

# Urea Solution

## SAFETY DATA SHEET

### 1. SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product identifier

|                    |                             |
|--------------------|-----------------------------|
| Product identifier | Urea Solution.              |
| Synonym(s)         | Carbamide, Carbonyldiamide. |
| Chemical Family    | Carboxylic acids.           |
| Molecular weight   | 60.7 as 100% Urea.          |
| CAS No.            | Mixtures.                   |

#### 1.2 Recommended use of the chemical and restrictions on use

|                      |                                |
|----------------------|--------------------------------|
| Identified Use(s)    | Fertilizer, Emissions control. |
| Uses Advised Against | None known.                    |

#### 1.3 Supplier's details

|                        |   |
|------------------------|---|
| Company Identification | Cornerstone Chemical Company<br>10800 River Road,<br>Waggaman, Louisiana 70094,<br>USA. |
| Telephone              | 1-504-431-9511  |
| E-mail                 | info@cornerstonechemco.com  |

#### 1.4 Emergency Phone No.

|                                      |                       |
|--------------------------------------|-----------------------|
| CHEMTREC (USA and Canada)            | 1-800-424-9300 (24h)  |
| CHEMTREC (Outside of USA and Canada) | +1-703-527-3887 (24h) |

### 2. SECTION 2: HAZARDS IDENTIFICATION

2.1 **Classification of the substance or mixture** Not classified as dangerous for supply/use.

#### 2.2 Label elements

|                            |       |
|----------------------------|-------|
| Hazard Pictogram(s)        | None. |
| Signal Word(s)             | None. |
| Hazard Statement(s)        | None. |
| Precautionary Statement(s) | None. |

2.3 **Other hazards** None.

2.4 **Additional Information** None.

### 3. SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Mixtures

| Hazardous Ingredient(s) | CAS No.   | %W/W |
|-------------------------|-----------|------|
| Urea                    | 57-13-6   | <70  |
| Water                   | 7732-18-5 | >30  |
| Ammonia, anhydrous      | 7664-41-7 | <1   |

#### 3.2 Additional Information

None.

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### 4. SECTION 4: FIRST AID MEASURES



#### 4.1 Description of first aid measures

Inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, obtain medical attention.

Skin Contact

Wash affected skin with soap and water. If symptoms persist, obtain medical attention.

Eye Contact

Flush eyes with water for at least 15 minutes while holding eyelids open. If symptoms persist, obtain medical attention.

Ingestion

Rinse mouth. Drink one glass of water. Do not give anything by mouth to an unconscious person. If symptoms persist, obtain medical attention.

#### 4.2 Most important symptoms and effects, both acute and delayed

Unlikely to be required but if necessary treat symptomatically.

#### 4.3 Indication of any immediate medical attention and special treatment needed

No special requirements.

### 5. SECTION 5: FIRE-FIGHTING MEASURES

#### 5.1 Extinguishing Media

Suitable Extinguishing Media

Extinguish with water spray, dry chemical, sand or carbon dioxide.

Unsuitable Extinguishing Media

None known.

#### 5.2 Special hazards arising from the substance or mixture

Decomposition products: Ammonia, Carbon monoxide, Carbon dioxide, Oxides of nitrogen.

#### 5.3 Advice for fire-fighters

Fire fighters should wear complete protective clothing including self-contained breathing apparatus. Keep containers cool by spraying with water if exposed to fire.

### 6. SECTION 6: ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Stop leak if safe to do so. Wear protective gloves/eye protection. Wash hands thoroughly after handling.

#### 6.2 Environmental precautions

Do not allow to enter drains, sewers or waterways.

#### 6.3 Methods and material for containment and cleaning up

Cover spills with inert absorbent material. Transfer to a container for disposal. Wash the spillage area with water.

#### 6.4 Reference to other sections

See Also Section 8, 13.

### 7. SECTION 7: HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Provide adequate ventilation. Wear protective gloves/eye protection. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

#### 7.2 Conditions for safe storage, including any incompatibilities

##### 7.2.1 Storage temperature

Ambient temperatures.

##### 7.2.2 Storage life

Stable under normal conditions.

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7.2.3 **Incompatible materials**

Oxidizing agents, Steel.

### 8. SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 **Control parameters**  
Occupational Exposure Limits

| SUBSTANCE          | CAS No.   | LTEL (8 hr TWA ppm) | LTEL (8 hr TWA mg/m <sup>3</sup> ) | STEL (ppm) | STEL (mg/m <sup>3</sup> ) | Note             |
|--------------------|-----------|---------------------|------------------------------------|------------|---------------------------|------------------|
| Ammonia, anhydrous | 7664-41-7 | 25                  | 18                                 | 35         | 27                        | USA (NIOSH/OSHA) |
|                    |           | 50                  | 35                                 | -          | -                         | TLV (ACGIH)      |

Source: NIOSH = National Institute of Occupational Safety & Health  
OSHA = Occupational Safety and Health Administration  
TLV = Threshold Limit Value  
ACGIH = American Conference of Industrial Hygienists

8.2 **Appropriate engineering controls**

Provide adequate ventilation.

8.3 **Individual protection measures, such as personal protective equipment (PPE)**

Eye/face protection



Wear protective eye glasses for protection against liquid splashes. Wear close fitting goggles or full face shield.

Skin protection



Wear suitable protective clothing and gloves.  
Wear: Impervious gloves and boots.

Respiratory protection



Normally no personal respiratory protection is necessary.  
Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely.

Thermal hazards

Not applicable.

### 9. SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 **Information on basic physical and chemical properties**

|  |                    |
|--|--------------------|
| Appearance                                   | Colorless.         |
| Color  | Liquid.            |
| Odor   | Ammoniacal.        |
| Odor Threshold                               | Not available.     |
| pH   | ~10                |
| Melting Point/Freezing Point                 | 90.6 °C (195 °F)   |
| Initial boiling point and boiling range      | ~106 °C (222.8 °F) |
| Flash point                                  | Not applicable.    |
| Evaporation Rate                             | Not available.     |
| Flammability (solid, gas)                    | Non-flammable.     |
| Upper/lower flammability or explosive limits | Not applicable.    |
| Vapor pressure                               | ~80Pa @ 20 °C      |
| Vapor density                                | Not available.     |
| Relative density                             | 1.13               |

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|  |                   |
|--|-------------------|
| Solubility(ies)                        | Soluble in water. |
| Partition coefficient: n-octanol/water | Not available.    |
| Auto-ignition temperature              | Not available.    |
| Decomposition Temperature              | 100 °C (212 °F)   |
| Viscosity                              | Not available.    |
| Explosive properties                   | Not explosive.    |
| Oxidizing properties                   | Not oxidizing.    |
| <b>9.2 Other information</b>           |                   |
| Percent Volatile by volume (%)         | 1.0 – 1.5         |

### 10. SECTION 10: STABILITY AND REACTIVITY

|  |   |
|--|---|
| <b>10.1 Reactivity</b>                         | Stable under normal conditions.                               |
| <b>10.2 Chemical stability</b>                 | Stable under normal conditions.                               |
| <b>10.3 Possibility of hazardous reactions</b> | Stable under normal conditions.                               |
| <b>10.4 Conditions to avoid</b>                | Stable under normal conditions.                               |
| <b>10.5 Incompatible materials</b>             | Oxidizing agents, Steel.                                      |
| <b>10.6 Hazardous decomposition product(s)</b> | Ammonia, Carbon monoxide, Carbon dioxide, Oxides of nitrogen. |

### 11. SECTION 11: TOXICOLOGICAL INFORMATION

|  |  |
|--|--|
| <b>11.1 Information on toxicological effects</b> |  |
| <b>Acute toxicity</b>                            |  |
| Oral   | Low acute toxicity.<br>LD50 (rat) >5000mg/kg                                 |
| Dermal   | Low acute toxicity.<br>LD50 (rat) >2000mg/kg                                 |
| Inhalation                                       | Dried urea dust: May cause irritation.                                       |
| <b>Skin corrosion/irritation</b>                 | Product as supplied: Non-irritant.<br>Dried urea dust: May cause irritation. |
| <b>Serious eye damage/irritation</b>             | Not classified.  |
| <b>Respiratory or skin sensitization</b>         | It is not a skin sensitizer.   |
| <b>Germ cell mutagenicity</b>                    | There is no evidence of mutagenic potential.                                 |
| <b>Carcinogenicity</b>                           | No evidence of carcinogenicity.  |
| <b>Reproductive toxicity</b>                     | None anticipated.  |
| <b>STOT - single exposure</b>                    | None anticipated.  |
| <b>STOT - repeated exposure</b>                  | None anticipated.  |
| <b>Aspiration hazard</b>                         | None anticipated.  |
| <b>11.2 Other information</b>                    | None.  |

### 12. SECTION 12: ECOLOGICAL INFORMATION

|   |  |
|---|--|
| <b>12.1 Toxicity</b>                      | Low toxicity to aquatic organisms.   |
| <b>12.2 Persistence and degradability</b> | The product is biodegradable. The product is unlikely to persist in the environment.<br>Urea (OECD 302): 96% |
| <b>12.3 Bioaccumulative potential</b>     | The product has no potential for bioaccumulation.  |
| <b>12.4 Mobility in soil</b>              | The product is soluble in water.   |
| <b>12.5 Other adverse effects</b>         | None anticipated.  |

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### 13. SECTION 13: DISPOSAL CONSIDERATIONS

|                                     |   |
|-------------------------------------|---|
| <b>13.1 Waste treatment methods</b> | Bury on an authorized landfill site or incinerate under approved controlled conditions. |
| <b>13.2 Additional information</b>  | Disposal should be in accordance with local, state or national legislation.             |
| US RCRA Hazard Class                | Not listed.   |

### 14. SECTION 14: TRANSPORT INFORMATION

**D.O.T. Classification**

Not classified as dangerous for transport.

|   |                 |
|---|-----------------|
| <b>14.1 UN number</b>   | Not applicable. |
| <b>14.2 Proper Shipping Name</b>  | Not applicable. |
| <b>14.3 Transport hazard class(es)</b>  | Not applicable. |
| <b>14.4 Packing group</b>   | Not applicable. |
| <b>14.5 Environmental hazards</b>   | Not applicable. |
| <b>14.6 Special precautions for user</b>  | Not applicable. |
| <b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |

### 15. SECTION 15: REGULATORY INFORMATION

|  |   |
|--|---|
| <b>15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture</b> |   |
| <b>15.1.1 OSHA</b>   |   |
| Toxic and hazardous substances (29 CFR 1910.1900)  | Not listed.   |
| Requirements for preparation, adoption, and submittal of implementation plans (40 CFR 51.100)              | Not listed.   |
| National emission standards for hazardous air pollutants (40 CFR 61.01)                                    | Not listed.   |
| <b>15.1.2 Title III Consolidated List of Lists</b>   |   |
| CAA Section 112(r) List of Substances for Accidental Release Prevention                                    | Ammonia (CAS No.: 7664-41-7): Listed. (≥20%).<br>Product as supplied: <1% Ammonia.            |
| <b>15.1.3 OSPAR List of Chemicals for Priority Action</b>  | Not listed.   |
| <b>15.1.4 State Right to Know Lists</b>  | Ammonia (CAS No.: 7664-41-7): California, New Jersey, Pennsylvania, Minnesota, Massachusetts. |
| <b>15.1.5 TSCA</b>   | All ingredients are listed.   |
| <b>15.1.6 Proposition 65 (California)</b>  | Not listed.   |
| <b>15.1.7 Ozone Depleting Substances</b>   | Not listed.   |

### 16. SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

| NFPA        |   | HMIS             |   |
|-------------|---|------------------|---|
| Health      | 1 | Health           | 1 |
| Fire        | 0 | Flammability     | 0 |
| Instability | 0 | Physical hazards | 0 |

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### LEGEND

|      |  |
|------|--|
| LTEL | Long Term Exposure Limit                               |
| STEL | Short Term Exposure Limit                              |
| STOT | Specific Target Organ Toxicity                         |
| OSHA | Occupational Safety and Health Administration          |
| TSCA | Toxic Substances Control Act                           |
| NFPA | National Fire Protection Association                   |
| HMIS | Hazardous Material Information System                  |
| OECD | Organization for Economic Co-operation and Development |

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