

# AMMONIUM THIOCYANATE

AMT

## CAUTIONARY RESPONSE INFORMATION

<b>Common Synonyms</b> Ammonium rhodanate Ammonium rhodanide Ammonium sulfocyanate Ammonium sulfocyanide Thiocyanic acid, ammonium salt	Solid or solution (in water)      White      Odorless
Sinks and mixes with water.	
<p>Stop discharge if possible. Keep people away. Call fire department. Avoid contact with liquid and solid. Avoid contact with solid and dust. Isolate and remove discharged material. Notify local health and pollution control agencies. Protect water intakes.</p>	
<b>Fire</b>	Combustible Solid. Solution not flammable. POISONOUS GASES MAY BE PRODUCED IN FIRE. Wear goggles and self-contained breathing apparatus. Extinguish with water.
<b>Exposure</b>	CALL FOR MEDICAL AID.  VAPOR OR DUST Irritating to eyes, nose and throat. If inhaled will cause coughing or difficult breathing. If in eyes, hold eyelids open and flush with plenty of water. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen.  LIQUID OR SOLID Irritating to skin and eyes. If swallowed will cause nausea or vomiting. Remove contaminated clothing and shoes. Flush affected areas with plenty of water. IF IN EYES, hold eyelids open and flush with plenty of water. IF SWALLOWED and victim is CONSCIOUS, have victim drink water or milk. IF SWALLOWED and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm.
<b>Water Pollution</b>	Dangerous to aquatic life in high concentrations. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.

<b>1. CORRECTIVE RESPONSE ACTIONS</b> Dilute and disperse Stop discharge	<b>2. CHEMICAL DESIGNATIONS</b> 2.1 <b>CG Compatibility Group:</b> Not listed 2.2 <b>Formula:</b> NH <sub>4</sub> SCN 2.3 <b>IMO/UN Designation:</b> Not listed 2.4 <b>DOT ID No.:</b> Not listed 2.5 <b>CAS Registry No.:</b> 1762-95-4 2.6 <b>NAERG Guide No.:</b> Not listed 2.7 <b>Standard Industrial Trade Classification:</b> 51481
--	---

### 3. HEALTH HAZARDS

- 3.1 **Personal Protective Equipment:** Rubber or plastic gloves; rubber or plastic apron; standard goggles
- 3.2 **Symptoms Following Exposure:** Inhalation of dust causes irritation of nose and throat. Ingestion causes dizziness, cramps, nervous disturbances. Dust irritates eyes. Can be absorbed through skin; prolonged contact may produce various skin eruptions, dizziness, cramps, nausea, and mild to severe disturbance of the nervous system.
- 3.3 **Treatment of Exposure:** INHALATION: move to fresh air. INGESTION: give large amount of water; get medical attention. EYES OR SKIN: wash with water; consult physician.
- 3.4 **TLV-TWA:** Not listed.  
3.5 **TLV-STEL:** Not listed.  
3.6 **TLV-Ceiling:** Not listed.  
3.7 **Toxicity by Ingestion:** Grade 2; oral rat LD<sub>50</sub> = 854 mg/kg  
3.8 **Toxicity by Inhalation:** Currently not available.  
3.9 **Chronic Toxicity:** Currently not available  
3.10 **Vapor (Gas) Irritant Characteristics:** Currently not available  
3.11 **Liquid or Solid Characteristics:** Currently not available  
3.12 **Odor Threshold:** Currently not available  
3.13 **IDLH Value:** Not listed.  
3.14 **OSHA PEL-TWA:** Not listed.  
3.15 **OSHA PEL-STEL:** Not listed.  
3.16 **OSHA PEL-Ceiling:** Not listed.  
3.17 **EPA AEGL:** Not listed

### 4. FIRE HAZARDS

- 4.1 **Flash Point:**  
Solid may be combustible; solution is not flammable.
- 4.2 **Flammable Limits in Air:** Not pertinent
- 4.3 **Fire Extinguishing Agents:** Water
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Currently not available
- 4.5 **Special Hazards of Combustion**  
**Products:** Decomposes to form ammonia, hydrogen sulfide, and hydrogen cyanide. Oxides of nitrogen may also form. All of these products are toxic.
- 4.6 **Behavior in Fire:** Currently not available
- 4.7 **Auto Ignition Temperature:** Not pertinent
- 4.8 **Electrical Hazards:** Not pertinent
- 4.9 **Burning Rate:** Not pertinent
- 4.10 **Adiabatic Flame Temperature:** Currently not available
- 4.11 **Stoichiometric Air to Fuel Ratio:** Currently not available
- 4.12 **Flame Temperature:** Currently not available
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Currently not available
- 4.14 **Minimum Oxygen Concentration for Combustion (MOCC):** Not listed

### 5. CHEMICAL REACTIVITY

- 5.1 **Reactivity with Water:** No reaction
- 5.2 **Reactivity with Common Materials:** Currently not available
- 5.3 **Stability During Transport:** Stable
- 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
- 5.5 **Polymerization:** Not pertinent
- 5.6 **Inhibitor of Polymerization:** Not pertinent

### 6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:**  
280-300 ppm/1 hr/orange-spotted sunfish/killed/fresh water  
420 ppm/48 hr/mosquitofish/TL<sub>50</sub>/fresh water
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** < 0.010 lb/lb, 5 days
- 6.4 **Food Chain Concentration Potential:** None
- 6.5 **GESAMP Hazard Profile:** Not listed

### 7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Reagent; Technical, 50-65% solution in water
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** No requirement
- 7.4 **Venting:** Open
- 7.5 **IMO Pollution Category:** Currently not available
- 7.6 **Ship Type:** Currently not available
- 7.7 **Barge Hull Type:** Currently not available

### 8. HAZARD CLASSIFICATIONS

- 8.1 **49 CFR Category:** Not listed
- 8.2 **49 CFR Class:** Not pertinent
- 8.3 **49 CFR Package Group:** Not listed.
- 8.4 **Marine Pollutant:** No
- 8.5 **NFPA Hazard Classification:** Not listed
- 8.6 **EPA Reportable Quantity:** 5000
- 8.7 **EPA Pollution Category:** D
- 8.8 **RCRA Waste Number:** Not listed
- 8.9 **EPA FWPCA List:** Yes

### 9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Solid or liquid
- 9.2 **Molecular Weight:** 76.12
- 9.3 **Boiling Point at 1 atm:** (solution; solid decomposes) 239°F = 115°C = 388°K
- 9.4 **Freezing Point:** (solid) 320°F = 160°C = 433°K
- 9.5 **Critical Temperature:** Not pertinent
- 9.6 **Critical Pressure:** Not pertinent
- 9.7 **Specific Gravity:** > 1.1 at 20°C (solid) 1.1-1.15 at 20°C (solution)
- 9.8 **Liquid Surface Tension:** Not pertinent
- 9.9 **Liquid Water Interfacial Tension:** Not pertinent
- 9.10 **Vapor (Gas) Specific Gravity:** Not pertinent
- 9.11 **Ratio of Specific Heats of Vapor (Gas):** Not pertinent
- 9.12 **Latent Heat of Vaporization:** Not pertinent
- 9.13 **Heat of Combustion:** Not pertinent
- 9.14 **Heat of Decomposition:** Not pertinent
- 9.15 **Heat of Solution:** 133 Btu/lb = 74 cal/g = 3.1 X 10<sup>5</sup> J/kg
- 9.16 **Heat of Polymerization:** Not pertinent
- 9.17 **Heat of Fusion:** Currently not available
- 9.18 **Limiting Value:** Currently not available
- 9.19 **Reid Vapor Pressure:** Currently not available

### NOTES

# AMMONIUM THIOCYANATE

AMT

9.20 SATURATED LIQUID DENSITY		9.21 LIQUID HEAT CAPACITY		9.22 LIQUID THERMAL CONDUCTIVITY		9.23 LIQUID VISCOSITY	
Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F	Temperature (degrees F)	British thermal unit inch per hour-square foot-F	Temperature (degrees F)	Centipoise
	N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T		N O T  P E R T I N E N T

9.24 SOLUBILITY IN WATER		9.25 SATURATED VAPOR PRESSURE		9.26 SATURATED VAPOR DENSITY		9.27 IDEAL GAS HEAT CAPACITY	
Temperature (degrees F)	Pounds per 100 pounds of water	Temperature (degrees F)	Pounds per square inch	Temperature (degrees F)	Pounds per cubic foot	Temperature (degrees F)	British thermal unit per pound-F
34	111.200		N		N		N
36	114.500		O		O		O
38	117.799		T		T		T
40	121.000		P		P		P
42	124.299		E		E		E
44	127.500		R		R		R
46	130.799		T		T		T
48	134.000		I		I		I
50	137.299		N		N		N
52	140.500		E		E		E
54	143.799		N		N		N
56	147.099		T		T		T
58	150.299		P		P		P
60	153.599		E		E		E
62	156.799		R		R		R
64	160.099		T		T		T
66	163.299		I		I		I
68	166.599		N		N		N
70	169.799		E		E		E
72	173.099		N		N		N
74	176.400		T		T		T
76	179.599		P		P		P
78	182.900		E		E		E
80	186.099		R		R		R
82	189.400		T		T		T
84	192.599		I		I		I