SECTION 1: IDENTIFICATION

1.1. Product Identifier
Product Name: Urea Liquor
Formula: CH₄N₂O + H₂O
Synonyms: Urea Solution; Urea Cattle Feed
STCC: 2818146

1.2. Intended Use of the Product
Fertilizer; Animal Feed; Nitrogen Solution for SCR NOx Control Systems.

1.3. Name, Address, and Telephone of the Responsible Party
Company
CF Industries Sales, LLC
4 Parkway North, Suite 400
Deerfield, Illinois 60015-2590
847-405-2400
www.cfindustries.com

1.4. Emergency Telephone Number
Emergency Number : 800-424-9300
For Chemical Emergency, Spill, Leak, Fire, Exposure, or Accident, call CHEMTREC – Day or Night

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture
Classification (GHS-US)
Aquatic Acute 3 H402
Full text of H-phrases: see section 16

2.2. Label Elements
GHS-US Labeling
Hazard Statements (GHS-US) : H402 - Harmful to aquatic life.
Precautionary Statements (GHS-US) : P273 - Avoid release to the environment.
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations.

2.3. Other Hazards
Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

2.4. Unknown Acute Toxicity (GHS-US) No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances
Not applicable

3.2. Mixture

<table>
<thead>
<tr>
<th>Name</th>
<th>Product Identifier</th>
<th>% (w/w)</th>
<th>Classification (GHS-US)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea</td>
<td>(CAS No) 57-13-6</td>
<td>40 - 70</td>
<td>Not classified</td>
</tr>
<tr>
<td>Water</td>
<td>(CAS No) 7732-18-5</td>
<td>28 - 58.8</td>
<td>Not classified</td>
</tr>
</tbody>
</table>
| Imidodicarbonic diamide (Biruet) | (CAS No) 108-19-0 | ≤ 0.7 | Skin Irrit. 2, H315
|                        |                    |         | Eye Irrit. 2A, H319
|                        |                    |         | STOT SE 3, H335
| Ammonia               | (CAS No) 7664-41-7 | ≤ 0.5 | Flam. Gas 2, H221
|                        |                    |         | Liquefied gas, H280
|                        |                    |         | Acute Tox. 3 (Inhalation:gas), H331
|                        |                    |         | Skin Corr. 1B, H314
|                        |                    |         | Eye Dam. 1, H318
|                        |                    |         | STOT SE 3, H335
|                        |                    |         | Aquatic Acute 1, H400 |
SECTION 4: FIRST AID MEASURES

4.1. Description of First Aid Measures
General: Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation: When symptoms occur: go into open air and ventilate suspected area. Call a POISON CENTER/doctor/physician if you feel unwell.

Skin Contact: Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

Eye Contact: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persist.

Ingestion: Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or doctor/physician.

4.2. Most Important Symptoms and Effects Both Acute and Delayed
General: None expected under normal conditions of use.

Inhalation: May cause irritation to the respiratory tract.

Skin Contact: May cause mild skin irritation.

Eye Contact: May cause slight irritation to eyes.

Ingestion: Ingestion is likely to be harmful or have adverse effects.

Chronic Symptoms: None expected under normal conditions of use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed
If exposed or concerned, get medical advice and attention.

SECTION 5: FIRE-FIGHTING MEASURES

5.1. Extinguishing Media
Suitable Extinguishing Media: Use water to extinguish a fire, if water is compatible with the burning material.

Unsuitable Extinguishing Media: Do not use a heavy water stream. Use of heavy stream of water may spread fire.

5.2. Special Hazards Arising From the Substance or Mixture
Fire Hazard: Product is not flammable.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions are unlikely to occur under normal circumstances.

5.3. Advice for Firefighters
Precautionary Measures Fire: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Stop leak if safe to do so. Avoid inhalation of material or combustion by-products.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory protection.


Reference to Other Sections
Refer to section 9 for flammability properties.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures
General Measures: Keep away from open flames, hot surfaces and sources of ignition. No smoking. Avoid all unnecessary exposure. Do not breathe vapor, mist or spray.

6.1.1. For Non-Emergency Personnel
Protective Equipment: Use appropriate personal protection equipment (PPE).


6.1.2. For Emergency Personnel
Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Stop leak if safe to do so. Ventilate area.

6.2. Environmental Precautions
Prevent entry to sewers and public waters.
6.3. Methods and Material for Containment and Cleaning Up

For Containment: Absorb and/or contain spill with inert material, then place in suitable container. Beware of slippery floors during spills.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Notify authorities if liquid enters sewers or public waters.

6.4. Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed: Any proposed use of this product in elevated-temperature processes should be thoroughly evaluated to assure that safe operating conditions are established and maintained. When heated, urea releases ammonia and when heated to decomposition it emits toxic fumes of nitrogen oxides (NOx), ammonia, and cyanuric acid.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures. Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and again when leaving work. Wash contaminated clothing before reuse.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures: Comply with applicable regulations.

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep/Store away from Extremely high or low temperatures.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers. Sodium nitrite, phosphorus pentachloride, and nitrosyl or gallium perchlorate. Urea will form urea nitrate when mixed with nitric acid at low pH.

7.3. Specific End Use(s)

Fertilizer. Animal feed. SCR NOx Control.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

For substances listed in section 3 that are not listed here, there are no established Exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), OSHA (PEL), Canadian provincial governments, or the Mexican government.

<table>
<thead>
<tr>
<th>Ammonia (7664-41-7)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mexico</td>
<td>OEL TWA (mg/m³)</td>
<td>18 mg/m³</td>
</tr>
<tr>
<td>Mexico</td>
<td>OEL TWA (ppm)</td>
<td>25 ppm</td>
</tr>
<tr>
<td>Mexico</td>
<td>OEL STEL (mg/m³)</td>
<td>27 mg/m³</td>
</tr>
<tr>
<td>Mexico</td>
<td>OEL STEL (ppm)</td>
<td>35 ppm</td>
</tr>
<tr>
<td>USA ACGIH</td>
<td>ACGIH TWA (ppm)</td>
<td>25 ppm</td>
</tr>
<tr>
<td>USA ACGIH</td>
<td>ACGIH STEL (ppm)</td>
<td>35 ppm</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (mg/m³)</td>
<td>35 mg/m³</td>
</tr>
<tr>
<td>USA OSHA</td>
<td>OSHA PEL (TWA) (ppm)</td>
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</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (TWA) (mg/m³)</td>
<td>18 mg/m³</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (TWA) (ppm)</td>
<td>25 ppm</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (STEL) (mg/m³)</td>
<td>27 mg/m³</td>
</tr>
<tr>
<td>USA NIOSH</td>
<td>NIOSH REL (STEL) (ppm)</td>
<td>35 ppm</td>
</tr>
<tr>
<td>USA IDLH</td>
<td>US IDLH (ppm)</td>
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</tr>
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<td>OEL STEL (mg/m³)</td>
<td>24 mg/m³</td>
</tr>
<tr>
<td>Alberta</td>
<td>OEL STEL (ppm)</td>
<td>35 ppm</td>
</tr>
<tr>
<td>Alberta</td>
<td>OEL TWA (mg/m³)</td>
<td>17 mg/m³</td>
</tr>
<tr>
<td>Alberta</td>
<td>OEL TWA (ppm)</td>
<td>25 ppm</td>
</tr>
<tr>
<td>British Columbia</td>
<td>OEL STEL (ppm)</td>
<td>35 ppm</td>
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<tr>
<td>British Columbia</td>
<td>OEL TWA (ppm)</td>
<td>25 ppm</td>
</tr>
<tr>
<td>Manitoba</td>
<td>OEL STEL (ppm)</td>
<td>35 ppm</td>
</tr>
<tr>
<td>Manitoba</td>
<td>OEL TWA (ppm)</td>
<td>25 ppm</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>OEL STEL (mg/m³)</td>
<td>24 mg/m³</td>
</tr>
<tr>
<td>New Brunswick</td>
<td>OEL STEL (ppm)</td>
<td>35 ppm</td>
</tr>
</tbody>
</table>
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<table>
<thead>
<tr>
<th>Province</th>
<th>OEL STEL (mg/m³)</th>
<th>OEL TWA (mg/m³)</th>
<th>OEL STEL (ppm)</th>
<th>OEL TWA (ppm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Brunswick</td>
<td></td>
<td>17 mg/m³</td>
<td>25 ppm</td>
<td></td>
</tr>
<tr>
<td>New Brunswick</td>
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<td></td>
</tr>
<tr>
<td>Newfoundland &amp; Labrador</td>
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<td>35 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newfoundland &amp; Labrador</td>
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<td>25 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nova Scotia</td>
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<tr>
<td>Nova Scotia</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nunavut</td>
<td>17 mg/m³</td>
<td>24 mg/m³</td>
<td>35 ppm</td>
<td></td>
</tr>
<tr>
<td>Nunavut</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>24 mg/m³</td>
<td>17 mg/m³</td>
<td>35 ppm</td>
<td></td>
</tr>
<tr>
<td>Northwest Territories</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northwest Territories</td>
<td>35 ppm</td>
<td>25 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quebec</td>
<td>24 mg/m³</td>
<td>25 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quebec</td>
<td>35 ppm</td>
<td></td>
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</tr>
<tr>
<td>Quebec</td>
<td>17 mg/m³</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Quebec</td>
<td></td>
<td>25 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saskatchewan</td>
<td>35 ppm</td>
<td>25 ppm</td>
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<tr>
<td>Saskatchewan</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yukon</td>
<td>30 mg/m³</td>
<td>18 mg/m³</td>
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</tr>
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<td>Yukon</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yukon</td>
<td>30 mg/m³</td>
<td>18 mg/m³</td>
<td>35 ppm</td>
<td></td>
</tr>
<tr>
<td>Yukon</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure Controls

Appropriate Engineering Controls: Gas detectors should be used when toxic gases may be released. Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits indicated above. All electrical equipment should comply with the National Electric Code. Ensure all national/local regulations are observed.

Personal Protective Equipment: In case of splash hazard: safety glasses.

Materials for Protective Clothing: Not applicable.

Hand Protection: Wear chemically resistant protective gloves.

Eye Protection: In case of splash hazard: chemical goggles or safety glasses.

Skin and Body Protection: Wear suitable protective clothing.

Thermal Hazard Protection: This material is shipped as a hot liquid (temperatures up to 160°F or 71°C), it is recommended that personal protective equipment which protects the whole body be used when there is a potential for contact. This could include the above hand and eye protection plus an apron and boots, which are compatible.

Environmental Exposure Controls: Avoid release to the environment.

Other Information: When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State: Liquid

Appearance: Colorless
Odor: Slight ammonia odor (pungent)
Odor Threshold: Not available
pH: 7 - 10 (depending upon free ammonia)
Evaporation Rate: Not available
Melting Point: 33 - 135 °F (0.56 - 57 °C) (50% urea solution salts out at 62 °F; 70% urea solution salts out 135 °F)
Freezing Point: Not available
Boiling Point: 223 °F (106 °C) (50% urea solution boiling point)
Flash Point: Not available
Auto-ignition Temperature: Not available
Decomposition Temperature: Not available
Flammability (solid, gas): Not available
Lower Flammable Limit: Not available
Upper Flammable Limit: Not available
Vapor Pressure: Not available
Relative Vapor Density at 20 °C: Not available
Relative Density: Not available
Specific gravity / density: 9.28lb/gal (50% urea solution); 9.80lb/gal (70% urea solution)
Specific Gravity: 1.11 (40% urea solution); 1.175 (70% urea solution)
Solubility: Water: 100%
Partition Coefficient: N-Octanol/Water: Not available
Viscosity: Not available
Explosion Data – Sensitivity to Mechanical Impact: Not expected to present an explosion hazard due to mechanical impact.
Explosion Data – Sensitivity to Static Discharge: Not expected to present an explosion hazard due to static discharge.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity: Hazardous reactions are unlikely to occur under normal circumstances.
10.3. Possibility of Hazardous Reactions: Hazardous polymerization will not occur.
10.5. Incompatible Materials: Strong acids. Strong bases. Strong oxidizers. Sodium nitrite, phosphorus pentachloride, and nitrosyl or gallium perchlorate. Urea will form urea nitrate when mixed with nitric acid at low pH.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects - Product
Acute Toxicity: Not classified
LD50 and LC50 Data: Not available
Skin Corrosion/Irritation: Not classified
pH: 7 - 10 (depending upon free ammonia)
Serious Eye Damage/Irritation: Not classified
pH: 7 - 10 (depending upon free ammonia)
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Teratogenicity: Not classified
Carcinogenicity: Not classified
Specific Target Organ Toxicity (Repeated Exposure): Not classified
Reproductive Toxicity: Not classified
Specific Target Organ Toxicity (Single Exposure): Not classified
Aspiration Hazard: Not classified
Symptoms/Injuries After Inhalation: May cause irritation to the respiratory tract.
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Symptoms/Injuries After Skin Contact: May cause mild skin irritation.
Symptoms/Injuries After Eye Contact: May cause slight irritation to eyes.
Symptoms/Injuries After Ingestion: Ingestion is likely to be harmful or have adverse effects.
Chronic Symptoms: None expected under normal conditions of use.

11.2. Information on Toxicological Effects - Ingredient(s)
LD50 and LC50 Data:

<table>
<thead>
<tr>
<th>Substance</th>
<th>LD50 Oral Rat</th>
<th>LC50 Inhalation Rat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water (7732-18-5)</td>
<td>&gt; 90000 mg/kg</td>
<td></td>
</tr>
<tr>
<td>Urea (57-13-6)</td>
<td>8471 mg/kg</td>
<td>5.1 mg/l (1 h)</td>
</tr>
<tr>
<td>Ammonia (7664-41-7)</td>
<td></td>
<td>2000 ppm/4h (4 h)</td>
</tr>
</tbody>
</table>

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity
Ecology - General: Harmful to aquatic life.

<table>
<thead>
<tr>
<th>Substance</th>
<th>LC50 Fish 1</th>
<th>EC50 Daphnia 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea (57-13-6)</td>
<td>16200 - 18300 mg/l (96 h - Poecilia reticulata)</td>
<td>3910 mg/l (48 h - Daphnia magna [Static])</td>
</tr>
<tr>
<td>Ammonia (7664-41-7)</td>
<td>0.44 mg/l (96 h - Cyprinus carpio)</td>
<td>25.4 mg/l (48 h - Daphnia magna)</td>
</tr>
<tr>
<td></td>
<td>0.26 - 4.6 mg/l (96 h - Lepomis macrochirus)</td>
<td></td>
</tr>
</tbody>
</table>

12.2. Persistence and Degradability

<table>
<thead>
<tr>
<th>Substance</th>
<th>BCF Fish 1</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea Liquor</td>
<td>&lt; 10</td>
<td>-1.59 (25 °C)</td>
</tr>
<tr>
<td>Urea (57-13-6)</td>
<td>&lt; 10</td>
<td>-1.59</td>
</tr>
<tr>
<td>Ammonia (7664-41-7)</td>
<td></td>
<td>-1.14 (25 °C)</td>
</tr>
</tbody>
</table>

12.3. Bioaccumulative Potential

<table>
<thead>
<tr>
<th>Substance</th>
<th>BCF Fish 1</th>
<th>Log Pow</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea Liquor</td>
<td>&lt; 10</td>
<td>-1.59</td>
</tr>
<tr>
<td>Urea (57-13-6)</td>
<td>&lt; 10</td>
<td>-1.59</td>
</tr>
<tr>
<td>Ammonia (7664-41-7)</td>
<td></td>
<td>-1.14</td>
</tr>
</tbody>
</table>

12.4. Mobility in Soil

<table>
<thead>
<tr>
<th>Substance</th>
<th>Log Pow</th>
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</thead>
<tbody>
<tr>
<td>Urea Liquor</td>
<td>-1.59</td>
</tr>
<tr>
<td>Urea (57-13-6)</td>
<td>-1.59</td>
</tr>
<tr>
<td>Ammonia (7664-41-7)</td>
<td>-1.14</td>
</tr>
</tbody>
</table>

12.5. Other Adverse Effects

Other Information: Avoid release to the environment.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Sewage Disposal Recommendations: This material is hazardous to the aquatic environment. Keep out of sewers and waterways.

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, provincial, territorial and international regulations.

SECTION 14: TRANSPORT INFORMATION

14.1. In Accordance with DOT Not regulated for transport
14.2. In Accordance with IMDG Not regulated for transport
14.3. In Accordance with IATA Not regulated for transport
14.4. In Accordance with TDG Not regulated for transport
#SECTION 15: REGULATORY INFORMATION

## 15.1. US Federal Regulations

<table>
<thead>
<tr>
<th>Water (7732-18-5)</th>
<th>Listed on the United States TSCA (Toxic Substances Control Act) inventory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea (57-13-6)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>Imidodicarbonic diamide (108-19-0)</td>
<td>Listed on the United States TSCA (Toxic Substances Control Act) inventory</td>
</tr>
<tr>
<td>EPA TSCA Regulatory Flag</td>
<td>T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.</td>
</tr>
</tbody>
</table>

### Ammonia (7664-41-7)

- Listed on the United States TSCA (Toxic Substances Control Act) inventory
- Listed on the United States SARA Section 302
- Listed on United States SARA Section 313

<table>
<thead>
<tr>
<th>SARA Section 302 Threshold Planning Quantity (TPQ)</th>
<th>500</th>
</tr>
</thead>
<tbody>
<tr>
<td>SARA Section 311/312 Hazard Classes</td>
<td>Fire hazard</td>
</tr>
<tr>
<td></td>
<td>Immediate (acute) health hazard</td>
</tr>
<tr>
<td></td>
<td>Sudden release of pressure hazard</td>
</tr>
</tbody>
</table>

| SARA Section 313 - Emission Reporting | 1.0 % (includes anhydrous Ammonia and aqueous Ammonia from water dissociable Ammonium salts and other sources, 10% of total aqueous Ammonia is reportable under this listing) |

## 15.2. US State Regulations

### Urea (57-13-6)

- U.S. - Minnesota - Hazardous Substance List
- U.S. - Texas - Effects Screening Levels - Long Term
- U.S. - Texas - Effects Screening Levels - Short Term

### Ammonia (7664-41-7)

- U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Acute
- U.S. - California - SCAQMD - Toxic Air Contaminants - Non-Cancer Chronic
- U.S. - California - Toxic Air Contaminant List (AB 1807, AB 2728)
- U.S. - Connecticut - Hazardous Air Pollutants - HLVs (30 min)
- U.S. - Connecticut - Hazardous Air Pollutants - HLVs (8 hr)
- U.S. - Connecticut - Water Quality Standards - Acute Freshwater Aquatic Life Criteria
- U.S. - Connecticut - Water Quality Standards - Acute Saltwater Aquatic Life Criteria
- U.S. - Connecticut - Water Quality Standards - Chronic Freshwater Aquatic Life Criteria
- U.S. - Connecticut - Water Quality Standards - Chronic Saltwater Aquatic Life Criteria
- U.S. - Delaware - Accidental Release Prevention Regulations - Sufficient Quantities
- U.S. - Delaware - Accidental Release Prevention Regulations - Threshold Quantities
- U.S. - Delaware - Accidental Release Prevention Regulations - Toxic Endpoints
- U.S. - Delaware - Pollutant Discharge Requirements - Reportable Quantities
- U.S. - Florida - Essential Chemicals List
- U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Acceptable Ambient Concentrations
- U.S. - Idaho - Non-Carcinogenic Toxic Air Pollutants - Emission Levels (ELs)
- U.S. - Idaho - Occupational Exposure Limits - TWA's
- U.S. - Louisiana - Reportable Quantity List for Pollutants
- U.S. - Maine - Air Pollutants - Criteria Pollutants
- U.S. - Massachusetts - Allowable Ambient Limits (AALs)
- U.S. - Massachusetts - Allowable Threshold Concentrations (ATCs)
- U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 1
- U.S. - Massachusetts - Oil & Hazardous Material List - Groundwater Reportable Concentration - Reporting Category 2
- U.S. - Massachusetts - Oil & Hazardous Material List - Reportable Quantity
| U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 1 |
| U.S. - Massachusetts - Oil & Hazardous Material List - Soil Reportable Concentration - Reporting Category 2 |
| RTK - U.S. - Massachusetts - Right To Know List |
| U.S. - Massachusetts - Threshold Effects Exposure Limits (TELs) |
| U.S. - Massachusetts - Toxics Use Reduction Act |
| U.S. - Michigan - Occupational Exposure Limits - STELs |
| U.S. - Michigan - Polluting Materials List |
| U.S. - Michigan - Process Safety Management High Hazardous Chemicals |
| U.S. - Minnesota - Chemicals of High Concern |
| U.S. - Minnesota - Hazardous Substance List |
| U.S. - Minnesota - Permissible Exposure Limits - STELs |
| U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - 24-Hour |
| U.S. - New Hampshire - Regulated Toxic Air Pollutants - Ambient Air Levels (AALs) - Annual |
| U.S. - New Jersey - Discharge Prevention - List of Hazardous Substances |
| U.S. - New Jersey - Environmental Hazardous Substances List |
| RTK - U.S. - New Jersey - Right to Know Hazardous Substance List |
| U.S. - New Jersey - Special Health Hazards Substances List |
| U.S. - New Jersey - TCPA - Extraordinarily Hazardous Substances (EHS) |
| U.S. - New Jersey - Water Quality - Ground Water Quality Criteria |
| U.S. - New Jersey - Water Quality - Practical Quantitation Levels (PQLs) |
| U.S. - New Mexico - Precursor Chemicals |
| U.S. - New York - Reporting of Releases Part 597 - List of Hazardous Substances |
| U.S. - North Carolina - Control of Toxic Air Pollutants |
| U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 1-Hour |
| U.S. - North Dakota - Air Pollutants - Guideline Concentrations - 8-Hour |
| U.S. - Ohio - Accidental Release Prevention - Threshold Quantities |
| U.S. - Ohio - Extremely Hazardous Substances - Threshold Quantities |
| U.S. - Oregon - Permissible Exposure Limits - TWAs |
| U.S. - Oregon - Precursor Chemicals |
| RTK - U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List |
| RTK - U.S. - Pennsylvania - RTK (Right to Know) List |
| U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 1-Hour |
| U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - 24-Hour |
| U.S. - Rhode Island - Air Toxics - Acceptable Ambient Levels - Annual |
| U.S. - Rhode Island - Water Quality Standards - Acute Freshwater Aquatic Life Criteria |
| U.S. - Rhode Island - Water Quality Standards - Acute Saltwater Aquatic Life Criteria |
| U.S. - Rhode Island - Water Quality Standards - Chronic Freshwater Aquatic Life Criteria |
| U.S. - Rhode Island - Water Quality Standards - Chronic Saltwater Aquatic Life Criteria |
| U.S. - Tennessee - Occupational Exposure Limits - STELs |
| U.S. - Texas - Effects Screening Levels - Long Term |
| U.S. - Texas - Effects Screening Levels - Short Term |
| U.S. - Vermont - Permissible Exposure Limits - STELs |
| U.S. - Virginia - Water Quality Standards - Acute Freshwater Aquatic Life |
| U.S. - Virginia - Water Quality Standards - Acute Saltwater Aquatic Life |
| U.S. - Virginia - Water Quality Standards - Chronic Freshwater Aquatic Life |
| U.S. - Virginia - Water Quality Standards - Chronic Saltwater Aquatic Life |
| U.S. - Virginia - Water Quality Standards - Public Water Supply Effluent Limits |
| U.S. - Virginia - Water Quality Standards - Surface Waters Not Used for the Public Water Supply Effluent Limits |
| U.S. - Washington - Permissible Exposure Limits - STELs |
| U.S. - Washington - Permissible Exposure Limits - TWAs |
| U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 25 Feet to Less Than 40 Feet |
| U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 40 Feet to Less Than 75 Feet |
| U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights 75 Feet or Greater |
| U.S. - Wisconsin - Hazardous Air Contaminants - All Sources - Emissions From Stack Heights Less Than 25 Feet |
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15.3. Canadian Regulations

Urea Liquor
Uncontrolled product according to WHMIS classification criteria

Water (7732-18-5)
Listed on the Canadian DSL (Domestic Substances List)
WHMIS Classification | Uncontrolled product according to WHMIS classification criteria

Urea (57-13-6)
Listed on the Canadian DSL (Domestic Substances List)
WHMIS Classification | Uncontrolled product according to WHMIS classification criteria

Imidodicarbonic diamide (108-19-0)
Listed on the Canadian DSL (Domestic Substances List)
WHMIS Classification | Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Ammonia (7664-41-7)
Listed on the Canadian DSL (Domestic Substances List)
Listed on the Canadian IDL (Ingredient Disclosure List)
IDL Concentration 1 %
WHMIS Classification | Class A - Compressed Gas
Class B Division 1 - Flammable Gas
Class D Division 1 Subdivision A - Very toxic material causing immediate and serious toxic effects
Class E - Corrosive Material

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all of the information required by CPR.

SECTION 16: OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Revision Date : 1 September 2015
Revision Comments : Section 1.1 updated
GHS Full Text Phrases:

<table>
<thead>
<tr>
<th>Acute Tox. 3 (Inhalation:gas)</th>
<th>Acute toxicity (inhalation:gas) Category 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Acute 1</td>
<td>Hazardous to the aquatic environment - Acute Hazard Category 1</td>
</tr>
<tr>
<td>Aquatic Acute 3</td>
<td>Hazardous to the aquatic environment - Acute Hazard Category 3</td>
</tr>
<tr>
<td>Aquatic Chronic 2</td>
<td>Hazardous to the aquatic environment - Chronic Hazard Category 2</td>
</tr>
<tr>
<td>Eye Dam. 1</td>
<td>Serious eye damage/eye irritation Category 1</td>
</tr>
<tr>
<td>Eye Irrit. 2A</td>
<td>Serious eye damage/eye irritation Category 2A</td>
</tr>
<tr>
<td>Flam. Gas 2</td>
<td>Flammable gases Category 2</td>
</tr>
<tr>
<td>Liquefied gas</td>
<td>Gases under pressure Liquefied gas</td>
</tr>
<tr>
<td>Skin Corr. 1B</td>
<td>Skin corrosion/irritation Category 1B</td>
</tr>
<tr>
<td>Skin Irrit. 2</td>
<td>Skin corrosion/irritation Category 2</td>
</tr>
<tr>
<td>STOT SE 3</td>
<td>Specific target organ toxicity (single exposure) Category 3</td>
</tr>
<tr>
<td>H221</td>
<td>Flammable gas</td>
</tr>
<tr>
<td>H280</td>
<td>Contains gas under pressure; may explode if heated</td>
</tr>
<tr>
<td>H314</td>
<td>Causes severe skin burns and eye damage</td>
</tr>
<tr>
<td>H315</td>
<td>Causes skin irritation</td>
</tr>
<tr>
<td>H318</td>
<td>Causes serious eye damage</td>
</tr>
</tbody>
</table>
# Urea Liquor

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<table>
<thead>
<tr>
<th>H319</th>
<th>Causes serious eye irritation</th>
</tr>
</thead>
<tbody>
<tr>
<td>H331</td>
<td>Toxic if inhaled</td>
</tr>
<tr>
<td>H335</td>
<td>May cause respiratory irritation</td>
</tr>
<tr>
<td>H400</td>
<td>Very toxic to aquatic life</td>
</tr>
<tr>
<td>H402</td>
<td>Harmful to aquatic life</td>
</tr>
<tr>
<td>H411</td>
<td>Toxic to aquatic life with long lasting effects</td>
</tr>
</tbody>
</table>

**NFPA Health Hazard**: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

**NFPA Fire Hazard**: 0 - Materials that will not burn.

**NFPA Reactivity**: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

**HMIS III Rating**

- **Health**: 0 Minimal Hazard - No significant risk to health
- **Flammability**: 0 Minimal Hazard
- **Physical**: 0 Minimal Hazard

**Party Responsible for the Preparation of This Document**

CF Industries, Corporate EHS Department, 847-405-2400

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*

*CF believes the information contained herein is accurate; however, CF makes no guarantees or warranties with respect to such accuracy and assumes no liability in connection with the use of the information contained herein by any party. The provision of the information contained herein by CF is not intended to be and should not be construed as legal advice or as ensuring compliance by other parties. Judgments as to the suitability of the information contained herein for the party’s own use or purposes are solely the responsibility of that party. Any party handling, transferring, transporting, storing, applying or otherwise using this product should review thoroughly all applicable laws, rules, regulations, standards and good engineering practices. Such thorough review should occur before the party handles, transfers, transports, stores, applies or otherwise uses this product.*

North America GHS US 2012 & WHMIS 2