



**SAFETY DATA SHEET**  
**AMMONIUM THIOSULPHATE SOLUTION**  
**REVISION 6, DATE 16 NOV 20**

## 1. IDENTIFICATION

<b>Product Name</b>	<b>Ammonium Thiosulphate Solution</b>
<b>Other Names</b>	ATS; SECOFIT TS
<b>Uses</b>	For industrial use; photochemical products; fertilisers; for professional use.
<b>Chemical Family</b>	No Data Available
<b>Chemical Formula</b>	(NH <sub>4</sub> ) <sub>2</sub> S <sub>2</sub> O <sub>3</sub>
<b>Chemical Name</b>	Ammonium thiosulphate solution
<b>Product Description</b>	No Data Available

### Contact Details of the Supplier of this Safety Data Sheet

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
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.*

<b>Organisation</b>	<b>Location</b>	<b>Telephone</b>
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)**

Not Scheduled



## Globally Harmonised System

<b>Hazard Classification</b>	NOT hazardous according to the criteria of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS)
<b>Signal Word</b>	None

## National Transport Commission (Australia)

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

<b>Dangerous Goods Classification</b>	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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## Safe Work Australia

National Guide for Classifying Hazardous Chemicals under the Model WHS Regulations

<b>Hazard Classification</b>	NOT hazardous according to the criteria of Safe Work Australia under Model WHS Regulations
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## 3. COMPOSITION/INFORMATION ON INGREDIENTS

## Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Ammonium thiosulfate	(NH <sub>4</sub> ) <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	7783-18-8	>=60 % w/w
Water	H <sub>2</sub> O	7732-18-5	Balance %

## 4. FIRST AID MEASURES

## Description of necessary measures according to routes of exposure

<b>Swallowed</b>	IF SWALLOWED: Rinse mouth, then drink 1 or 2 glasses of water. Do not induce vomiting unless directed to do so by medical personnel. Get immediate medical advice/attention. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Never give anything by mouth to an unconscious person.
<b>Eye</b>	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. If eye irritation persists, get medical advice/attention.
<b>Skin</b>	IF ON SKIN: Remove and isolate contaminated clothing and shoes. Immediately flush skin with running water for at least 15 minutes. If skin irritation occurs, get medical advice/attention. Wash contaminated clothing and shoes before reuse.
<b>Inhaled</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If respiratory symptoms persist, get medical advice/attention. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult.
<b>Advice to Doctor</b>	Treat symptomatically. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.
<b>Medical Conditions Aggravated by Exposure</b>	No information available.

**5. FIRE FIGHTING MEASURES**

<b>General Measures</b>	Move containers from fire area if you can do it without risk. Cool containers with water spray until well after fire is out.
<b>Flammability Conditions</b>	Non-combustible; material itself does not burn.
<b>Extinguishing Media</b>	If material is involved in a fire, use dry chemical, Carbon dioxide (CO <sub>2</sub> ), foam or water spray for extinction. Do not use water jet as an extinguisher, as this will spread the fire.
<b>Fire and Explosion Hazard</b>	Containers may explode when heated. Heating may cause the release of ammonia vapours; NH <sub>3</sub> (16-25%) may form flammable mixtures with air.
<b>Hazardous Products of Combustion</b>	Fire or heat may produce irritating and/or toxic gases, including Sulphur dioxide; Nitrogen oxides; Ammonia.
<b>Special Fire Fighting Instructions</b>	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.
<b>Personal Protective Equipment</b>	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.
<b>Flash Point</b>	No Data Available
<b>Lower Explosion Limit</b>	No Data Available
<b>Upper Explosion Limit</b>	No Data Available
<b>Auto Ignition Temperature</b>	No Data Available
<b>Hazchem Code</b>	No Data Available

**6. ACCIDENTAL RELEASE MEASURES**

<b>General Response Procedure</b>	Ensure adequate ventilation. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Avoid breathing vapours and contact with eyes, skin and clothing.
<b>Clean Up Procedures</b>	Pick up with sand or other non-combustible absorbent material and place into containers for later disposal (see SECTION 13). *Never return spills to original containers for re-use.
<b>Containment</b>	Stop leak if you can do it without risk. Dike far ahead of large spill for later disposal.
<b>Decontamination</b>	Wash with plenty of water. Retain contaminated washing water and dispose it.
<b>Environmental Precautionary Measures</b>	Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. In case of entry into waterways, soil or drains, inform the responsible authorities.
<b>Evacuation Criteria</b>	Spill or leak area should be isolated immediately. Remove persons to safety. Keep unauthorised personnel away.
<b>Personal Precautionary Measures</b>	Wear personal protection equipment (see SECTION 8).

**7. HANDLING AND STORAGE**

<b>Handling</b>	Safety showers and eyewash facilities should be provided within the immediate work area for emergency use. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours and contact with eyes, skin and clothing. Do not ingest. Wear personal protection equipment (see SECTION 8).
<b>Storage</b>	Store in a cool, dry and well-ventilated place, out of direct sunlight. Keep container tightly closed. Keep away from heat and sources of ignition - No smoking. Keep away from food/feedstuffs and incompatible materials (see SECTION 10).
<b>Container</b>	Being non-corrosive, the product can be stored in mild steel or aluminium containers, as well as in any type of storage used for fluid fertilisers. As with all other nitrogen solutions, it should not be allowed to contact with tin, copper, brass or other alloys.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

<b>General</b>	No occupational exposure limit available for the product. DECOMPOSITION PRODUCT: Ammonia (CAS No. 7664-41-7): - Safe Work Australia Exposure Standard: TWA = 25 ppm (17 mg/m3); STEL = 35 ppm (24 mg/m3). - New Zealand Workplace Exposure Standard [Next review 2023]: TWA = 25 ppm (17 mg/m3); STEL = 35 ppm (24 mg/m3).
<b>Exposure Limits</b>	No Data Available
<b>Biological Limits</b>	No information available.
<b>Engineering Measures</b>	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.
<b>Personal Protection Equipment</b>	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: Filter mask FFP2/FFP3 for solid particles or, in the presence of gases and/or vapours, Combined filter B/K-P2 (refer to AS/NZS 1715 & 1716). - Eye/face protection: Wear appropriate eye protection to avoid eye contact. Recommended: Safety glasses with side protection or goggles. - Hand protection: Handle with gloves. Recommended: Nitrile rubber (Recommended thickness: 0.4 mm; Penetration time: >480 min). - Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Wear chemical-resistant clothing and safety shoes.
<b>Special Hazards Precautions</b>	Personal protective equipment selections vary based on potential exposure conditions and working conditions. The final choice of protective equipment will depend upon a risk assessment.
<b>Work Hygienic Practices</b>	Do not eat, drink or smoke when using this product. Always wash after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Physical State</b>	Liquid
<b>Appearance</b>	Clear liquid
<b>Odour</b>	Pungent
<b>Colour</b>	Colourless or pale yellow
<b>pH</b>	8.0 - 9.0 100 % (as is)
<b>Vapour Pressure</b>	No Data Available
<b>Relative Vapour Density</b>	No Data Available
<b>Boiling Point</b>	+/- 105 °C
<b>Melting Point</b>	No Data Available
<b>Freezing Point</b>	approx. 0 °C
<b>Solubility</b>	100% miscible with water
<b>Specific Gravity</b>	1.33 kg/dm3
<b>Flash Point</b>	No Data Available
<b>Auto Ignition Temp</b>	No Data Available
<b>Evaporation Rate</b>	No Data Available
<b>Bulk Density</b>	No Data Available
<b>Corrosion Rate</b>	No Data Available
<b>Decomposition Temperature</b>	No Data Available
<b>Density</b>	1.32 - 1.34 kg/dm3
<b>Specific Heat</b>	No Data Available
<b>Molecular Weight</b>	No Data Available
<b>Net Propellant Weight</b>	No Data Available

<b>Octanol Water Coefficient</b>	No Data Available
<b>Particle Size</b>	No Data Available
<b>Partition Coefficient</b>	No Data Available
<b>Saturated Vapour Concentration</b>	No Data Available
<b>Vapour Temperature</b>	No Data Available
<b>Viscosity</b>	No Data Available
<b>Volatile Percent</b>	No Data Available
<b>VOC Volume</b>	No Data Available
<b>Additional Characteristics</b>	No information available.
<b>Potential for Dust Explosion</b>	Not applicable.
<b>Fast or Intensely Burning Characteristics</b>	No information available.
<b>Flame Propagation or Burning Rate of Solid Materials</b>	No information available.
<b>Non-Flammables That Could Contribute Unusual Hazards to a Fire</b>	No information available.
<b>Properties That May Initiate or Contribute to Fire Intensity</b>	Non-combustible; material itself does not burn.
<b>Reactions That Release Gases or Vapours</b>	Fire or heat may produce irritating and/or toxic gases, including Sulphur dioxide; Nitrogen oxides; Ammonia.
<b>Release of Invisible Flammable Vapours and Gases</b>	Heating may cause the release of ammonia vapours; NH <sub>3</sub> (16-25%) may form flammable mixtures with air.

## 10. STABILITY AND REACTIVITY

<b>General Information</b>	Blending with strong acids and anhydrous ammonia should be avoided.
<b>Chemical Stability</b>	Stable under normal temperature conditions.
<b>Conditions to Avoid</b>	Avoid extreme temperatures and sources of ignition.
<b>Materials to Avoid</b>	Incompatible/reactive with strong oxidising agents, acids, alkalis, zinc, water reactive materials.
<b>Hazardous Decomposition Products</b>	Fire or heat may produce irritating and/or toxic gases, including Sulphur dioxide; Nitrogen oxides; Ammonia.
<b>Hazardous Polymerisation</b>	Hazardous polymerisation does not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>General Information</b>	<ul style="list-style-type: none"> <li>- Acute toxicity: Not classified. Based on toxicological data, classification criteria are not met. May cause discomfort if swallowed. Ingestion may cause irritation and malaise. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.</li> <li>- Skin corrosion/irritation: Not classified. Based on available data, the classification criteria are not met. Prolonged or repeated skin contact may cause irritation.</li> <li>- Eye damage/irritation: Not classified. Based on available data, the classification criteria are not met. May cause eye irritation on direct contact.</li> <li>- Respiratory/skin sensitisation: Not classified. Based on available data, the classification criteria are not met.</li> <li>- Germ cell mutagenicity: Not classified. Based on available data, the classification criteria are not met.</li> <li>- Carcinogenicity: Not classified. Based on available data, the classification criteria are not met. This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.</li> <li>- Reproductive toxicity: Not classified. Based on available data, the classification criteria are not met.</li> <li>- STOT (single exposure): Not classified. Based on available data, the classification criteria are not met. Vapours and spray mist may irritate throat and respiratory system and cause coughing.</li> </ul>
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- STOT (repeated exposure):
- Aspiration hazard: Not classified. Based on available data, the classification criteria are not met.

**Acute****Ingestion**

Acute toxicity (Oral):  
COMPONENT: Ammonium thiosulphate (CAS No. 7783-18-8):  
- LD50, Rat: 2,890 mg/kg

**Carcinogen Category**

None

**12. ECOLOGICAL INFORMATION****Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Persistence/Degradability**

No information available.

**Mobility**

This product is water soluble and may disperse in soil.

**Environmental Fate**

Adopt good working practices, so that the product is not released into the environment.

**Bioaccumulation Potential**

Not bioaccumulative.

**Environmental Impact**

No Data Available

**13. DISPOSAL CONSIDERATIONS****General Information**

Recover, if possible. Disposal must be in accordance with current applicable laws and regulations, and material characteristics at time of disposal.

**Special Precautions for Land Fill**

Since emptied containers may retain product residue, follow label warnings even after container is emptied.

**14. TRANSPORT INFORMATION****Land Transport (Australia)**

ADG Code

**Proper Shipping Name**

Ammonium Thiosulphate Solution

**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**

Ammonium Thiosulphate Solution

**Class**

No Data Available

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<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

### Land Transport (New Zealand)

NZS5433

<b>Proper Shipping Name</b>	Ammonium Thiosulphate Solution
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

### Land Transport (United States of America)

US DOT

<b>Proper Shipping Name</b>	Ammonium Thiosulphate Solution
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for LAND transport.

### Sea Transport

IMDG Code

<b>Proper Shipping Name</b>	Ammonium Thiosulphate Solution
<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>EMS</b>	No Data Available
<b>Marine Pollutant</b>	No
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for SEA transport.

### Air Transport

IATA DGR

<b>Proper Shipping Name</b>	Ammonium Thiosulphate Solution
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<b>Class</b>	No Data Available
<b>Subsidiary Risk(s)</b>	No Data Available
<b>UN Number</b>	No Data Available
<b>Hazchem</b>	No Data Available
<b>Pack Group</b>	No Data Available
<b>Special Provision</b>	No Data Available
<b>Comments</b>	NON-DANGEROUS GOODS: Not regulated for AIR transport.

**National Transport Commission (Australia)**

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

<b>Dangerous Goods Classification</b>	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**

<b>General Information</b>	Appendix B - Substances considered not to require control by scheduling (Low toxicity; Any use).
<b>Poisons Schedule (Aust)</b>	Not Scheduled

**Environmental Protection Authority (New Zealand)**

Hazardous Substances and New Organisms Amendment Act 2015

<b>Approval Code</b>	Not Hazardous
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**National/Regional Inventories**

<b>Australia (AIIIC)</b>	Listed
<b>Canada (DSL)</b>	Listed
<b>Canada (NDSL)</b>	Not Listed
<b>China (IECSC)</b>	Listed
<b>Europe (EINECS)</b>	231-982-0
<b>Europe (REACH)</b>	01-2119537325-41-0000
<b>Japan (ENCS/METI)</b>	1-405
<b>Korea (KECI)</b>	KE-01751
<b>Malaysia (EHS Register)</b>	Not Listed
<b>New Zealand (NZIoC)</b>	Listed
<b>Philippines (PICCS)</b>	Listed
<b>Switzerland (Giftliste 1)</b>	Not Determined
<b>Switzerland (Inventory of Notified Substances)</b>	Not Determined



Taiwan (NCSR)

Listed

USA (TSCA)

Listed

## 16. OTHER INFORMATION

## Related Product Codes

AMTHIO1002, AMTHIO1003, AMTHIO1004, AMTHIO2000, AMTHIO2100, AMTHIO2500, AMTHIO2501, AMTHIO3000, AMTHIO3500, AMTHIO4500, AMTHIO4700, AMTHIO4800, AMTHIO4900, AMTHIO4901, AMTHIO4902, AMTHIO5000, AMTHIO5100, AMTHIO5200, AMTHIO5300, AMTHIO5400, AMTHIO5500, AMTHIO5600, AMTHIO5601, AMTHIO5602, AMTHIO5700, AMTHIO5701, AMTHIO5702, AMTHIO5703, AMTHIO5704, AMTHIO5705, AMTHIO5707, AMTHIO5800, AMTHIO5801, AMTHIO5900, AMTHIO6000, AMTHIO6500, AMTHIO7000, AMTHIO7100, AMTHIO7200

## Revision

6

## Revision Date

16 Nov 2020

## Reason for Issue

Updated SDS

## Key/Legend

&lt; Less Than

&gt; Greater Than

**AICS** Australian Inventory of Chemical Substances**atm** Atmosphere**CAS** Chemical Abstracts Service (Registry Number)**cm<sup>2</sup>** Square Centimetres**CO<sub>2</sub>** 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/cm<sup>3</sup>** Grams per Cubic Centimetre**g/l** Grams per Litre**HSNO** Hazardous Substance and New Organism**IDLH** Immediately Dangerous to Life and Health**immiscible** Liquids are insoluble in each other.**inHg** Inch of Mercury**inH<sub>2</sub>O** Inch of Water**K** Kelvin**kg** Kilogram**kg/m<sup>3</sup>** Kilograms per Cubic Metre**lb** Pound

**LC<sub>50</sub>** LC stands for lethal concentration. LC<sub>50</sub> 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.

**LD<sub>50</sub>** LD stands for Lethal Dose. LD<sub>50</sub> 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**m<sup>3</sup>** Cubic Metre**mbar** Millibar**mg** Milligram**mg/24H** Milligrams per 24 Hours**mg/kg** Milligrams per Kilogram**mg/m<sup>3</sup>** Milligrams per Cubic Metre**Misc or Miscible** Liquids form one homogeneous liquid phase regardless of the amount of either component present.**mm** Millimetre**mmH<sub>2</sub>O** 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