

UREA, AMMONIUM NITRATE SOLN (W/AQUA AMMONIA)

UAS

CAUTIONARY RESPONSE INFORMATION

Common Synonyms Liquamon 28 Uran, rustica	Liquid	Clear	Slight ammonia odor
Miscible in water.			
<p>Keep people away. Notify local health and pollution control agencies. Wear rubber overclothing (including gloves)</p>			
Fire	Not Flammable POISONOUS GASES MAY BE PRODUCED IF HEATED. Extinguish with water.		
Exposure	Call for medical aid. Irritating to skin and eyes. Harmful if swallowed. Remove contaminated clothing and shoes. IF ON SKIN, flush skin thoroughly and immediately with water. If irritation persists obtain medical aid. IF IN EYES, flush eyes with water for 15 minutes or until irritation subsides. IF SWALLOWED, and victim is CONSCIOUS, have victim drink water or milk.		
Water Pollution	Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes.		

1. CORRECTIVE RESPONSE ACTIONS Stop discharge Dilute and disperse	2. CHEMICAL DESIGNATIONS 2.1 CG Compatibility Group: 6; Ammonia 2.2 Formula: H ₂ ONH ₂ HNO ₃ :CO(NH ₂) ₂ 2.3 IMO/UN Designation: Not listed 2.4 DOT ID No.: Not listed 2.5 CAS Registry No.: 15978-77-5 2.6 NAERG Guide No.: Not listed 2.7 Standard Industrial Trade Classification: 51219
3. HEALTH HAZARDS	
3.1 Personal Protective Equipment: Rubber gloves, safety glasses, clothes that minimize skin exposure. 3.2 Symptoms Following Exposure: INHALATION: Irritation of mucous membranes may result from exposure. EYES and SKIN: Irritation may result from exposure. INGESTION: Nausea, possible vomiting and diarrhea. Methemoglobinemia may occur, particularly in children under 1 year of age. 3.3 Treatment of Exposure: INHALATION: Evacuate to fresh air and give artificial resuscitation. Keep under observation for 24 hours as symptoms may be delayed. EYES: Flush eyes with water for 15 minutes or until irritation subsides. SKIN: Wash contaminated surface with soap and water. If irritation develops consult a physician. INGESTION: Give milk and demulcents, induce emesis or perform gastric lavage: give fluids; observe for methemoglobinemia, particularly in infants. If needed, give methylene blue as a 1% solution intravenously, 1 to 2 mg/ kg; and if severe, consider exchange transfusion. 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; LD ₅₀ = 3.0 g/kg (female rat) 3.8 Toxicity by Inhalation: Currently not available. 3.9 Chronic Toxicity: Currently not available 3.10 Vapor (Gas) Irritant Characteristics: Vapors are nonirritating to eyes and throat. 3.11 Liquid or Solid Characteristics: Minimum hazard. If spilled on clothing and allowed to remain, may cause smarting and reddening of skin. 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 AEG1: Not listed	

4. FIRE HAZARDS

- 4.1 **Flash Point:** Not flammable
- 4.2 **Flammable Limits in Air:** Not flammable
- 4.3 **Fire Extinguishing Agents:** Water
- 4.4 **Fire Extinguishing Agents Not to Be Used:** Not pertinent
- 4.5 **Special Hazards of Combustion Products:** Heating to decomposition yields oxides of nitrogen.
- 4.6 **Behavior in Fire:** Organic and oxidizable materials can sensitize DRY ammonium nitrate to readily explodable state; can detonate if heated under confinement with high pressure.
- 4.7 **Auto Ignition Temperature:** Not pertinent
- 4.8 **Electrical Hazards:** Currently not available
- 4.9 **Burning Rate:** Not pertinent.
- 4.10 **Adiabatic Flame Temperature:** Not pertinent.
- 4.11 **Stoichiometric Air to Fuel Ratio:** Not pertinent.
- 4.12 **Flame Temperature:** Not pertinent.
- 4.13 **Combustion Molar Ratio (Reactant to Product):** Not pertinent.
- 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:** Copper or copper alloys are prohibited materials.
- 5.3 **Stability During Transport:** Stable
- 5.4 **Neutralizing Agents for Acids and Caustics:** Not pertinent
- 5.5 **Polymerization:** Will not occur.
- 5.6 **Inhibitor of Polymerization:** Not pertinent

6. WATER POLLUTION

- 6.1 **Aquatic Toxicity:** Currently not available
- 6.2 **Waterfowl Toxicity:** Currently not available
- 6.3 **Biological Oxygen Demand (BOD):** Currently not available
- 6.4 **Food Chain Concentration Potential:** Currently not available
- 6.5 **GESAMP Hazard Profile:**
 Bioaccumulation: 0
 Damage to living resources: 1
 Human Oral hazard: 1
 Human Contact hazard: 0
 Reduction of amenities: 0

7. SHIPPING INFORMATION

- 7.1 **Grades of Purity:** Ammonium Nitrate: 44-45% by wt.; Urea: 34-35% by wt.; H₂O: 20-22% by wt.
- 7.2 **Storage Temperature:** Ambient
- 7.3 **Inert Atmosphere:** Currently not available
- 7.4 **Venting:** Pressure vacuum
- 7.5 **IMO Pollution Category:** C
- 7.6 **Ship Type:** 3
- 7.7 **Barge Hull Type:** 3

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:** Not listed.
- 8.7 **EPA Pollution Category:** Not listed.
- 8.8 **RCRA Waste Number:** Not listed
- 8.9 **EPA FWPCA List:** Not listed

9. PHYSICAL & CHEMICAL PROPERTIES

- 9.1 **Physical State at 15° C and 1 atm:** Liquid
- 9.2 **Molecular Weight:** Not pertinent
- 9.3 **Boiling Point at 1 atm:** 225°F = 107°C = 380.2°K
- 9.4 **Freezing Point:** Currently not available
- 9.5 **Critical Temperature:** Currently not available
- 9.6 **Critical Pressure:** Currently not available
- 9.7 **Specific Gravity:** 1.326 at 15.56°C
- 9.8 **Liquid Surface Tension:** Currently not available
- 9.9 **Liquid Water Interfacial Tension:** Currently not available
- 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:** Not pertinent
- 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

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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
	C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E

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
	M I S C I B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E		C U R R E N T L Y N O T A V A I L A B L E