



SAFETY DATA SHEET
AMMONIUM THIOCYANATE SOLUTION
REVISION 3, DATE 01 JAN 22

1. IDENTIFICATION

Product Name	Ammonium Thiocyanate Solution
Other Names	Ammonium Thiocyanate 50% Solution
Uses	Auxiliary material in the manufacture of Hydrogen peroxide; Used as a dye; Polymerisation catalyst in organic synthesis; For the separation of pesticides; Antibiotics; Analytical reagent.
Chemical Family	No Data Available
Chemical Formula	Unspecified
Chemical Name	Contains: Thiocyanic acid, ammonium salt
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 5

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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Web www.redox.com
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		Acute Toxicity (Oral) - Category 4	
		Acute Toxicity (Dermal) - Category 4	
		Acute Toxicity (Inhalation) - Category 4	
		Serious Eye Damage/Irritation - Category 2A	
		Long-term Hazard To The Aquatic Environment - Category 3	
Pictograms			
Signal Word		Warning	
Hazard Statements		H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.
		H412	Harmful to aquatic life with long lasting effects.
		H319	Causes serious eye irritation.
		AUH032	Contact with acids liberates very toxic gas
Precautionary Statements	Prevention	P280	Wear protective gloves/protective clothing/eye protection/face protection.
		P261	Avoid breathing fumes/mists/vapours/spray.
		P273	Avoid release to the environment.
		P270	Do not eat, drink or smoke when using this product.
	Response	P271	Use only outdoors or in a well-ventilated area.
		P312	Call a POISON CENTER or doctor if you feel unwell.
		P330	Rinse mouth.
		P302 + P352	IF ON SKIN: Wash with plenty of water/...
		P363	Wash contaminated clothing before reuse.
		P304 + P340	IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
		P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	Disposal	P337 + P313	If eye irritation persists: Get medical advice/attention.
		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	6.1D	Substances that are acutely toxic - Harmful
		6.4A	Substances that are irritating to the eye

Environmental Hazards

9.1C

Substances that are harmful in the aquatic environment

3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients

Chemical Entity	Formula	CAS Number	Proportion
Ammonium thiocyanate	NH4SCN	1762-95-4	>=50 %
Water	H2O	7732-18-5	<=50 %
Contains: Lead	Pb	7439-92-1	0 - <=0.02 %

4. FIRST AID MEASURES

Description of necessary measures according to routes of exposure

Swallowed	IF SWALLOWED: Rinse mouth, then drink plenty of water. Immediately call a Poison Centre or doctor/physician for advice. Do NOT induce vomiting unless directed to do so by medical personnel. 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. Immediately call a Poison Centre or doctor/physician for advice. Remove contact lenses if present and easy to do. Continue rinsing for at least 15 minutes. Get immediate medical attention!
Skin	IF ON SKIN: Remove and isolate contaminated clothing and shoes. Wash skin with plenty of soap and water. Call a Poison Centre or doctor/physician for advice. Wash contaminated clothing before reuse.
Inhaled	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a Poison Centre or doctor/physician for advice. Apply resuscitation if victim is not breathing. Administer oxygen if breathing is difficult.
Advice to Doctor	Treat symptomatically.
Medical Conditions Aggravated by Exposure	No information available.

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	The product is not flammable.
Extinguishing Media	Use dry chemical, Carbon dioxide (CO2), foam or water spray for extinction. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Fire and Explosion Hazard	Not considered to be a fire or explosion hazard.
Hazardous Products of Combustion	Fire/thermal decomposition may produce irritating, corrosive and/or toxic fumes, including Hydrogen sulfide (H2S), Hydrogen cyanide (HCN), Ammonia (NH3), Carbon disulfide (CS2), Carbonyl sulfide (COS), Carbon monoxide (CO), Nitrogen oxides (NOx), Sulfur dioxide (SO2).
Special Fire Fighting Instructions	Contain runoff from fire control or dilution water - Runoff may pollute waterways.
Personal Protective Equipment	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will provide thermal protection but provides only limited chemical 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, especially in confined areas. ELIMINATE all ignition sources. Do not touch or walk through spilled material. Avoid breathing vapours and contact with eyes, skin and clothing.
Clean Up Procedures	Absorb with earth, sand or other non-combustible material and transfer to a suitable container for disposal (see SECTION 13).
Containment	Stop leak if safe to do so – Prevent entry into waterways, drains or confined areas.
Decontamination	Ventilate area of leak or spill.
Environmental Precautionary Measures	Prevent entry into drains and waterways.
Evacuation Criteria	Spill or leak area should be isolated immediately. Evacuate personnel to safe areas. Keep unauthorised personnel away.
Personal Precautionary Measures	Wear protective gloves/protective clothing/eye protection/face protection (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 - Use only outdoors or in a well-ventilated area. Handle in accordance with good industrial hygiene and safety practice. Avoid breathing mist/vapours/spray and contact with eyes, skin and clothing. Do not ingest. Wear protective gloves/protective clothing/eye protection/face protection (see SECTION 8). Avoid release to the environment.
Storage	Store in a (cool, dark and dry) well-ventilated place. Protect from sunlight. Keep container tightly closed. Protect against physical damage. Keep away from heat and sources of ignition - No smoking. Keep away from incompatible materials (see SECTION 10).
Container	Keep in a light-resistant container. *Containers of this material may be hazardous when empty since they retain product residues; observe all warnings and precautions listed for the product.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General	COMPONENT: Ammonium thiocyanate (CAS No. 1762-95-4): - Australian: No specific exposure standards are available. - International: TWA = 5 - 10 mg/m ³ . COMPONENT: Lead (CAS No. 7439-92-1): - Safe Work Australia Exposure Standard (Lead, inorganic dusts & fumes): TWA = 0.05 mg/m ³ (as Pb).
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	- Respiratory protection: In case of inadequate ventilation, wear respiratory protection. Recommended: For conditions of use where exposure to mist/aerosols is apparent and engineering controls are not feasible, a particulate respirator may be worn. For emergencies or instances where the exposure levels are not known, use a full-face positive-pressure, air-supplied respirator. - Eye/face protection: Wear appropriate eye protection to prevent eye contact. Recommended: Use chemical safety goggles and/or full face shield where splashing of solutions is possible. - Hand protection: Wear protective gloves. Recommended: Wear impervious gloves. Skin/body protection: Wear appropriate personal protective clothing to prevent skin contact. Recommended: Wear impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate.

Special Hazards Precautions	Do not allow into any sewer, on the ground or into any body of water.
Work Hygienic Practices	Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Take off contaminated clothing and wash it before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Liquid
Odour	Odourless
Colour	Clear
pH	5.8 (Ammonium thiocyanate) 50 g/L water
Vapour Pressure	0.000114 mmHg (Ammonium thiocyanate) (@ 20 °C)
Relative Vapour Density	No Data Available
Boiling Point	>190 °C (Ammonium thiocyanate)
Melting Point	151 °C (Ammonium thiocyanate)
Freezing Point	151 °C
Solubility	Very soluble (>10,000 mg/L) 20°C (Ammonium thiocyanate)
Specific Gravity	1.31 (Ammonium thiocyanate)
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	1.31 g/cm ³ (Ammonium thiocyanate)
Specific Heat	No Data Available
Molecular Weight	No Data Available
Net Propellant Weight	No Data Available
Octanol Water Coefficient	LogPow: -2.29 (Ammonium thiocyanate)
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	Not applicable.
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	The product is not flammable.

Reactions That Release Gases or Vapours	Fire/thermal decomposition may produce irritating, corrosive and/or toxic fumes, including Hydrogen sulfide (H ₂ S), Hydrogen cyanide (HCN), Ammonia (NH ₃), Carbon disulfide (CS ₂), Carbonyl sulfide (COS), Carbon monoxide (CO), Nitrogen oxides (NO _x), Sulfur dioxide (SO ₂).
Release of Invisible Flammable Vapours and Gases	No information available.

10. STABILITY AND REACTIVITY

General Information	Decomposes on heating and on exposure to light.
Chemical Stability	Stable under ordinary conditions of use and storage.
Conditions to Avoid	Avoid exposure to light. Keep away from heat and sources of ignition.
Materials to Avoid	Incompatible/reactive with strong acids, strong bases, strong oxidising agents, various metals.
Hazardous Decomposition Products	None under normal use conditions. Fire/thermal decomposition may produce irritating, corrosive and/or toxic fumes, including Hydrogen sulfide (H ₂ S), Hydrogen cyanide (HCN), Ammonia (NH ₃), Carbon disulfide (CS ₂), Carbonyl sulfide (COS), Carbon monoxide (CO), Nitrogen oxides (NO _x), Sulfur dioxide (SO ₂).
Hazardous Polymerisation	Will not occur.

11. TOXICOLOGICAL INFORMATION

General Information	<ul style="list-style-type: none"> - Acute toxicity: Harmful if swallowed, in contact with skin and if inhaled. May cause vomiting, disorientation, weakness, low blood pressure, convulsions and death, which may be delayed. - Skin corrosion/irritation: May cause skin irritation. Symptoms include redness, itching and pain. - Eye damage/irritation: Causes serious eye irritation. Causes irritation, redness and pain. - Respiratory/skin sensitisation: No sensitization responses (were) observed. - Germ cell mutagenicity: No information available. - Carcinogenicity: COMPONENT: Lead (CAS No. 7439-92-1): IARC Group 2A (Probably carcinogenic to humans). - Reproductive toxicity: No information available. - STOT (single exposure): May cause irritation to the respiratory tract. Symptoms may include coughing and shortness of breath. - STOT (repeated exposure): May affect the heart, blood, thyroid and central nervous system. Repeated ingestion of small amounts may cause hives, abnormal bleeding, enlarged thyroid, weakness, confusion, diarrhea, psychosis and collapse. - Aspiration toxicity: No information available.
Carcinogen Category	None

12. ECOLOGICAL INFORMATION

Ecotoxicity	Aquatic toxicity: COMPONENT: Ammonium thiocyanate (CAS No. 1762-95-4): - LC50, Fish (Oncorhynchus mykiss): 65 mg/L (96 h).
Persistence/Degradability	No information available.
Mobility	No information available.
Environmental Fate	Harmful to aquatic life with long lasting effects - Avoid release to the environment. Do not allow into any sewer, on the ground or into any body of water.
Bioaccumulation Potential	No information available.
Environmental Impact	No Data Available

13. DISPOSAL CONSIDERATIONS**General Information**

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Dispose of contents/container in accordance with local/regional/national regulations.

Special Precautions for Land Fill

Contaminated packaging: Containers which cannot be cleaned should be disposed of in the same manner as the product.

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

ADG Code

Proper Shipping Name	AMMONIUM THIOCYANATE 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

Land Transport (Malaysia)

ADR Code

Proper Shipping Name	AMMONIUM THIOCYANATE 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

Land Transport (New Zealand)

NZS5433

Proper Shipping Name	AMMONIUM THIOCYANATE 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

Land Transport (United States of America)

US DOT

Proper Shipping Name	AMMONIUM THIOCYANATE SOLUTION
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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

Sea Transport

IMDG Code

Proper Shipping Name	AMMONIUM THIOCYANATE SOLUTION
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

Air Transport

IATA DGR

Proper Shipping Name	Ammonium Thiocyanate Solution
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	AMMONIUM THIOCYANATE is listed in Schedule 5 of the SUSMP, except in preparations containing 10 % or less of Ammonium thiocyanate.
Poisons Schedule (Aust)	Schedule 5

Environmental Protection Authority (New Zealand)

Hazardous Substances and New Organisms Amendment Act 2015

Approval Code	HSR002503
	HSR006585 (Revoked)

National/Regional Inventories

Australia (AIC)	Listed
Canada (DSL)	Not Determined
Canada (NDSL)	Not Determined
China (IECSC)	Not Determined
Europe (EINECS)	Not Determined
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 (Giftlist 1)	Not Determined
Switzerland (Inventory of Notified Substances)	Not Determined
Taiwan (NCSR)	Not Determined
USA (TSCA)	Not Determined

16. OTHER INFORMATION

Related Product Codes	AMTHCL1000, AMTHCL1001, AMTHCL1002, AMTHCL1003, AMTHCL1100, AMTHCL1500
Revision	3
Revision Date	01 Jan 2022
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 Farenheit g Grams g/cm³ Grams per Cubic Centimetre g/l Grams per Litre HSNO Hazardous Substance and New Organism IDLH Immediately Dangerous to Life and Health</p>

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