



## SAFETY DATA SHEET

# UREA AMMONIUM NITRATE SOLUTION

### Section 1 – Identification

Product	Urea Ammonium Nitrate Solution	Recommended Use: Nitrogen fertilizer solution
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



GHS07

Signal Word: **WARNING**  
Hazard Statements

- H302 Harmful if swallowed
- H320 Causes serious eye irritation
- H335 May cause respiratory irritation

Precautionary Statements:

- P101: If medical advice is needed, have product container or label at hand.
- P102: Keep out of reach of children.
- P103 Read label before use
- P210 Keep away from open flames. - No Smoking
- P260 Do not breathe fume, mist, spray, vapours
- P264 Wash hands thoroughly after handling
- P270 Do not eat, drink or smoke when using this product
- P271 Use only outdoors or in a well-ventilated area
- P280 Wear eye protection, protective clothing, protective gloves
- P331 Do NOT induce vomiting
- P301+P330 IF SWALLOWED: Call a POISON CENTER or doctor / physician if you feel unwell
- P302+P352 IF ON SKIN: Wash with plenty of water
- P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
- P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P332+P313 If skin irritation occurs: Get medical advice / attention
- P337+P313 If eye irritation persists: Get medical advice / attention
- P362 Take off contaminated clothing
- P501 Dispose of contents / container according to local, regional, national, and international regulations

### Section 3 – Composition

Ingredients	Component	CAS. No.	Percent by
	Ammonium Nitrate (NH <sub>4</sub> NO <sub>3</sub> )	6484-52-2	40 - 60%
	Urea (CO(NH <sub>2</sub> ) <sub>2</sub> )	57-13-6	30 - 36%

Water (H<sub>2</sub>O) 7732-18-5 18 - 21%

### 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
Skin Contact	If on skin (or hair): Take off all contaminated clothing. Rinse skin with soap and water for at least 15 minutes. Seek medical attention if irritation persists. Wash contaminated clothing before reuse.
Eye Contact	If in eyes: Immediately rinse 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. If vomiting occurs, attempt to keep head lower than chest so that vomit does not enter into the lungs. Drink large amounts of water. Never give anything by mouth to an unconscious person. Seek medical attention. If affected person requires CPR, avoid mouth to mouth contact. Call for emergency transportation to a hospital if the exposed person feels sick or has breathing difficulties.
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). Moderate irritant of eyes, skin, mucous membranes, and contaminated tissue. Prolonged contact can result in tissue damage which could lead to blindness. Ingestion can be harmful or fatal.
Chronic Health Hazards	Methemoglobinemia is the primary health effect. Prolonged skin contact may result in dermatitis (inflammation and redness of skin). Repeated ingestion of small amounts may cause weakness, headaches, neurological effects and mental impairment. Possible excessive action of the kidneys and perhaps the bowels can occur.

### Section 5 – Fire Fighting Measures

Suitable Extinguishing Techniques & Equipment	Not combustible or reactive, use extinguishing media suitable for surrounding material. Wear self-contained breathing apparatus and full protective gear.
Chemical Hazards From Fire	In a fire this material may decompose and produce carbon oxides, oxides of nitrogen and ammonia.
Special Fire Fighting Procedures	Use extinguishing agent most appropriate to surrounding materials.
NFPA Rating	Health - 1 (Slight) Fire - 0 (Least) Reactivity - 0 (Least)



Other Do not allow run-off from fire fighting to enter drains or water courses.

### 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 and protective clothing.
Containment	Avoid release to environment. Control the flow of product using dikes of soil, sand bags or other commercially available inert sorbent socks or boom
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.

### Section 7 – Safe Handling & Storage

Precautions for Safe Handling & Storage	Store in a well ventilated cool dry place. Containers should be kept closed and properly labeled. While UAN as produced is not classified as an oxidizer, it is important to prevent conditions during handling and storage which may result in the concentration of the product encouraging it to behave as an oxidizer. Do not allow product to evaporate to dryness.  When the water in UAN evaporates, the residue may include solid ammonium nitrate and urea. When sensitized or during decomposition, solid ammonium nitrate may become unstable or explosive. UAN pumps operated with blocked discharge have been known to detonate. Smothering, contact with organic material, or combustible material may cause an explosion. Thoroughly wash out pipes, tanks, or valves before welding or burning. Residual solidified ammonium nitrate may explode under high temperatures and confinement. Heating above 140°F will promote hydrolysis. Extreme cold (< 32°F) may cause crystallization of the product. Do not allow liquid to evaporate, as solid ammonium nitrate residue can
Incompatibility	Flammable and combustible materials, strong reducing agents and strong acids, finely powdered metals.

### 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
	Ammonium Nitrate (NH <sub>4</sub> NO <sub>3</sub> )	Not Established	Not Established	Not Established	Not Established
	Urea (CO(NH <sub>2</sub> ) <sub>2</sub> )	Not Established	Not Established	Not Established	Not Established
	Water (H <sub>2</sub> O)	Not Established	Not Established	Not Established	Not Established
Engineering Controls	Local or general exhaust. Eyewash and emergency shower facilities should be available.				
Personal Protective	Eyes	Chemical safety goggles or safety glasses.			

Equipment	Hands	Impervious chemical protective gloves.
	Respiratory	None required under normal conditions. NIOSH approved respirator if there is a mist of the product.
	Protective Clothing	



Gloves



Protective Clothing



Goggles



Respiratory Protection

### Section 9 – Physical & Chemical Properties

Appearance and Odor	Colorless liquid may have a slight ammonia	Relative Density	1.326 @ 60°F (15.5°C)
Boiling Point	> 212°F at 1 atmosphere	Molecular Weight	No Data Available
Freezing Point	No Data Available	Solubility in Water	Miscible in water
Vapor Pressure	0.06 psia @ 60°F	Flash Point	Not flammable
Weight per Gallon	11.06 lbs/gal @ 60°F	pH	6.3 - 7.2
Gallons per Ton	180.83	Salt-Out Temp	32°F (0°C)
Flammability Limits	No Data Available	Auto Ignition Temp	Not Flammable
UEL	No Data Available	LEL	No Data Available

### Section 10 – Stability & Reactivity

Reactivity	Product is not reactive under normal conditions. Avoid interaction with heat (flames), oxidizers, acids or alkalis.
Stability	Product is stable under normal conditions.
Hazardous Reactions	None known. Hazardous polymerization will not occur.
Conditions to Avoid	Do not allow product to evaporate to dryness. Keep away from direct heat sources. Avoid heating within a confined space. Avoid incompatibilities
Incompatible Materials	Avoid contact with readily oxidizable materials, strong acids, strong reducing agents, alkalis and finely powdered metals.
Hazardous Decomposition Products	Extreme heat may cause decomposing to carbon oxides, ammonia and nitrogen oxides. If product evaporates to dryness, residual solid (Ammonium) can be explosive.

### Section 11 – Toxicology Information

Routes of Exposure	Inhalation, ingestion or skin/eye absorption					
Symptoms and Signs of Exposure	Eyes	Mild eye irritation.				
	Skin	Mild irritant.				
	Inhalation	May irritate respiratory tract and mucous membranes.				
	Ingestion	Can cause abdominal pain, vomiting, diarrhea and methemoglobinemia.				
Long Term Effects	Methemoglobinemia is the primary long-term health effect of over-exposure.					
Toxicity	No limits have been set for this material.					
Acute Toxicity	Product	Criteria	Species	Dose		
	Urea Ammonium Nitrate Solution	LD50 Dermal	Rat - Male, Female	>5,000 mg / kg		
	Ammonium Nitrate	LD50 Oral	Rat	2,217 mg / kg		
	Urea	LD50 Oral	Rat - Male, Female	2,950 mg / kg		
	Water	LD50 Oral	Rat	>90 g / kg		
	<b>Conclusion:</b>	Very low toxicity to humans				
Irritation & Corrosion	Product	Criteria	Species	Score	Exposure	Observation
	Ammonium Nitrate	Skin	Rabbit	0	-	72 Hours
		Eyes	Rabbit	3	-	3 Days
	<b>Conclusion:</b>					
	Skin:	Non irritating to the skin				
Eyes:	Irritating to the eyes					
Sensitisation	Product	Route of Exposure	Species	Result		
	Ammonium Nitrate	Skin	Mouse	Non sensitizing		
	<b>Conclusion:</b>					
Skin:	Non-sensitizer					
Respiratory:	Not available					

Reproductive Toxicity	Product	Maternal Toxicity	Fertility	Development toxin	Species	Dose
	Ammonium Nitrate	Negative	Negative	Negative	Rat - Male, Female	1,500 mg / kg
	<b>Conclusion:</b>	No known significant effects or critical hazards				
Specific Target Organ Toxicity (Single Exposure)	No Data Available					
Specific Target Organ Toxicity (Repeated Exposure)	No Data Available					
Exposure Symptoms	Eye contact:	Irritation, watering				
	Inhalation:	No Data Available				
	Skin Contact:	No Data Available				
	Ingestion:	Over exposure by ingestion is unlikely under normal working conditions. Adverse symptoms may include nausea or vomiting, stomach pains, diarrhea, Mthemoglobinemia.				
Potential Chronic Health Effects	General	No known significant effects or critical hazards				
	Carcinogenicity	Potential for Nitrosamine formation if ingested. Do not ingest.				
	Mutagenicity	No known significant effects or critical hazards				
	Teratogenicity	No known significant effects or critical hazards				
	Developmental Effects	No known significant effects or critical hazards				
	Fertility Effects	No known significant effects or critical hazards				

**Carcinogen** The International Agency for Research on Cancer has not classified Urea Ammonium Nitrate for its carcinogenic potential (IARC 1987).

**California Prop 65** Components of this product are not listed on the active California Prop 65 database.

## Section 12 – Ecological Information

**Water** High concentrations may be harmful to fish and other aquatic organisms.

Ecotoxicity	Product	Criteria	Result	Species	Exposure
	Urea Ammonium Nitrate Fertilizer Solution	NOEC	> 1,700 mg/l	marii Algae	10 Days
		Acute EC50	490 mg/l fresh water	Daphnia	48 hours
		Acute LC50	447 mg/l fresh water	Fish	48 hours
	Ammonium Nitrate	Chronic NOEC	6 to 12 µg/l fresh water	Custaceans - Cladocera	21 Days
	Urea	Acute EC50	3910000 µg/l fresh water	Daphnia - Daphnia Magna - Neonate	48 hours
		Acute LC50	1,000 mg/l Marine Water	Crustaceans - Chaetogammarus marinus - vouna	48 hours
		Acute LC50	5,000 µg/l fresh water	Fish - Colisa Fasciata - Finqerlina	96 Hours
		Chronic NOEC	2 g/L Fresh water	Fish - Heteropneustes fossils	30 days

**Persistence and Degradability** Readily biodegradable

**Bioaccumulative potential** No Data Available

**Mobility in soil** No Data Available

**Other adverse effects** May be harmful to the environment if released in large quantities. Excessive nutrient runoff to a body of water may result in eutrophication.

### Section 13 – Disposal Considerations

Waste	Disposal must be done in accordance with local, state and federal environmental regulations. Place waste in an appropriate container with correct labeling.
Additional Information	Dispose of used containers at an approved waste handling facility. Empty containers may contain residue of the product, follow label warnings even after container is emptied.

### Section 14 – Transport Information

DOT	Not regulated as dangerous goods
IMDG	Not regulated as dangerous goods
IATA	Not regulated as dangerous goods
TDG	Not regulated as dangerous goods
Mexico Classification	Not regulated as dangerous goods

### 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:

Fire - No	Pressure - No	Reactive - No	Acute - No	Chronic - No
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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:

Chemical	CAS No.	CERCLA RQ (lbs.)	SARA Reporting		
			302	304	313
Ammonium Nitrate	6484-52-2	N/A	N/A	N/A	Yes <sup>(1)</sup>
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.

TSCA All components of this product are listed on the Active TSCA inventory.

### Section 16 – Other Information

Issue Date 7/28/2020

Date of Revision July 2020 SDS section 12 updated. June 2018 SDS format updated. August 2014 TSCA statement revised. February 2013 revision prepared in accordance with 29 CFR 1910.1200 Appendix D to meet Global Harmonization Standards.

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