ORIGINATION. INC.
O_2D

Safety Data Sheet

Section 1: Identification

Product Name: Urea Prill

Other Name/Synonyms: Carbamide, carbonyl diamide, carbonydiamine, diaminomethanal, diaminomethanone.

Product Type: Solid

Product Use: For further manufacturing of feed. For use in ethanol production. For fertilizer.

Company Identification:
Origination Inc.
1300 McKnight Road North
Maplewood, MN 55119

For information, call: 1-800-625-6079

Emergency Number: 1-800-625-6079

For CHEMTREC assistance, call: 1-800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2: Hazard(s) Identification

GHS-US classification: Not classified.

GHS-US labeling: No labeling applicable.

Signal word (GHS-US): No signal word.

Hazard pictograms (GHS-US): Not applicable.

Hazard statements (GHS-US):

No known significant effects or critical hazards.

Section 3: Composition / Information on Ingredients

Chemical Name and Synonyms	C.A.S. No.	%	GHS-US classification
Urea	57-13-6	100	None

Section 4: First Aid Measures

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).

First-aid measures after inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor/physician if you feel unwell.

First-aid measures after skin contact: Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse.

First-aid measures after eye contact: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing.

First-aid measures after ingestion: Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation: May cause respiratory irritation.

Symptoms/injuries after eye contact: Causes eye irritation.

Immediate medical attention and special treatment needed: No additional information available.

Note to physician: None.

Section 5: Fire Fighting Measures

Extinguishing Media

Suitable extinguishing media: Foam. Dry powder. Carbon dioxide. Water spray. Sand.

Unsuitable extinguishing media: Do not use a heavy water stream.

Special hazards arising from the substance or mixture: No additional information available.

Firefighting instructions: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

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

Section 6: Accidental Release Measures

Emergency procedures: Evacuate unnecessary personnel. Ventilate area.

Protective equipment: Equip cleanup crew with proper protection.

Environmental precautions: Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

Spill containment and clean-up: On land, sweep or shovel into suitable containers. Minimize generation of dust. Store away from other materials.

Section 7: Handling and Storage

Precautions for safe handling: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well ventilated area.

Storage conditions: Keep only in the original container in a cool, well ventilated place away from other materials. Keep container tightly closed.

Incompatible products: Store away from incompatible materials (see Section 10). Incompatible with halogens, hydrogen peroxide, chlorinated hydrocarbons, fluorine, nitric acid, oxidizing agents and sulfuric acid. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Use appropriate containment to avoid environmental contamination.

Section 8: Exposure Controls, Personal Protection

Exposure Controls

Personal protective equipment: Avoid all unnecessary exposure.

Hand protection: Wear protective gloves.

Eye protection: Chemical goggles or safety glasses.

Skin and body protection: Wear suitable protective clothing.

Respiratory protection: Wear appropriate mask.

Other information: Do not eat, drink or smoke during use.

Section 9: Physical and Chemical Properties

Information on basic physical and chemical properties

Appearance Form: Granules.

Physical State: Solid.

Color: White

Odor: Odorless.

pH: 7.2 @ 10% solution.

Melting Point: 133°C (271.4°F)

Freezing Point: No data available.

Flash Point: No data available.

Auto ignition temperature: No data available.

Vapor Pressure: No data available.

Density: 46-48 lbs./ft3 (Bulk Density)

Solubility: Easily soluble in the following materials: cold water and hot water.

Water: 1080 g/l

Other: No additional information available.

Viscosity: No data available.

Oxidizing: No data available.

Explosive: No data available.

Section 10: Stability and Reactivity

Chemical Stability: Stable.

Reactivity: Incompatible with halogens, hydrogen peroxide, chlorinated hydrocarbons, fluorine, nitric acid, oxidizing agents and sulfuric acid.

Possible hazardous reactions: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to Avoid: Moisture. Extremely high or low temperatures.

Incompatible materials: Incompatible with halogens, hydrogen peroxide, chlorinated hydrocarbons, fluorine, nitric acid, oxidizing agents and sulfuric acid.

Hazardous decomposition products: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11: Toxicological Information

Acute toxicity:

Urea LD50 Oral Mouse - Male 11 g/kg
LD50 Oral Rat - Male 8471 mg/kg
LD50 Oral Rat - Male 14300 mg/kg

Product/ingredient name Result Species Dose Exposure

Conclusion/Summary: Non-hazardous substance.

Irritation/Corrosion: Urea Non-irritating to the skin.

Product/ingredient name Result Score Exposure Observation

Conclusion/Summary

Skin: Non-irritating to the skin.

Eyes: Non-irritating to the eyes.

Respiratory: Non-irritating to the respiratory system.

Sensitization

Conclusion/Summary

Skin: Non-sensitizer to skin.

Section 12: Ecological Information

Large amounts of urea can damage plant seedlings and inhibit germination. As a readily available source of nitrogen, urea can also foster excessive growth of algae or microorganisms in water systems.

Urea is non-toxic to aquatic organisms as defined by USEPA.

Fish 96 hour LC50: >9,100 mg/L

Daphnia 24 hour EC50: >10,000 mg/L

Ecotoxicity Information: The cell multiplication toxicity threshold values for bacteria, green algae, and protozoa are >10,000, >10,000, and 29 mg/L, respectively. The critical range for the creek chub is 16,000 to 30,000 mg/L in Detroit river water.

Section 13: Disposal Considerations (non-mandatory)

Disposal Methods: Dispose in a safe manner in accordance with local/national regulations.

Waste materials/numbers/code/treatment: Avoid release to the environment.

Section 14: Transport Information

In accordance with DOT: Not regulated by DOT.

Other information: No supplementary information available.

ADR: Transport document description.

Transport by sea: No additional information available.

Air transport: No additional information available.

Section 15: Regulatory Information

United States

OSHA (Occupational Safety and Health Administration): This material is considered to be hazardous as defined by the OSHA Hazard Communication Standard.

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CERCLA (Comprehensive Environmental Response, Compensation and Liability Act): This product does not contain Reportable Quantity substances.

SARA TITLE III (Superfund Amendment and Reauthorization Act of 1986): No federal requirements. User should contact local and state regulatory agencies for information on additional or more stringent reporting requirements.

Sections 311/312: This product has been reviewed according to the USEPA "Hazard Categories" promulgated under Sections 311 and 312 of SARA Title III and is considered, under applicable definitions, to meet the following categories:

Acute: Yes.

Chronic: No.

Fire: No.

Reactivity: No.

Section 16: Additional Information

Prepared by: Origination, Inc. **Prepared:** Oct, 2015

Disclaimer:

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Origination be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Origination has been advised of the possibility of such damages.

Technical Data

UREA PRILL
Feed Grade

500-BKBLDG_LP

ORIGINATION, INC.
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CAS No.	57-13-6
Formula	CH_4N_2O
Product Description	Feed grade urea is a high quality prill feed grade urea. Its appearance is a white granule prill with a slight ammonia odor.

Nutrient Properties	**Specification**	**Typical**
Nitrogen, as N, wt %	46.00 Minimum	46.40
EQV CP from NPN Nitrogen, wt %	287.00 Minimum	290.00
Free Ammonia, as NH_3, ppm		150.00
Formaldehyde, as CH_2O, wt %		0.60
Biuret, as $C_2H_5N_3O_2$, wt %		<1.00

Physical Properties (cumulative % retained)		
Retained on a #10 Screen, %	2.00 mm (0.0787")	2.50
Retained on a #12 Screen, %	1.70 mm (0.0669")	60.00
Retained on a #14 Screen, %	1.40 mm (0.0551")	34.20
Retained on a #16 Screen, %	1.18 mm (0.0465")	3.30
Bulk Density, lbs./cu. ft.	46-48	

Packaging Options

50 lbs multi-wall polylined bags
2000lb bulk bags
Bulk