HEAD OFFICE
38 May Holman Drive
Bassendean WA 6054
T: (61 8) 6270 4500
F: (61 8) 6270 4544
E: admin@agentsales.com.au

SALES & SERVICES

Safety Data Sheet

1. IDENTIFICATION OF THE PRODUCT AND THE SUPPLIER

1.1 Product identifiers

Product name : AMMONIUM THIOCYANATE

1.2 Other means of identification

Ammonium rhodanite

1.3 Recommended use of the product and restrictions on use

Laboratory chemical, manufacture of substances.

1.4 Details of supplier of the safety data sheet

Company	: AGent Sales & Services Pty Ltd
Street address	: 38 May Holman Drive, Bassendean, Western Australia 6054
Telephone	: (+61 8) 6270 4500
Fax	: (+61 8) 6270 4544

1.5 Emergency telephone number

Telephone : 1300 883 844

2. HAZARDS IDENTIFICATION

2.1 GHS Classification

Acute Toxicity, Oral (Category 4)
Acute Toxicity, Dermal (Category 4)
Acute Toxicity, Inhalation (Category 4)
Serious eye damage/eye irritation (Category 1)

2.2 GHS Label elements, including precautionary statements

Pictogram :

Signal word : Warning

Hazard statement(s)

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H332	Harmful if inhaled.

Precautionary statement(s)

Prevention

P260	Do not breathe dust / fume / gas / mist / vapours / spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in well-ventilated area.
P280	Wear protective gloves / protective clothing / eye protection / face protection.

Response

P301+P312	IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell.
P330	Rinse mouth.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.

P362	Take off contaminated clothing and wash before re-use.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Storage

Disposal

P501	Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

Contact with acids liberates very toxic gas.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Component	CAS Number	Classification	Concentration (%)
Ammonium thiocyanate	1762-95-4	Acute Tox. 4; H302, H312, H332	> 97

For the full text of the H-Statements mentioned in this section, see Section 16

4. FIRST AID MEASURES

4.1 Description of First Aid measures

General advice

Contact the Poisons Information Centre (Phone: Australia 131 126; New Zealand 0800 764 766) or consult a doctor/physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Remove contaminated clothing and wash affected areas with soap and water. Consult a doctor/physician. Launder clothing before reuse.

In case of eye contact

In case of eye contact, check for and remove any contact lenses. Immediately rinse thoroughly with plenty of running water for at least 15 minutes, keeping eyelids open. In all cases of eye contamination, it is a sensible precaution to seek medical advice.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek immediate medical assistance.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in Section 2.2 and/or Section 11.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

4.4 First Aid facilities

Eye wash facilities and safety shower should be available.

5. FIRE FIGHTING MEASURES

5.1 Suitable extinguishing media

In case of fire, appropriate extinguishing media include dry powder, foam, carbon dioxide, sand and water spray. Do not use a heavy water stream.

5.2 Special hazards arising from the chemical

Non-flammable solid. Hazardous decomposition products may include noxious and toxic fumes of carbon monoxide and carbon dioxide.

5.3 Special protective equipment and precautions for fire fighters

Wear self-contained breathing apparatus and suitable protective clothing.

5.4 Hazchem code

No data available

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear respiratory protection. Avoid dust formation. Avoid breathing dust, vapours, mist or gas. Ensure adequate ventilation.
For personal protection see Section 8.

6.2 Environmental precautions
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided. If contamination of sewers or waterways has occurred, advise local emergency services. Observe all local and national regulations.

6.3 Methods and materials for containment and cleaning up
May be slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contact and breathing in vapours. Work up wind or increase ventilation. Contain and sweep/shovel up spills with dust binding material or use an industrial vacuum cleaner. Transfer to a suitable, labelled container. Dispose of promptly according to local regulations (see Section 13). Do not flush with water

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities
Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Never allow product to get in contact with water during storage. Do not store near acids. Hygroscopic. Air sensitive. Handle and store under inert gas.

Store away from incompatible materials as listed in Section 10.

This material is NOT classified as a Dangerous Goods by the criteria of the ADG.

This material is a Scheduled Poison S5 and must be stored, maintained and used in accordance with the relevant regulations.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

8.1 Control parameters
Not value assigned for this specific material by SWA. However, Workplace Exposure Standard(s) for constituents(s) provided below:

Occupational Exposure Limits

Chemical Name	Reference	TWA – Peak Limitation		STEL		Carcinogen Category	Notices
		ppm	mg/m^3	ppm	mg/m^3		
Inspirable dust	ASCC	-	10	-	-	-	-
Respirable dust	ASCC	-	3	-	-	-	-

As published in "*Workplace Exposure Standards for Airborne Contaminants, December 2011"* by SWA.

These Workplace Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept to as low a level as is workable. These workplace exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

Biological Limits
None allocated for this product.

8.2 Exposure controls

Appropriate engineering controls
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Keep containers closed when not in use. If in the handling and application of this material, safe exposure levels could be exceeded, the use of engineering controls such as local exhaust ventilation must be considered and the results documented. If achieving safe exposure levels does not require engineering controls, then a detailed and documented risk assessment using the relevant Personal

Protective Equipment (PPE) (refer to PPE section below) as a basis must be carried out to determine the minimum PPE requirements.

Personal protective equipment (PPE)
The selection of PPE is dependent on a detailed risk assessment. The risk assessment should consider the work situation, the physical form of the chemical, the handling methods and environmental factors.

Eye/face protection
Chemical safety glasses with unperforated side shields and /or full face shield may be used where continuous eye protection is desirable (AS 1336 / 1337).

Skin protection
Wear impervious protective gloves and protective clothing (splash apron or equivalent chemical impervious outer garment and rubber boots) appropriate for the risk of exposure. See Australian Standards (AS 2161 & AS3765 / 2210). Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use. Wash and dry hands. Wash contaminated clothing and other protective equipment before storage or re-use.

Respiratory protection
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. (AS 1715 / 1716).

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Form : Solid, crystals
	Colour : Colourless
Odour:	Odourless
Odour Threshold:	No data available
pH:	4.0 – 5.5 @ 76.1 g/L @ 25ºC
Melting Point:	150ºC
Boiling Point / Range	No data available
Decomposition Temperature:	No data available
Evaporation Rate:	No data available
Flash Point:	Not applicable
Flammability Limits:	Not applicable
Relative Density:	1.300 g/cm^3
Vapour Density (air=1):	No data available
Vapour Pressure:	0.000114 hPa @ 20ºC
% Volatiles:	No data available
Solubility in water:	76.1 g/L @ 20ºC

10. STABILITY AND REACTIVITY

10.1 Reactivity
Reacts violently with acids, strong bases and strong oxidants.

10.2 Chemical stability
Stable under normal conditions of use, storage and temperature.

10.3 Possibility of hazardous reactions
Reacts with ammonium salts, evolving ammonia gas. Reacts readily with various reducing sugars (i.e. fructose, galactose, maltose, dry whey solids) to produce toxic and flammable carbon monoxide. Take precautions including monitoring the tank atmosphere for carbon monoxide to ensure safety of personnel before vessel entry.

10.4 Conditions to avoid
Avoid moisture. Exposure to air may affect product quality.

10.5 Incompatible materials
Incompatible with strong oxidising agents, strong acids, lead nitrate, chlorates, nitrates, peroxides, mineral acids, brass, copper, iron and sources of ignition.

10.6 Hazardous decomposition products
Decomposes on heating and under influence of light producing toxic fumes of sulphur oxides, nitrogen oxides and cyanides. Hazardous decomposition products include nitrogen oxides, sulphur compounds, hydrogen cyanide, hydrogen sulphide and toxic oxides of nitrogen, sulphur and carbon, ammonia and possibly cyanides.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity
LD_{50} Oral, rat - 750 mg/kg

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity
No data available

Specific target organ toxicity (STOT) - single exposure
No data available

Specific target organ toxicity (STOT) - repeated exposure
No data available

Aspiration hazard
No data available

Health Effects
No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Eye contact : May cause moderate eye irritation, with redness and pain.

Skin contact : Harmful in contact with skin. Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.

Ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard. May cause vomiting, disorientation, weakness, low blood pressure, convulsions and death which may be delayed. The probable lethal dose is between 15-30 g.

Inhalation : Harmful if inhaled. Causes respiratory tract irritation. Symptoms include coughing and shortness of breath.

11.2 Information on possible routes of exposure
The substance can be absorbed into the body by skin & eye contact, ingestion and by inhalation.

11.3 Additional Information
RTECS: XK7875000

12. ECOGICAL INFORMATION

12.1 Ecotoxicity
Avoid contaminating waterways.

Toxicity to fish:
LC_{50} (Mosquito fish) = 420 mg/L / 48h
LC_{50} (Fathead minnow) = 100 mg/L / 96h

Toxicity to daphnia & other aquatic invertebrates
LC_{50} (Water flea) = 170 mg/L / 96h

12.2 Persistence and degradability
No data available.

12.3 Bioaccumulative potential
No data available

12.4 Mobility in soil
No data available

12.5 Other adverse effects
May cause long-term adverse effects in the environment.

13. DISPOSAL CONSIDERATIONS

13.1 Disposal methods and containers
Ensure waste disposal conforms to relevant local, state and federal authority waste disposal regulations. All empty packaging should be disposed of as unused product.

13.3 Special precautions for landfill or incineration
Contact a specialist disposal company or the local waste regulator for advice. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

14. TRANSPORT INFORMATION

Not classified as a Dangerous Goods by the criteria of the ADG Code for transport by road or rail
Not classified as a Dangerous Goods by the criteria of the IMDG Code for transport by sea
Not classified as a Dangerous Goods by the criteria of the IATA Code for transport by air

14.1	**UN number**	None allocated
14.2	**Proper shipping name**	AMMONIUM THIOCYANATE
14.3	**Transport hazard class**	None allocated
14.4	**Packing group**	None allocated
14.5	**Environmental hazards**	No
14.6	**Special precautions for users**	None allocated
14.7	**Hazchem code**	None allocated
14.8	**Dangerous goods initial emergency response guide (SAA/SNZ HB76:2010)**	None allocated

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)
Poisons Schedule : 5

Carcinogen classification under WHS Regulations 2011, Schedule 10
Not listed

Notification status
AICS On the inventory, or in compliance with the inventory.

16. OTHER INFORMATION

Key / legend to abbreviations and acronyms used in the MSDS

ADG	Australian Dangerous Goods
ASCC	Australian Safety and Compensation Council
DEC	Department of Environment and Conservation
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
IMDG EMS	International Maritime Dangerous Goods Emergency Schedule
NOHSC	National Occupational Health and Safety Commission
SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons
Acute Tox.	Acute toxicity
TWA	Time weighted average
STEL	Short term exposure level
SWA	Safe Work Australia
Peak Limitations	A ceiling concentration that should not be exceeded over a measurement period, which should be as short as possible, but not exceeding 15 minutes
LD_{50}	Lethal dose 50. The single dose of a substance that causes the death of 50% of an animal population from exposure to the substance by any route other than inhalation
LC_{50}	Lethal concentration that kills 50% of an animal population within a specified time
TD Lo	The lowest dose of a substance known to have produced signs of toxicity
RTECS	Registry of Toxic Effects of Chemical Substances
g/L	Grams per litre
g/cm^3	Grams per cubic centimetre
mg/m^3	Milligrams per cubic metre
mg/kg	Milligrams per kilogram
pH	Relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline
WHS	Work Health and Safety

Literature references

"Workplace Exposure Standards for Airborne Contaminants, December 2011" by SWA
Work Health and Safety Regulations 2011

Reason(s) for Issue:

Revised primary SDS
Alignment to GHS requirements

Disclaimer