

SAFETY DATA SHEET

UREA AMMONIUM NITRATE SOLUTION

Section 1 – Identification

Product	Urea Ammonium Nitrate Solution (32 UAN, UAN Fertilizer Solution)	Recommended Use:
CAS Number	15978-77-5	Used in nitrogen fertilizer.
Manufacturer	TradeMark Nitrogen Corp.	
Address	1216 Old Hopewell Road, Tampa, FL 33619	
Phone	(813) 626-1181 (800) 452-3107	
24 Hour Emergency Contact	Chemtrec (800) 424-9300	

Section 2 – Hazard Identification

Hazard	Product is not hazardous under normal conditions.
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Section 3 – Composition

Ingredients	Component	CAS. No.	Percent by Weight
	Ammonium Nitrate (NH ₄ NO ₃)	6484-52-2	45.7%
	Urea (CO(NH ₂) ₂)	57-13-6	34.9%
	Water (H ₂ O)	7732-18-5	19.4%

Section 4 – First Aid Measures

Inhalation	If inhaled: Remove person to fresh air and keep comfortable for breathing. Provide artificial respiration if necessary. Seek medical attention if necessary.
Skin Contact	If on skin (or hair): Take off all contaminated clothing. Rinse skin with soap and water for at least 15 minutes.
Eye Contact	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Seek medical attention if irritation persists.
Ingestion	If swallowed: Do NOT induce vomiting. Drink large amounts of water. Never give anything by mouth to an unconscious person. Seek medical attention.
Acute Health Hazards	High levels of nitrates may reduce the blood's ability to transport oxygen causing headache, fatigue, dizziness and blue lips and skin (methemoglobinemia).
Chronic Health Hazards	Methemoglobinemia is the primary health effect, but possible excessive action of the kidneys and perhaps bowels can occur.

Section 5 – Fire Fighting Measures

Suitable Extinguishing Techniques & Equipment	UAN is non-flammable aqueous solution. Use extinguishing media suitable for surrounding material.
Chemical hazards From Fire	If product evaporates, residual solid can be explosive. In a fire, carbon oxides, nitrogen oxides and ammonia may be present.
Special Fire Fighting Procedures	Use extinguishing agent most appropriate to surrounding materials. Keep material wet to prevent nitrate salts from forming as they can support combustion or become explosive.
NFPA Rating	Health - 1 (Slight), Fire - 0 (Least), Reactivity - 0 (Least)



Section 6 – Accidental Release Measure

Personal Precautions	Avoid splashing. Prevent exposure to spilled material with the use of proper PPE.
Protective Equipment	PPE should include gloves, goggles, face shield and level C protective suit.
Containment	Control the flow of product using dikes of soil, sand bags or other commercially available inert sorbent socks or booms.
In Case of Spill	Absorb product with inert absorbent. Avoid splashing or spraying. Contain and pick up spill in diked area. Prevent discharge to sewers or water ways. If uncontaminated, recover and re-use.



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Section 7 – Safe Handling and Storage

Precautions for Safe Handling and Storage	Store in a well ventilated cool dry place.
Incompatibility	Avoid contact with readily oxidizable materials, strong acids and chlorates. Contact with alkaline materials will produce ammonia. Will corrode copper and brass.
Corrosion Inhibitor	Urea Ammonium Nitrate contains a corrosion inhibitor to reduce the corrosion rate of carbon steel under normal conditions.

Section 8 – Exposure Controls / Personal Protection

Exposure Limits	Component	Permissible Exposure Limit	Threshold Limit Value	Short Term Exposure Limit	Immediately Dangerous to Life or Health
	Urea Ammonium Nitrate	Not Established	Not Established	Not Established	Not Established
	Urea (CO(NH ₂) ₂)	Not Established	Not Established	Not Established	Not Established
	Ammonium Nitrate (NH ₄ NO ₃)	Not Established	Not Established	Not Established	Not Established
	Water (H ₂ O)	Not Established	Not Established	Not Established	Not Established
Engineering Controls	Local or general exhaust. Eyewash facilities should be available.				
Personal Protective Equipment	Eyes - Chemical safety goggles or safety glasses. Hands - Impervious gloves Respiratory - None required under normal conditions. NIOSH approved respirator if there is a mist of the product.				



Gloves



or



Section 9 – Physical and Chemical Properties

Appearance and Odor	Colorless liquid may have a slight ammonia odor.		
Boiling Point	> 212°F at 1 atmosphere	Specific Gravity	1.326 @ 60°F (15.5°C)
Vapor Pressure	0.06 psia @ 60°F	Molecular Weight	N/A
Nitrogen per Gallon	3.54 pounds @ 60°F (0.42 kg/L @ 15.5°C)	Water Reactive	N/A
Gallons per Ton	180.8 (0.754 L/kg)	Evaporative Rate	N/A
Weight per gallon	11.06 lbs/gal at 60°F (1.325 kg/L @ 15.5°C)	pH	6.3 - 7.8
Solubility in water	Miscible in water	Salt-Out Temp	32°F (0°C)

Flash Point	Not Flammable	Auto Ignition Temp	Not Flammable	Flammability Limits	N/A	LEL	N/A	UEL	N/A
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Section 10 – Stability and Reactivity

Reactivity	Product is not reactive under normal conditions.
Stability	Product is stable under normal conditions.
Hazardous Reactions	Hazardous polymerization will not occur.
Conditions to Avoid	Do not allow product to evaporate to dryness. Elevated temperatures may cause container to rupture. Avoid contact with organics, strong acids and strong oxidizers.
Incompatible Materials	Avoid contact with readily oxidizable materials, strong acids and chlorates. Contact with alkaline materials will produce ammonia. Will corrode copper and brass.
Hazardous Decomposition Products	If product evaporates, residual solid (Ammonium) can be explosive. In a fire, carbon oxides, nitrogen oxides and ammonia may be present.

Section 11 – Toxicology Information

Routes of Exposure	Inhalation, ingestion or skin/eye absorption
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Section 11 – Toxicology Information Continued

Symptoms and Signs of Exposure	Eyes & Skin mild irritant. Inhalation of mist may irritate respiratory tract. Ingestion can cause methemoglobinemia and excessive use of the kidneys and possibly bowels.
Long Term Effects	Methemoglobinemia is the primary health effect, but possible excessive action of the kidneys and perhaps bowels can occur.
Toxicity	RAT Oral LD ₅₀ >2,000 mg/kg
Carcinogen	The International Agency for Research on Cancer has not classified urea for its carcinogenic potential (IARC 1987).

Section 12 – Ecological Information

Water	Low concentrations are not toxic to fish or other aquatic organisms. High concentrations may encourage excessive algae growth.
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Section 13 – Disposal Considerations

Waste	Urea Ammonium Nitrate is not considered a hazardous waste. Disposal must be done in accordance with local, state and federal environmental regulations. Place waste in an appropriate container with correct labeling.
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Section 14 – Transport Information

Shipping	Urea Ammonium Nitrate is not hazardous as defined by 49 CFR 172.101 by the US Department of Transportation
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Section 15 – Regulatory Information

United States - SARA Hazard Category	This product has been reviewed according to the EPA Hazard Categories promulgated under Sections 311 and 312 of Title III of the Superfund Amendments and Reauthorization Act (SARA) and is considered, under applicable definitions, to meet the following categories:
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Fire - No Pressure - No Reactive - No Acute - Yes Chronic - No

SARA Title III Information	This product contains the following substances subject to the reporting requirements of Title III (EPCRA) of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372:
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Chemical	CAS No.	CERCLA RQ (pounds)	SARA Reporting		
			302	304	313
Urea Ammonium Nitrate	15978-77-5	N/A	N/A	N/A	N/A
Ammonium Nitrate	6484-52-2	N/A	N/A	N/A	Yes ⁽¹⁾
Urea	57-13-6	N/A	N/A	N/A	N/A

⁽¹⁾ As nitrate compounds (water dissociable)

CERCLA / Superfund, 40 CFR Part 117, 302	If this product contains components subject to substances designated as CERCLA reportable Quantity (RQ) Substances, it will be designated in the above table with the RQ value in pounds. If there is a release of RQ Substance to the environment, notification to the National Response Center, Washington DC (800-424-8802) is required.
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TSCA	Urea Ammonium Nitrate is not on the TSCA inventory list.
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Section 16 – Other Information

Date of Revision	September 2014: Updated Weight per Gallon and TSCA information. July 2014: removed freezing point and updated TSCA info. February 2013: revision prepared in accordance with 29 CFR 1910.1200 Appendix D to meet Global Harmonization Standards.
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Disclaimer	The information contained in this SDS refers only to the specific material designated and does not relate to any process or use with any other materials. This information is furnished free of charge and is based on data believed to be accurate and reliable as of the date hereof. It is intended for use by persons possessing technical knowledge at their own discretion and risk. Since actual use is beyond our control, no warranty, expressed or implied, and no liability is assumed by TradeMark Nitrogen Corp. in conjunction with the use of this information. Nothing herein is to be construed as a recommendation to infringe any patents. TradeMark Nitrogen Corp. assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk in his use of the material.
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