



SAFETY DATA SHEET ANTIMONY TRIOXIDE REVISION 5, DATE 05 MAY 19

1. IDENTIFICATION

Product Name	Antimony trioxide
Other Names	Diantimony trioxide
Uses	Flame retardants and fire-preventing agents; Adhesives (binding) agents; Colouring agents; Paints, lacquers and varnishes. For professional use only.
Chemical Family	No Data Available
Chemical Formula	Sb ₂ O ₃
Chemical Name	Antimony oxide
Product Description	No Data Available

Contact Details of the Supplier of this Safety Data Sheet

Organisation	Location	Telephone
Redox Ltd	2 Swettenham Road Minto NSW 2566 Australia	+61-2-97333000
Redox Ltd	11 Mayo Road Wiri Auckland 2104 New Zealand	+64-9-2506222
Redox Inc.	3960 Paramount Boulevard Suite 107 Lakewood CA 90712 USA	+1-424-675-3200
Redox Chemicals Sdn Bhd	Level 2, No. 8, Jalan Sapir 33/7 Seksyen 33, Shah Alam Premier Industrial Park 40400 Shah Alam Sengalor, Malaysia	+60-3-5614-2111

Emergency Contact Details

For emergencies only; DO NOT contact these companies for general product advice.

Organisation	Location	Telephone
Poisons Information Centre	Westmead NSW	1800-251525 131126
Chemcall	Australia	1800-127406 +64-4-9179888
Chemcall	Malaysia	+64-4-9179888
Chemcall	New Zealand	0800-243622 +64-4-9179888
National Poisons Centre	New Zealand	0800-764766
CHEMTREC	USA & Canada	1-800-424-9300 CN723420 +1-703-527-3887

2. HAZARD IDENTIFICATION

Poisons Schedule (Aust)

Schedule 6

Redox Ltd
Corporate Office Sydney
Locked Bag 15 Minto NSW 2566 Australia
2 Swettenham Road Minto NSW 2566 Australia
All Deliveries: 4 Holmes Road Minto NSW 2566 Australia

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E-mail sydney@redox.com
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ABN 92 000 762 345


Australia
Adelaide
Brisbane
Melbourne
Perth
Sydney

New Zealand
Auckland
Christchurch
Hawke's Bay
UK
London

Malaysia
Kuala Lumpur
USA
Los Angeles
Oakland
Mexico
Saltillo



Globally Harmonised System

Hazard Classification		Hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)	
Hazard Categories		Carcinogenicity - Category 2	
Pictograms			
Signal Word		Warning	
Hazard Statements		H351	Suspected of causing cancer.
Precautionary Statements	Prevention	P201	Obtain special instructions before use.
		P280	Wear protective gloves/protective clothing/eye protection/face protection.
	Response	P308 + P313	IF exposed or concerned: Get medical advice.
	Storage	P405	Store locked up.
	Disposal	P501	Dispose of contents/container in accordance with local / regional / national / international regulations.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

HSNO Classifications	Health Hazards	6.3A	Substances that are irritating to the skin
		6.4A	Substances that are irritating to the eye
		6.7B	Substances that are suspected human carcinogens
		6.9A	Substances that are toxic to human target organs or systems

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Antimony trioxide	Sb2O3	1309-64-4	>=99.5 %
Lead Monoxide	PbO	1317-36-8	<0.25 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Get medical advice/attention. Never give anything by mouth to an unconscious person.
Eye	IF IN EYES: Immediately flush eyes with running water for several minutes, holding eyelids open and occasionally lifting the upper and lower lids. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Get medical advice/attention or consult an ophthalmologist.
Skin	IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash before reuse. If skin irritation occurs, get medical advice/attention.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention. Apply resuscitation if victim is not breathing - Administer oxygen if breathing is difficult.
Advice to Doctor	If exposed or concerned, get medical advice/attention. Treat symptomatically.
Medical Conditions Aggravated by Exposure	Suspected of causing cancer following inhalation exposure.

5. FIRE FIGHTING MEASURES

General Measures	If safe to do so, move undamaged containers from fire area. Cool containers with water spray until well after fire is out.
Flammability Conditions	Non-combustible; Material does not burn.
Extinguishing Media	If material is involved in a fire, use dry chemical, Carbon dioxide (CO ₂), foam or water spray for extinction.
Fire and Explosion Hazard	Fires in the immediate vicinity may cause the development of dangerous vapours.
Hazardous Products of Combustion	Fire or heat will produce irritating and/or toxic fumes, including Antimony oxides.
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear self-contained breathing apparatus (SCBA) and chemical splash suit. SCBA and structural firefighter's uniform may provide limited protection.
Flash Point	No Data Available
Lower Explosion Limit	No Data Available
Upper Explosion Limit	No Data Available
Auto Ignition Temperature	No Data Available
Hazchem Code	No Data Available

6. ACCIDENTAL RELEASE MEASURES

General Response Procedure	Ensure adequate ventilation. Do not touch or walk through spilled material. Avoid generating dust. Avoid breathing dust and contact with eyes, skin and clothing.
Clean Up Procedures	Take up mechanically (sweep up or vacuum) and place into suitable, labelled containers for disposal (see SECTION 13); if appropriate, moisten first to prevent dusting.
Containment	Stop leak if safe to do so - Prevent entry into waterways, drains or confined areas.
Decontamination	No information available.
Environmental Precautionary Measures	Prevent entry into drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Keep unauthorised personnel away.
Personal Precautionary Measures	Use personal protective equipment as required (see SECTION 8).

7. HANDLING AND STORAGE

Handling	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Obtain special instructions before use - Do not use until all safety precautions have been read and understood. Avoid handling which leads to dust formation. Avoid breathing dust and contact with eyes, skin and clothing. Use personal protective equipment as required (see SECTION 8).
Storage	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from food, feedstuffs and incompatible materials (see SECTION 10). Store locked up.
Container	Keep in the original container.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	<p>COMPONENT: Antimony trioxide (CAS No. 1309-64-4):</p> <ul style="list-style-type: none"> - Safe Work Australia Exposure Standard for Antimony & compounds (as Sb): TWA = 0.5 mg/m³ - Safe Work Australia Exposure Standard for Antimony trioxide, handling and use (as Sb): TWA = 0.5 mg/m³; Suspected human carcinogen (Carc. 2). - New Zealand Workplace Exposure Standard for Antimony & compounds (as Sb): TWA = 0.5 mg/m³ - New Zealand Workplace Exposure Standard for Antimony trioxide [Adopted: 2019]: TWA = 0.1 mg/m³; Suspected carcinogen (6.7B). <p>COMPONENT: Lead monoxide (CAS No. 1317-36-8):</p> <ul style="list-style-type: none"> - Safe Work Australia Exposure Standard for Lead, inorganic dusts & fumes (as Pb): TWA = 0.05 mg/m³. - New Zealand Workplace Exposure Standard for Lead, inorganic dusts & fumes (as Pb) [Adopted: 2019]: TWA = 0.05 mg/m³; Suspected carcinogen (6.7B); Exposure can also be estimated by biological monitoring (bio).
Exposure Limits	No Data Available
Biological Limits	No information available.
Engineering Measures	A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.
Personal Protection Equipment	<ul style="list-style-type: none"> - Respiratory protection: Wear respiratory protection in case of inadequate ventilation or if an inhalation risk exists. Recommended: Particulate filter (P2). Use respirators and components tested and approved under appropriate government standards (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Tightly sealed goggles. Use equipment for eye protection tested and approved under appropriate government standards. - Hand protection: Wear protective gloves. Recommended: Nitrile rubber (layer thickness: 0.11 mm; Break through time: >480 min). - Skin/body protection: Wear appropriate personal protective clothing to avoid skin contact. Recommended: The type of protective equipment must be selected according to the concentration and amount of the hazardous substance(s) at the specific workplace.
Special Hazards Precautions	No information available.
Work Hygienic Practices	Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using this product. Wash hands before breaks and at the end of workday. Wash contaminated clothing and other protective equipment before storage or re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Crystalline powder
Odour	Odourless
Colour	White
pH	No Data Available
Vapour Pressure	1.3 hPa (@ 574 °C)
Relative Vapour Density	No Data Available
Boiling Point	1,425 °C

Melting Point	656 °C
Freezing Point	No Data Available
Solubility	2.7 mg/L in water at 20 °C - Soluble in Hydrochloric acid, Tartaric acid
Specific Gravity	5.897
Flash Point	No Data Available
Auto Ignition Temp	No Data Available
Evaporation Rate	No Data Available
Bulk Density	No Data Available
Corrosion Rate	No Data Available
Decomposition Temperature	No Data Available
Density	5.897 g/cm ³
Specific Heat	No Data Available
Molecular Weight	291.52 g/mol
Net Propellant Weight	No Data Available
Octanol Water Coefficient	No Data Available
Particle Size	No Data Available
Partition Coefficient	No Data Available
Saturated Vapour Concentration	No Data Available
Vapour Temperature	No Data Available
Viscosity	No Data Available
Volatile Percent	No Data Available
VOC Volume	No Data Available
Additional Characteristics	No information available.
Potential for Dust Explosion	No information available.
Fast or Intensely Burning Characteristics	No information available.
Flame Propagation or Burning Rate of Solid Materials	No information available.
Non-Flammables That Could Contribute Unusual Hazards to a Fire	No information available.
Properties That May Initiate or Contribute to Fire Intensity	Non-combustible; Material does not burn.
Reactions That Release Gases or Vapours	Decomposes on heating producing irritating toxic fumes, including Antimony oxides.
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	Reacts with carbon, Potassium cyanide, Carbon monoxide and Carbon dioxide; Formation of Antimony (reduction). Danger of explosion with perchloric acid. Violent reaction with Bromine trifluoride.
Chemical Stability	Product is stable under normal storage conditions.
Conditions to Avoid	Avoid heating (decomposition).
Materials to Avoid	Incompatible/reactive with Perchloric acid, Bromine trifluoride.
Hazardous Decomposition Products	Decomposes on heating producing irritating toxic fumes, including Antimony oxides.
Hazardous Polymerisation	Hazardous polymerisation will not occur.

11. TOXICOLOGICAL INFORMATION**General Information**

- Acute toxicity: Based on available data, the classification criteria are not met. May cause cough, fever, headache, nausea, circulatory collapse, apnea; damage to kidneys, following intake of large amounts.
- Skin corrosion/irritation: Based on available data, the classification criteria are not met. Not an irritant (Albino Rabbit).
- Eye damage/irritation: Based on available data, the classification criteria are not met. Not an irritant (Rabbit).
- Respiratory/skin sensitisation: Based on available data, the classification criteria are not met. Not sensitising (Guinea pig).
- Germ cell mutagenicity: Negative. Based on available data, the classification criteria are not met.
- Carcinogenicity: Suspected of causing cancer (following inhalation exposure). There is an association between antimony trioxide production and an increased incidence of lung cancer.
- Reproductive toxicity: Based on available data, the classification criteria are not met.
- STOT (single exposure): Breathing in dust may result in respiratory irritation.
- STOT (repeated exposure): Based on available data, the classification criteria are not met. Repeated or prolonged exposure to this material could result in effects on the liver, heart and lungs.
- Aspiration toxicity: No information available.

Acute**Ingestion**

Acute toxicity (Oral):
- LD50, Rat: >20,000 mg/kg bw.

Inhalation

Acute toxicity (Inhalation):
- LC50, Rat: >5.2 mg/l (4 h).

Other

Acute toxicity (Dermal):
- LD50, Rabbit: >2,000 mg/kg bw.

Carcinogen Category

Cat. 2

12. ECOLOGICAL INFORMATION**Ecotoxicity**

Even if strongly diluted, toxic water compounds develop.

Persistence/Degradability

Methods for determination of biodegradability are not applicable to organic substances.

Mobility

Substance is heavier than water and sinks; Practically insoluble in water.

Environmental Fate

Avoid release to the environment - Prevent entry into drains and waterways.

Bioaccumulation Potential

No information available.

Environmental Impact

No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

Dispose of contents/container via a licensed disposal company and in accordance with local/regional/national regulations.

Special Precautions for Land Fill

Contaminated packaging: Dispose of as unused product.

14. TRANSPORT INFORMATION

Land Transport (Australia)

ADG Code	
Proper Shipping Name	Antimony trioxide
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (Malaysia)

ADR Code	
Proper Shipping Name	Antimony trioxide
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (New Zealand)

NZS5433	
Proper Shipping Name	Antimony trioxide
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Land Transport (United States of America)

US DOT	
Proper Shipping Name	Antimony trioxide
Class	No Data Available
Subsidiary Risk(s)	No Data Available
	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for LAND transport.

Sea Transport

IMDG Code

Proper Shipping Name	Antimony trioxide
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
EMS	No Data Available
Marine Pollutant	No
Comments	NON-DANGEROUS GOODS: Not regulated for SEA transport.

Air Transport

IATA DGR

Proper Shipping Name	Antimony trioxide
Class	No Data Available
Subsidiary Risk(s)	No Data Available
UN Number	No Data Available
Hazchem	No Data Available
Pack Group	No Data Available
Special Provision	No Data Available
Comments	NON-DANGEROUS GOODS: Not regulated for AIR transport.

National Transport Commission (Australia)

Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)

Dangerous Goods Classification	NOT Dangerous Goods according to the criteria of the Australian Code for the Transport of Dangerous Goods by Road & Rail (ADG Code)
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15. REGULATORY INFORMATION

General Information	ANTIMONY COMPOUNDS
Poisons Schedule (Aust)	Schedule 6

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002901 (Reissued)
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National/Regional Inventories

Australia (AIIC)	Listed
Canada (DSL)	Listed

Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	215-175-0
Europe (REACH)	Not Determined
Japan (ENCS/METI)	Not Determined
Korea (KECI)	Not Determined
Malaysia (EHS Register)	Not Determined
New Zealand (NZIoC)	Listed
Philippines (PICCS)	Not Determined
Switzerland (Giftliste 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Listed

16. OTHER INFORMATION

Related Product Codes	<p>ANTRIO0500, ANTRIO1000, ANTRIO1001, ANTRIO1002, ANTRIO1003, ANTRIO1004, ANTRIO1005, ANTRIO1006, ANTRIO1007, ANTRIO1008, ANTRIO1009, ANTRIO1010, ANTRIO1011, ANTRIO1012, ANTRIO1013, ANTRIO1014, ANTRIO1015, ANTRIO1016, ANTRIO1017, ANTRIO1018, ANTRIO1019, ANTRIO1020, ANTRIO1100, ANTRIO1101, ANTRIO2000, ANTRIO2001, ANTRIO2500, ANTRIO2700, ANTRIO3000, ANTRIO4000, ANTRIO5000, ANTRIO5001, ANTRIO6000, ANTRIO6200, ANTRIO6400, ANTRIO6600, ANTRIO7600, ANTRIO7800, ANTRIO8000, ANTRIO8100, ANTRIO8200, ANTRIO8201, ANTRIO8202, ANTRIO8300, ANTRIO8301, ANTRIO8302, ANTRIO8303, ANTRIO8304, ANTRIO8305, ANTRIO8306, ANTRIO8307, ANTRIO8308, ANTRIO8309, ANTRIO8310, ANTRIO8311, ANTRIO8312, ANTRIO8313, ANTRIO8314, ANTRIO8315, ANTRIO8316, ANTRIO8317, ANTRIO8318, ANTRIO8319, ANTRIO8320, ANTRIO8321, ANTRIO8322, ANTRIO8323, ANTRIO8324, ANTRIO8325, ANTRIO8326, ANTRIO8327, ANTRIO8328, ANTRIO8329, ANTRIO8330, ANTRIO8331, ANTRIO8332, ANTRIO8333, ANTRIO8334, ANTRIO8335, ANTRIO8336, ANTRIO8337, ANTRIO8338, ANTRIO8400, ANTRIO8500, ANTRIO9000, ANTRIO9001, ANTRIO9002, ANTRIO9003, ANTRIO9050, ANTRIO9060, ANTRIO9100, ANTRIO9500, ANTRIO9600</p>
Revision	5
Revision Date	05 May 2019
Reason for Issue	updated sds
Key/Legend	<p>< Less Than > Greater Than AICS Australian Inventory of Chemical Substances atm Atmosphere CAS Chemical Abstracts Service (Registry Number) cm² Square Centimetres CO₂ Carbon Dioxide COD Chemical Oxygen Demand deg C (°C) Degrees Celcius EPA (New Zealand) Environmental Protection Authority of New Zealand deg F (°F) Degrees Fahrenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism</p>

IDLH Immediately Dangerous to Life and Health

immiscible Liquids are insoluble in each other.

inHg Inch of Mercury

inH₂O Inch of Water

K Kelvin

kg Kilogram

kg/m³ Kilograms per Cubic Metre

lb Pound

LC₅₀ LC stands for lethal concentration. LC₅₀ is the concentration of a material in air which causes the death of 50% (one half) of a group of test animals. The material is inhaled over a set period of time, usually 1 or 4 hours.

LD₅₀ LD stands for Lethal Dose. LD₅₀ is the amount of a material, given all at once, which causes the death of 50% (one half) of a group of test animals.

ltr or L Litre

m³ Cubic Metre

mbar Millibar

mg Milligram

mg/24H Milligrams per 24 Hours

mg/kg Milligrams per Kilogram

mg/m³ Milligrams per Cubic Metre

Misc or **Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.

mm Millimetre

mmH₂O Millimetres of Water

mPa.s Millipascals per Second

N/A Not Applicable

NIOSH National Institute for Occupational Safety and Health

NOHSC National Occupational Health and Safety Commission

OECD Organisation for Economic Co-operation and Development

Oz Ounce

PEL Permissible Exposure Limit

Pa Pascal

ppb Parts per Billion

ppm Parts per Million

ppm/2h Parts per Million per 2 Hours

ppm/6h Parts per Million per 6 Hours

psi Pounds per Square Inch

R Rankine

RCP Reciprocal Calculation Procedure

STEL Short Term Exposure Limit

TLV Threshold Limit Value

tne Tonne

TWA Time Weighted Average

ug/24H Micrograms per 24 Hours

UN United Nations

wt Weight