

## SAFETY DATA SHEET

Preparation Date: 7/31/2015

Revision Date: 7/31/2015

Revision Number: G1

### 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 isothicyanate  
 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:** Martin LaBenz (West Coast)  
**Contact Person:** Ibad Tirmiz (East Coast)

### 2. HAZARDS IDENTIFICATION

**Classification**

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

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

**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**

*Specific measures (see .? on this label)*

IF ON SKIN: Wash with plenty of soap and water

Call a POISON CENTER or doctor/physician if you feel unwell

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position 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**

Components	CAS-No.	Weight %	Trade Secret
Ammonium Thiocyanate 1762-95-4	1762-95-4	100	*

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

Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126). Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

**Product code:** A1270

**Product name:** AMMONIUM  
THIOCYANATE, CRYSTAL, REAGENT,  
ACS

**2 / 13**

#### 4. FIRST AID MEASURES

<b>Skin Contact:</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention. If skin irritation persists, call a physician.
<b>Eye Contact:</b>	Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.
<b>Inhalation:</b>	Harmful by inhalation. Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Ingestion:</b>	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**

<b>Symptoms</b>	May cause digestive (gastrointestinal) tract irritation. Ingestion may cause vomiting and nausea. May affect behavior/central nervous system. Hallucinations. 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**

<b>Notes to Physician:</b>	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**

<b>Suitable Extinguishing Media:</b>	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.
--------------------------------------	--

<b>Unsuitable Extinguishing Media:</b>	No information available.
--	---------------------------

#### **Specific hazards arising from the chemical**

<b>Hazardous Combustion Products:</b>	Carbon oxides, Sulfur oxides, Nitrogen oxides, Ammonia, Hydrogen cyanide
---------------------------------------	--

<b>Specific hazards:</b>	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**

<b>Specific Methods:</b>	No information available.
--------------------------	---------------------------

<b>Special Protective Equipment for Firefighters:</b>	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 contact with skin, eyes and clothing. Avoid breathing dust. Avoid dust formation. Remove all sources of ignition.

**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. Avoid dust formation. Do not breathe vapours/dust. Do not ingest. Do not smoke. Avoid shock and friction. 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. Keep away from heat and sources of ignition. Store in a segregated and approved area.

#### **Incompatible Materials:**

Potassium Chlorate (KClO<sub>3</sub>). Lead Nitrate (Pb(NO<sub>3</sub>)<sub>2</sub>). Oxidizing agents. Acids. Moisture.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

#### **National occupational exposure limits**

##### **United States**

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Ammonium Thiocyanate 1762-95-4	5 mg/m <sup>3</sup> TWA (as CN)	None	None	None

##### **Canada**

Components	Alberta	British Columbia	Ontario	Quebec
Ammonium Thiocyanate 1762-95-4	None	None	None	10 ppm Ceiling (as CN) 11 mg/m <sup>3</sup> Ceiling (as CN)

##### **Australia and Mexico**

Components	Australia	Mexico
------------	-----------	--------

**Product code:** A1270

**Product name:** AMMONIUM  
THIOCYANATE, CRYSTAL, REAGENT,  
ACS

**4 / 13**

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
- Skin and body protection:** Chemical resistant apron. Long sleeved clothing. Gloves.
- Respiratory protection:** Wear respirator with dust filter. 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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b> Solid.	<b>Appearance:</b> Crystalline powder.	<b>Color:</b> White.
<b>Odor:</b> Odorless.	<b>Taste</b> No information available	<b>Molecular/Formula weight:</b> 76.12 g/mol
<b>Formula:</b> NH <sub>4</sub> SCN	<b>Flammability:</b> No information available	<b>Flash point (°C):</b> No data available
<b>Flashpoint (°C/°F):</b> No information available.	<b>Flash Point Tested according to:</b> Not available	<b>Autoignition Temperature (°C/°F):</b> No information available
<b>Lower Explosion Limit (%):</b> No information available	<b>Upper Explosion Limit (%):</b> No information available	<b>pH:</b> 4.5-6.0 (5% solution)
<b>Melting point/range(°C/°F):</b> 149.6-154°C/ 301.3-309°F	<b>Boiling point/range(°C/°F):</b> No information available	<b>Bulk density:</b> 650 kg/m <sup>3</sup>
<b>Decomposition temperature(°C/°F):</b> 170°C/338°F	<b>Density (g/cm<sup>3</sup>):</b> No information available	<b>Specific gravity:</b> 1.3057
<b>Vapor pressure @ 20°C (kPa):</b> No information available	<b>Evaporation rate:</b> No information available	<b>Vapor density:</b> No information available
<b>VOC content (g/L):</b> No information available	<b>Odor threshold (ppm):</b> No information available	<b>Partition coefficient (n-octanol/water):</b> -2.287
<b>Viscosity:</b> No information available	<b>Miscibility:</b> No information available	<b>Solubility:</b> 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  
Moisture sensitive.

### Chemical stability

**Stability:** Hygroscopic. Stable under recommended storage conditions.

**Possibility of Hazardous Reactions:** Hazardous polymerization does not occur  
May release toxic and/or corrosive fumes  
Contact with acids liberates very toxic gas

**Conditions to avoid:** Heat. Ignition sources. Incompatible materials. Moisture sensitive.

**Product code:** A1270

**Product name:** AMMONIUM  
THIOCYANATE, CRYSTAL, REAGENT,  
ACS

6 / 13

**Incompatible Materials:** Potassium Chlorate (KClO<sub>3</sub>). Lead Nitrate (Pb(NO<sub>3</sub>)<sub>2</sub>). Oxidizing agents. Acids. Moisture.

**Hazardous decomposition products:** Carbon oxides. Ammonia. Nitrogen oxides (NO<sub>x</sub>). Sulfur oxides. Hydrogen cyanides.

**Other Information**

**Corrosivity:** Extremely corrosive in the presence 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 - 1762-95-4*

**LD50/oral/rat** = 750 mg/kg Oral LD50 Rat

**LD50/oral/mouse** = 500 mg/kg oral LD50 mouse (RTECS)

**LD50/dermal/rat** = No information available

**LD50/dermal/rabbit** = No information available

**LC50/inhalation/rat** = No information available

**LC50/inhalation/mouse** = No information available

**Other LD50 or LC50 information** = 430 mg/kg oral TDLo human  
500 mg/kg oral LD50 guinea pig

#### Product Information

**LD50/oral/rat** =

**VALUE- Acute Tox Oral** = 750mg/kg

**LD50/oral/mouse** =

**Value - Acute Tox Oral** = 500mg/kg

**LD50/dermal/rabbit**

**VALUE-Acute Tox Dermal** = 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

**Product code:** A1270

**Product name:** AMMONIUM  
THIOCYANATE, CRYSTAL, REAGENT,  
ACS

7 / 13

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

Components	IARC	ACGIH - Carcinogens	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Ammonium Thiocyanate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

**Reproductive toxicity** 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**



## 12. ECOLOGICAL INFORMATION

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

*Ammonium Thiocyanate - 1762-95-4*

**Freshwater Algae Data:** 65 mg/L LC50 *Oncorhynchus mykiss* (rainbow trout) 96h static

**Persistence and degradability:** No information available

**Bioaccumulative potential:** No information available

**Mobility:** 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.

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ammonium Thiocyanate	None	None	None	None

## 14. TRANSPORT INFORMATION

### DOT

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available  
**Subsidiary Risk:** No information available  
**Packing Group:** None  
**ERG No:** No information available  
**Marine Pollutant:** No data available  
**DOT RQ (lbs):** 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  
**Description:** No information available

### ADR

**UN-No:** Not Regulated  
**Proper Shipping Name:** No information available  
**Hazard Class:** No information available

**Product code:** A1270

**Product name:** AMMONIUM  
THIOCYANATE, CRYSTAL, REAGENT,  
ACS

9 / 13

## 14. TRANSPORT INFORMATION

**Packing Group:** No information available  
**Subsidiary Risk:** No information available  
**Classification Code:** No information available  
**Description:** No information available  
**CEFIC Tremcard No:** No information available

### IMO / 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  
**Description:** No information available  
**IMDG Page:** No information available  
**Marine Pollutant** No information available  
**MFAG:** No information available  
**Maximum Quantity:** No information available

### RID

**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  
**Classification Code:** No information available  
**Description:** No information available

### ICAO

**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  
**Description:** No information available

### IATA

**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  
**Description:** No information available

## 15. REGULATORY INFORMATION

### International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Ammonium Thiocyanate</i>	Present	Present KE-01750	Present	Present (1)-405 (1)-142	Present	Present	Present 217-175-6

### U.S. Regulations

**Product code:** A1270

**Product name:** AMMONIUM  
 THIOCYANATE, CRYSTAL, REAGENT,  
 ACS

**10 / 13**

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
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)

Table with 5 columns: Components, Carcinogen, Developmental Toxicity, Male Reproductive Toxicity, Female Reproductive Toxicity. Row 1: Ammonium Thiocyanate, Not Listed, Not Listed, Not Listed, Not Listed.

CERCLA/SARA

Table with 6 columns: Components, 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. Row 1: Ammonium Thiocyanate, 5000 lb final RQ, 2270 kg final RQ, None, None, None, None.

U.S. TSCA

Table with 3 columns: Components, TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS), TSCA 8(d) -Health and Safety Reporting. Row 1: Ammonium Thiocyanate, Not Applicable, Not Applicable.

Canada

WHMIS hazard class:
Non-controlled

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Inventory

Table with 3 columns: Components, Canada (DSL), Canada (NDSL). Row 1: Ammonium Thiocyanate, Present, Not Listed.

Table with 3 columns: Components, CEPA Schedule I - Toxic Substances, CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting. Row 1: Ammonium Thiocyanate, Not listed, Not listed.

## EU Classification

### R-phrase(s)

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

R36/37/38 - Irritating to eyes, respiratory system and skin.

### S -phrase(s)

S 2 - Keep out of the reach of children.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

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.

Components	Classification	Concentration Limits:	Safety Phrases
Ammonium Thiocyanate		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

## 16. OTHER INFORMATION

**Preparation Date:** 7/31/2015  
**Revision Date:** 7/31/2015  
**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**