

SAFETY DATA SHEET

Preparation Date: 7/31/2015

Revision date 3/27/2019

Revision Number: G2

1. IDENTIFICATION

Product identifier

Product code: A1270
Product Name: AMMONIUM THIOCYANATE, CRYSTAL, REAGENT, ACS

Other means of identification

Synonyms: Thiocyanic acid, ammonium salt
 Ammonium rhodanate
 Ammonium sulfocyanate
 Rhodanid/Rhodanide
 Trans-aid
 Ammonidum isothiocyanate
 Ammonium sulfocyanide
 Rhodanine, ammonium salt
CAS #: 1762-95-4
RTECS # XK7875000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Pesticide. Metal surface cleaning agent. Electroplating agent. Manufacture of plastics. Photographic processing. In textiles. Production of steel. Research and Development. Manufacture of substances. Laboratory chemicals.
Uses advised against No information available

Supplier: Spectrum Chemical Mfg. Corp
 14422 South San Pedro St.
 Gardena, CA 90248
 (310) 516-8000

Order Online At: <https://www.spectrumchemical.com>
Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Tom Tyner (USA - West Coast)
Contact Person: Ibad Tirmiz (USA - East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Considered a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Gases)	Category 4

Label elements

Product code: A1270

Product name: AMMONIUM
 THIOCYANATE, CRYSTAL,
 REAGENT, ACS

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Warning**Hazard statements**

Harmful if swallowed
Harmful in contact with skin
Harmful if inhaled

**Hazards not otherwise classified (HNOC)**

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Wear protective gloves/protective clothing/eye protection/face protection
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

IF ON SKIN: Wash with plenty of water
Call a POISON CENTER or doctor/physician if you feel unwell
Wash contaminated clothing before reuse
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
Rinse mouth

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%
Ammonium Thiocyanate	1762-95-4	100

4. FIRST AID MEASURES**First aid measures****General Advice:**

National Capital Poison Center in the United States can provide assistance if you have a poison emergency and need to talk to a poison specialist. Call 1-800-222-1222. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothing and

shoes. Get medical attention. If skin irritation persists, call a physician.

Eye Contact: Flush eyes with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.

Inhalation: Harmful by inhalation. Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Ingestion: Harmful if swallowed. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Obtain medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms

- May cause digestive (gastrointestinal) tract irritation
- Ingestion may cause vomiting and nausea
- May affect behavior/central nervous system
- Hallucinations
- May cause personality and mood changes
- Distorted perception
- Mania
- Disorientation
- Weakness
- Seizures
- It may affect metabolism
- Thiocyanate ion is slowly excreted in urine; it is not decomposed to cyanide in appreciable quantities. Thiocyanate ion readily diffuses into all tissues. It appears early in saliva and urine.
- It may cause symptoms similar to cyanide poisoning. It may be metabolized to cyanide which inhibits cytochrome oxidase thus impairing cellular respiration

Indication of any immediate medical attention and special treatment needed

Notes to Physician: Treat as cyanide poisoning. Antidote: Always have a cyanide antidote kit (amyl nitrite, sodium nitrite) on hand when working with cyanide compounds. Get medical advice on how to use it and when it should be used.

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste.

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.

Unsuitable Extinguishing Media: No information available.

Specific hazards arising from the chemical

Hazardous combustion products

If it is involved in a fire the following can be released: Ammonia. Hydrogen cyanide. Nitrogen oxides (NOx). Sulfur oxides. carbon oxides.

Specific hazards

May be combustible at high temperatures. When heated to decomposition it emits toxic fumes. Toxic gases and vapors may be released when cyanide decomposes. Ammonium Thiocyanate + Lead Nitrate may cause

explosion.

Special Protective Actions for Firefighters

Specific Methods:

No information available

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Use personal protective equipment. Avoid breathing dust. Avoid contact with skin, eyes and clothing. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

Methods and material for containment and cleaning up

Methods for containment

Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.

Methods for cleaning up

Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials. Remove all sources of ignition.

Safe Handling Advice

Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Do not ingest. Do not breathe dust. Use only in well-ventilated areas. Keep away from heat and sources of ignition. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Hygroscopic. Protect from moisture. Keep container tightly closed in a dry and well-ventilated place. Store away from incompatible materials.

Incompatible Materials:

Potassium Chlorate (KClO₃)
Lead Nitrate (Pb(NO₃)₂)
Oxidizing agents
Acids

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Component	CAS No	OSHA	NIOSH	ACGIH	AIHA WEEL
Ammonium Thiocyanate	1762-95-4	5 mg/m ³ TWA (as CN)	None	None	None

Canada

Component	CAS No	Canada - Alberta	Canada - British Columbia	Canada - Ontario	Canada - Quebec
Ammonium Thiocyanate	1762-95-4	None	None	None	None

Australia and Mexico

Component	CAS No	Australia	Mexico
Ammonium Thiocyanate	1762-95-4	None	None

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation, especially in confined areas. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

Eye protection:	Safety glasses with side-shields. or Goggles
Skin and body protection:	Chemical resistant apron Long sleeved clothing Gloves
Respiratory protection:	Effective dust mask. or. Wear respirator with dust filter. Use a dust respirator under conditions where exposure to the substance is apparent (e.g. generation of high concentration of dust (dust clouds) , inadequate ventilation, development of respiratory tract irritation), and engineering controls are not feasible. Be sure to use an approved/certified respirator or equivalent.
Hygiene measures:	Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands and face before breaks and immediately after handling the product

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid	Appearance: Crystalline powder.	Color: White.
Odor: Odorless.	Taste No information available.	Formula NH ₄ SCN

Molecular/Formula weight (g/mole): 76.12 g/mol	Flammability (solid, gas) no data available	Flashpoint (°C/°F): No information available
Flash Point Tested according to: Not available	Autoignition Temperature (°C/°F): No information available	Lower Explosion Limit (%): No information available
Upper Explosion Limit (%): No information available	Melting point/range(°C/°F): 149.6-154°C/ 301.3-309°F	Decomposition temperature(°C/°F): 170°C/338°F
Boiling point/range(°C/°F): No information available	Bulk density: 650 kg/m ³	Density (g/cm³): No information available
Specific gravity: 1.3057	pH 4.5-6.0 (5% solution)	Vapor pressure @ 20°C (kPa): No information available
Evaporation rate: No information available	Vapor density: No information available	VOC content (g/L): No information available
Odor threshold (ppm): No information available	Partition coefficient (n-octanol/water): -2.287	Viscosity: No information available
Miscibility: No information available	Solubility: Easily soluble in water Soluble in Acetone Soluble in ammonia Soluble in Alcohol Freely soluble in Methanol Very soluble in Ethanol Highly soluble in liquid ammonia and liquid sulfur dioxide Practically insoluble in Chloroform Practically insoluble in Ethyl Acetate	

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents
Reactive with acids
It may liberate toxic cyanide fumes when it is mixed with acids
May cause an explosion with lead nitrate
Explosive reaction when heated with potassium nitrate

Chemical stability

Stability: Hygroscopic. Stable under recommended storage conditions.

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Ignition sources. Exposure to moisture. Exposure to moist air. Incompatible materials.

Incompatible Materials: Potassium Chlorate (KClO₃)
Lead Nitrate (Pb(NO₃)₂)
Oxidizing agents
Acids

Hazardous decomposition Carbon oxides. Ammonia. Nitrogen oxides (NO_x). Sulfur oxides. Hydrogen

products: cyanide.

Other Information

Corrosivity: Extremely corrosive in the prescence of copper, brass, iron
Non-corrosive in presence of glass.

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Inhalation. Skin.

Acute Toxicity

Component Information

Ammonium Thiocyanate	
CAS No	1762-95-4

LD50/oral/rat = 750 mg/kg Oral LD50 Rat
LD50/oral/mouse = 500 mg/kg oral LD50 mouse (RTECS)
LD50/dermal/rabbit = No information available
LD50/dermal/rat = No information available
LC50/inhalation/rat = No information available
LC50/inhalation/mouse = No information available
Other LD50 or LC50information = 430 mg/kg oral TDLo human
500 mg/kg oral LD50 guinea pig

Product Information

LD50/oral/rat =
Value - Acute Tox = 750 mg/kg

LD50/oral/mouse =
Value - Acute Tox Oral = 500 mg/kg

LD50/dermal/rabbit
Value - Acute Tox = No information available

LD50/dermal/rat
VALUE - Acute Tox Dermal = No information available

LC50/inhalation/rat
VALUE-Vapor = No information available
VALUE-Gas = No information available
VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse
VALUE-Vapor = No information available
VALUE - Gas = No information available
VALUE - Dust/Mist = No information available

Symptoms

Skin Contact:	Harmful in contact with skin. May cause skin irritation.
Eye Contact:	May cause eye irritation.
Inhalation	May cause irritation of the respiratory tract and mucous membranes irritation. Harmful by inhalation.
Ingestion	Harmful if swallowed. May cause gastrointestinal tract irritation with nausea, vomiting. May affect behavior/central nervous system (hallucinations, distorted perceptions, personality and mood changes, mania, disorientation, weakness, seizures). May affect metabolism.
Aspiration hazard	No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity	Prolonged or repeated exposure may affect the blood. Prolonged or repeated ingestion may affect the thyroid. Chronic exposure may affect behavior and cause personality/mood changes.
Sensitization:	No information available.
Mutagenic Effects:	No information available
Carcinogenic effects:	Not considered carcinogenic.

Component	CAS No	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Notifiable Carcinogenic Substances	Australia - Prohibited Carcinogenic Substances
Ammonium Thiocyanate	1762-95-4	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

ACGIH (American Conference of Governmental Industrial Hygienists)

IARC (International Agency for Research on Cancer)

NTP (National Toxicology Program)

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

<u>Reproductive toxicity</u>	No data is available
Reproductive Effects:	No information available
Developmental Effects:	No information available
Teratogenic Effects:	No information available

Specific Target Organ Toxicity

STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Target Organs:	Blood. Thyroid.

12. ECOLOGICAL INFORMATION

Ecotoxicity

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Ecotoxicity effects: Harmful to aquatic organisms, causes long-term adverse effects in the aquatic environment.

Ammonium Thiocyanate - 1762-95-4

Algae/aquatic plants 65 mg/L LC50 *Oncorhynchus mykiss* (rainbow trout) 96h static

Persistence and degradability: No information available

Bioaccumulative potential: No information available.

Mobility in soil No information available

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal. Do not re-use empty containers
Dispose of as unused product.

Component	CAS No	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ammonium Thiocyanate	1762-95-4	None	None	None	None

14. TRANSPORT INFORMATION

DOT

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available
Subsidiary Class No information available
Packing group: No information available
Emergency Response Guide Number No information available
Marine Pollutant No data available
DOT RQ (lbs): No information available
Special Provisions No Information available
Symbol(s): No information available
Description: No information available

TDG (Canada)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant No Information available
Description: No information available

ADR

Product code: A1270

Product name: AMMONIUM
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UN Number Not regulated
Proper Shipping Name: No information available
Transport hazard class(es) No information available
Packing group No information available
Subsidiary Risk: No information available

IMDG

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class: No information available
Subsidiary Risk: No information available
Packing Group: No information available
Marine Pollutant No information available

RID

UN Number Not Regulated
Proper Shipping Name: No information available
Transport hazard class(es) No information available
Subsidiary Risk: No information available
Packing group No information available

ICAO (air)

UN-No: Not Regulated
Proper Shipping Name: No information available
Hazard Class No information available
Subsidiary Risk: No information available
Packing Group: No information available

IATA

UN Number Not Regulated
Proper Shipping Name: No information available
Transport hazard class(es) No information available
Subsidiary Risk: No information available
Packing group No information available
Precautionary Statements - Response No information available
Special Provisions No information available

15. REGULATORY INFORMATION

International Inventories

Component	CAS No	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	China IECSC	Australia (AICS)	EINECS-No.
Ammonium Thiocyanate	1762-95-4	PresentACTIVE	Present KE-01750	Present	Present (1)-405,(1)-14 2	Present	Present	Present 217-175-6

U.S. Regulations

Ammonium Thiocyanate

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: 0119
 2308
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present

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New York Release Reporting - List of Hazardous Substances:
 5000 lb RQ
 1 lb RQ
 Louisiana Reportable Quantity List for Pollutants: 5000lbfinal RQ
 2270kgfinal RQ
 California Directors List of Hazardous Substances: Present

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:
 This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:
 This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Component	CAS No	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Ammonium Thiocyanate	1762-95-4	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Component	CAS No	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting de minimis
Ammonium Thiocyanate	1762-95-4	5000 lb final RQ 2270 kg final RQ	None	None	None	None

U.S. TSCA

Component	CAS No	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Ammonium Thiocyanate	1762-95-4	Not Applicable	Not Applicable

Canada

WHMIS 2015 - GHS Classifications

WHMIS 2015 Hazard Classification Information:
 The WHMIS 2015 classification of this product has not been validated or reviewed yet.

Canada Hazardous Products Regulation
This product has been classified according to the hazard criteria of the HPR (Hazardous Products Regulation) and the SDS contains all of the information required by the HPR

DSL/NDSL

Component	CAS No	Canada (DSL)	Canada (NDSL)
Ammonium Thiocyanate	1762-95-4	Present	Not Listed

Component	CAS No	CEPA Schedule I - Toxic Substances
Ammonium Thiocyanate	1762-95-4	Not listed
Component	CAS No	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Ammonium Thiocyanate	1762-95-4	Not listed

EU Classification

EU GHS - SV - CLP 1272/2008

Component	CAS No	EU GHS - SV - CLP (1272/2008)
Ammonium Thiocyanate	1762-95-4	

EU - CLP (1272/2008)

R-phrases(s)

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

S -phrase(s)

S36 - Wear suitable protective clothing

S46 - If swallowed, seek medical advice immediately and show this container or label

S 1/2 - Keep locked up and out of the reach of children.

S20/21 - When using, do not eat, drink or smoke.

S36/37 - Wear suitable protective clothing and gloves

Component	CAS No	Classification	Concentration Limits:	Safety Phrases
Ammonium Thiocyanate	1762-95-4		No information	

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

Xn - Harmful

Xn



16. OTHER INFORMATION

Preparation Date: 7/31/2015
Revision date 3/27/2019
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the

completeness or accuracy of the information contained herein.

End of Safety Data Sheet