Section 1 – Identification

Product: Urea Ammonium Nitrate Solution (32 UAN, UAN Fertilizer Solution)

Manufacturer: TradeMark Nitrogen Corp.
Address: 1216 Old Hopewell Road, Tampa, FL 33619
Phone: (813) 626-1181 (800) 452-3107
Emergency Contact: Chemtrec U.S.A. Chemtrec BRAZIL (800) 424-9300 (55)-2139581449

Section 2 – Hazard Identification

GHS07

Signal Word: WARNING

Hazard Statements:
H303 May be harmful if swallowed
H319 Causes serious eye irritation

Precautionary Statements:
P101 If medical advice is needed, have product container or label on hand.
P102 Keep out of reach of children
P103 Read label before use
P202 Do not handle until all safety precautions have been read and understood
P210 Keep away from open flames. - No Smoking
P211 Do not spray on an open flame or other ignition source
P220 Keep / Store away from combustible materials
P221 Take any precaution to avoid mixing with combustible materials
P233 Keep container tightly closed
P260 Do not breathe fume, mist, spray, vapours
P262 Do not get in eyes, on skin, or on clothing.
P263 Avoid contact during pregnancy / while nursing
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
P273 Avoid release to the environment
P280 Wear eye protection, protective clothing, protective gloves
P311 Call a POISON CENTER or doctor / physician
P331 Do NOT induce vomiting (unless instructed by poison center or doctor)
P302+P352 IF ON SKIN: Wash with plenty of water
P305+P351+ IF IN EYES: Rinse cautiously with water for several minutes.
P338 Remove contact lenses, if present and easy to do. Continue
**Section 3 – Composition**

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Component</th>
<th>CAS. No.</th>
<th>Percent by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ammonium Nitrate (NH₄NO₃)</td>
<td>6484-52-2</td>
<td>45.7%</td>
</tr>
<tr>
<td></td>
<td>Urea (CO(NH₂)₂)</td>
<td>57-13-6</td>
<td>34.9%</td>
</tr>
<tr>
<td></td>
<td>Water (H₂O)</td>
<td>7732-18-5</td>
<td>19.4%</td>
</tr>
</tbody>
</table>

**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 as 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: Immediately flush eyes with water. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Seek medical attention as necessary.

**Ingestion**
If swallowed: Call a poison control center or doctor immediately for treatment advice. Drink small amounts of water if able. Do NOT induce vomiting unless instructed by poison control center or doctor. Never give anything by mouth to

**Acute Health Hazards**
High levels of nitrates may reduce the blood's ability to transport oxygen causing, 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**
Evacuate non-essential personnel from the area to prevent exposure to fire, smoke, fumes or products of combustion.

**NFPA Rating**

- Health - 1 (Slight)
- Fire - 0 (Least)
- Reactivity - 0 (Low)

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

**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 chemical resistant 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.

### Section 7 – Safe Handling & Storage

**Precautions for Safe Handling & Storage**

- **Storage:** Store in a well ventilated cool, dry place. Containers should be kept closed and labeled properly.
- **Handling:** Users who may be exposed to the undiluted product through mixing, loading, application, or other tasks must wear: Safety goggles, long sleeve chemical protective clothing, chemical resistant gloves and boots. Users who may be exposed to the diluted product must wear: Protective eyewear (safety goggles or face shield), rubber gloves, long-sleeved shirt and long pants with rubber boots.

**Incompatible Materials**

Avoid contact with readily oxidizable materials, strong acids and chlorates. Contact with alkaline materials will produce ammonia. Will corrode copper and brass.

### Section 8 – Exposure Controls / Personal Protection

#### Exposure Limits

<table>
<thead>
<tr>
<th>Component</th>
<th>Permissible Exposure Limit</th>
<th>Threshold Limit Value</th>
<th>Short Term Exposure Limit</th>
<th>Immediately Dangerous to Life or Health</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>Ammonium Nitrate</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>Ammonium Nitrate (NH₄NO₃)</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
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</tr>
<tr>
<td>Urea (CO(NH₂)₂)</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>Water (H₂O)</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
</tbody>
</table>

**Engineering Controls**

Use in a well ventilated area. Eye wash stations and showers should be readily available.

**Personal Protective Equipment**

- **Eyes:** Chemical safety goggles or face shield.
- **Hands:** Impervious chemical protective gloves.
- **Respiratory Protective Equipment:** None required under normal conditions. NIOSH approved respirator if there is a mist of the product.
- **Protective Clothing:** Chemical resistant clothing and rubber boots.

### Section 9 – Physical & Chemical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance and Odor</td>
<td>Colorless liquid may have a slight ammonia odor.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>&gt; 212°F at 1 atmosphere</td>
</tr>
<tr>
<td>Freezing Point</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>0.06 psia @ 60°F</td>
</tr>
<tr>
<td>Weight per Gallon</td>
<td>11.06 lbs/gal @ 60°F (1.325 kg/L at 15.5°C)</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.326 @ 60°F (15.5°C)</td>
</tr>
<tr>
<td>Molecular Weight</td>
<td>N/A</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Miscible in water</td>
</tr>
<tr>
<td>Evaporative Rate</td>
<td>No Data Available</td>
</tr>
<tr>
<td>pH</td>
<td>6.3 - 7.8</td>
</tr>
<tr>
<td>Salt-Out Temp</td>
<td>Store above 32°F</td>
</tr>
</tbody>
</table>
### Section 10 – Stability & 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 (ammonia nitrate) 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

**Symptoms and Signs of Exposure**
- **Eyes**: May cause eye irritation. May result in redness, tearing or blurred vision.
- **Skin**: Mild irritant. May result in redness and itching.
- **Inhalation**: Inhalation of mist may cause irritation to the respiratory tract.
- **Ingestion**: Can cause methemoglobinemia and excessive use of the kidneys and possibly bowels.

**Long Term Effects – Carcinogen**
- The International Agency for Research on Cancer has not classified urea for its carcinogenic potential (IARC 1987).

**Carcinogen – California Prop 65**
- Not Listed

### Acute Toxicity

<table>
<thead>
<tr>
<th>Product / Ingredient</th>
<th>Result</th>
<th>Species</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea</td>
<td>LD50 - Dermal</td>
<td>Rat - Male, Female</td>
<td>&gt;5,000 mg/kg</td>
</tr>
<tr>
<td>Ammonium Nitrate Solution</td>
<td>LD50 - Oral</td>
<td>Rat - Male, Female</td>
<td>2,950 mg/kg</td>
</tr>
<tr>
<td>Urea</td>
<td>LD50 - Oral</td>
<td>Rat</td>
<td>8,471 mg/kg</td>
</tr>
</tbody>
</table>

### Section 12 – Ecological Information

**Water Ecotoxicity**
- When released into water, this material may biodegrade to a moderate extent.

**Ecotoxicity and Degradability**
- UAN can degrade to ammonia in the environment. Can be toxic to aquatic life and spills may cause increased biochemical oxygen demand (BOD)

**Bioaccumulative Potential**
- No Data Available

**Mobility in Soil**
- When released to soil, urea will hydrolyze into ammonium in a matter of days to several weeks.

**Other Adverse**
- UAN as a product is considered to be of low toxicity to aquatic organisms as defined by the Environmental Protection Agency. It is soluble in water. Avoid spills and releases into waterways.
### 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.

### Section 14 – Transport Information

**US DOT**

This material is not hazardous as defined by 49 CFR 172.101 by the US Department of Transportation

<table>
<thead>
<tr>
<th>US DOT Label</th>
<th>Authorized Packaging</th>
<th>UN ID Number</th>
<th>Hazard Class</th>
<th>Packing Group</th>
<th>Proper Shipping Name</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

**IMDG**

This material is not classified as a dangerous good per the IMDG code.

<table>
<thead>
<tr>
<th>UN ID Number</th>
<th>Hazard Class</th>
<th>Packing Group</th>
<th>Proper Shipping Name</th>
<th>Authorized Packaging</th>
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<tr>
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<td>N/A</td>
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<td>N/A</td>
</tr>
</tbody>
</table>

**IATA**

This material is not classified as a dangerous good per the IATA code.

<table>
<thead>
<tr>
<th>UN ID Number</th>
<th>Hazard Class</th>
<th>Packing Group</th>
<th>Proper Shipping Name</th>
<th>Authorized Packaging</th>
</tr>
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<tbody>
<tr>
<td>N/A</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### Section 15 – Regulatory Information

#### United States - SARA

- **SARA Title III Information**: Materials have not been reviewed.

<table>
<thead>
<tr>
<th>Chemical</th>
<th>CAS No.</th>
<th>CERCLA RQ (lbs.)</th>
<th>SARA Reporting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea Ammonia Nitrate</td>
<td>15978-77-5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Ammonium Nitrate</td>
<td>6484-52-2</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Water (H₂O)</td>
<td>7732-18-5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

- Urea (CO(NH₂)₂)
- Water (H₂O)

(1) As nitrate compounds (water dissociable)

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.

- **SARA Reporting**: Yes

#### Section 16 – Other Information

- **Date of Issue**: 11/15/2019
- **Date of Revision**: November 2019 SDS updated to reflect GHS requirements and new formatting. February 2013 revision prepared in accordance with 29 CFR 1910.1200 Appendix D to meet Global Harmonization Standards.
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