

# SAFETY DATA SHEET

## UREA SOLUTION - 60%

### Section 1 – Identification

|                           |   |  |
|---------------------------|---|--|
| Product                   | Urea Solution - 60U<br>(60% Urea Solution, carbamide, carbonyl diamide) | Recommended Use:<br>Used in the production of fertilizers, animal feed, SCR for NOx control systems and adhesives. |
| 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. |
|--------|---|

### Section 3 – Composition

| Ingredients | Component   | CAS. No.  | Percent by Weight |
|-------------|---|-----------|-------------------|
|             | Urea (CO(NH <sub>2</sub> ) <sub>2</sub> )           | 57-13-6   | 60.00%            |
|             | Ammonia (NH <sub>3</sub> )                          | 7664-41-7 | 0.03%             |
|             | Biuret (H <sub>2</sub> NC(O)NHC(O)NH <sub>2</sub> ) | 108-19-0  | < 0.30%           |
|             | Water (H <sub>2</sub> O)                            | 7732-18-5 | Balance           |

### 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: <b>Do NOT induce vomiting.</b> Drink large amounts of water (or milk or egg whites). Never give anything by mouth to an unconscious person. Seek medical attention.                       |
| Acute Health Hazards   | Ingestion may cause corrosive damage to the digestive tract.  |
| Chronic Health Hazards | No known long term effects  |

### Section 5 – Fire Fighting Measures

|   |   |
|---|---|
| Suitable Extinguishing Techniques & Equipment | This product is an aqueous solution. It is non-flammable and presents no fire hazard. |
| Chemical hazards From Fire                    | Thermal decomposition of residue will produce ammonia and carbon dioxide gases.       |
| Special Fire Fighting Procedures              | Use extinguishing agent most appropriate to surrounding materials.                    |
| 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                           | Nitric acid, hypochlorites, sodium nitrite, nitrosyl perchlorate, gallium perchlorate and phosphorus pentachloride |

## 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 (CO(NH <sub>2</sub> ) <sub>2</sub> )                             | Not Established            | Not Established       | Not Established           | Not Established                         |
|                 | Ammonia (NH <sub>3</sub> )  | 50 ppm                     | 25 ppm                | 35 ppm                    | 500 ppm                                 |
|                 | Biuret (C <sub>2</sub> H <sub>5</sub> N <sub>3</sub> O <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 facilities should be available.   |
| Personal Protective Equipment | Eyes - Chemical safety goggles or safety glasses.<br>Hands - Impervious gloves<br>Respiratory - None required under normal conditions. NIOSH approved respirator if there is a mist of the product. |



Gloves



Goggles

or



Safety Glasses

## Section 9 – Physical and Chemical Properties

|                     |  |                     |                        |
|---------------------|--|---------------------|------------------------|
| Appearance and Odor | Colorless liquid may have a slight ammonia odor. |                     |                        |
| Boiling Point       | 220°F at 1 atmosphere (104.4°C)                  | Specific Gravity    | 1.156 at 96°F (35.6°C) |
| Freezing Point      | N/A  | Molecular Weight    | N/A                    |
| Vapor Pressure      | < 1 at 100°F                                     | Water Reactive      | N/A                    |
| Gallons per Ton     | 207.46 gal/ton @96°F (0.87 L/kg @35.6°C)         | Evaporative Rate    | N/A                    |
| Weight per gallon   | 9.64 lbs/gal @96°F (1.16 kg/L @ 35.6°C)          | pH                  | 6.5 - 8.5              |
| Solubility in water | Completely soluble                               | Salt-Out Temp       | 96°F (35.6°C)          |
| Storage Temp        | To prevent hydrolysis keep below 111°F (43.9°C)  |                     |                        |
| Flash Point         | Not Flammable                                    | Auto Ignition Temp  | Not Flammable          |
|                     |  | Flammability Limits | N/A                    |
|                     |  | LEL                 | N/A                    |
|                     |  | UEL                 | N/A                    |

## 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              | Elevated temperatures may cause container to rupture.  |
| Incompatible Materials           | Nitric acid, hypochlorites, sodium nitrite, nitrosyl perchlorate, sodium nitrite, gallium perchlorate and phosphorus pentachloride |
| Hazardous Decomposition Products | Extreme heat may cause decomposition to ammonia and carbon dioxide and possibly nitrogen oxides.                                   |

## Section 11 – Toxicology Information

|                                |   |
|--------------------------------|---|
| Routes of Exposure             | Inhalation, ingestion or skin absorption  |
| Symptoms and Signs of Exposure | <b>Eyes &amp; Skin</b> mild irritant.<br><b>Inhalation</b> may irritate or burn nose, throat and lungs. Coughing, nausea, headaches and weakness are possible.<br><b>Ingestion</b> may cause irritation to the digestive tract. |



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## Section 11 – Toxicology Information Continued

|                   |  |
|-------------------|--|
| Long Term Effects | Prolonged skin contact may result in dermatitis (inflammation and redness of skin). Repeated ingestion of small amounts may cause weakness, depression, headaches, neurological effects and mental impairment. |
| Toxicity          | No limits have been set for this material.   |
| Carcinogen        | The International Agency for Research on Cancer has not classified urea for its carcinogenic potential (IARC 1987).  |

## Section 12 – Ecological Information

|       |   |
|-------|---|
| Water | High concentrations are not toxic to fish or other aquatic organisms. High concentrations may encourage excessive algae growth. |
|-------|---|

## Section 13 – Disposal Considerations

|       |   |
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| Waste | Urea 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

|          |  |
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| Shipping | This material 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: |
|--------------------------------------|---|

|           |               |               |            |              |
|-----------|---------------|---------------|------------|--------------|
| Fire - No | Pressure - No | Reactive - No | Acute - No | 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: |
|----------------------------|--|

| Chemical | CAS No. | CERCLA RQ (pounds) | SARA Reporting |     |     |
|----------|---------|--------------------|----------------|-----|-----|
|          |         |                    | 302            | 304 | 313 |
| Urea     | 57-13-6 | N/A                | N/A            | N/A | N/A |

|  |   |
|--|---|
| 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 | Urea solution is a hydrated form of urea which is on the TSCA Inventory list. |
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## Section 16 – Other Information

|                  |   |
|------------------|---|
| Date of Revision | September 2014: Updated TSCA statement and Section 9. April 2014: Correction made to percentage of Urea. January 2013: Revision prepared in accordance with 29 CFR 1910.1200 Appendix D to meet Global Harmonization Standards. |
|------------------|---|

|            |   |
|------------|---|
| 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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