  
implants per corpora lutea). 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.

Species: Rat

Dose: 23320 UG/KG

Route of Application: Intratesticular

Exposure Time: (1D MALE)

Result: Paternal Effects: Spermatogenesis (including genetic  
material, sperm morphology, motility, and count). Paternal

Effects: Testes, epididymis, sperm duct.

12 - Ecological Information

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No data available.

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13 - Disposal Considerations

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SUBSTANCE DISPOSAL

Contact a licensed professional waste disposal service to dispose of this material. Observe all federal, state, and local environmental regulations.

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14 - Transport Information

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RID/ADR

Non-hazardous for road transport.

IMDG

Non-hazardous for sea transport.

IATA

Non-hazardous for air transport.

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15 - Regulatory Information

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CLASSIFICATION AND LABELING ACCORDING TO EU DIRECTIVES

ANNEX I INDEX NUMBER: 051-005-00-X

INDICATION OF DANGER: Xn

Harmful.

R-PHRASES: 40

Limited evidence of a carcinogenic effect.

S-PHRASES: 22 36/37

Do not breathe dust. Wear suitable protective clothing and gloves.

COUNTRY SPECIFIC INFORMATION

Germany

WGK: 2

SWITZERLAND

SWISS POISON CLASS: 4

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16 - Other Information

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WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2004 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.

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