SAFETY DATA SHEET

PRILLED UREA
Product ID: 4800 Series
Revised: 01-29-2014
Replaces: 08-18-2010

1. IDENTIFICATION

Product Name:	Formaldehyde Solifidifier
Synonyms:	Urea Prills; Urea Granular
CAS Number:	MIXTURE
Recommended Use:	No data available.
Restrictions on Use:	No data available.

NPS Corp
3033 Spirit Way
Green Bay, WI 54304
800-558-5066

EMERGENCY RESPONSE NUMBERS:
24 Hour Emergency #: (414) 277-1311
CHEMTREC Emergency #: (800) 424-9300

2. HAZARD(S) IDENTIFICATION

GHS Classification: This product is not classified as defined by OSHA 29 CFR 1910.1200.

Hazards Not Otherwise Classified: None known.

Percentage of Components with Unknown Acute Toxicity:

Dermal:	100.0 %
Inhalation Vapor:	100.0 %
Inhalation Dust/Mist:	100.0 %

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS Number	% by Wt.
This material is considered not hazardous as defined by OSHA 29 CFR 1910.1200.	57-13-6	<=100%

While this material is not classified as hazardous under OSHA regulations, this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and available for employees and other users of this product.

4. FIRST-AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention.

Skin Contact: Flush skin with plenty of water while removing contaminated clothing and shoes. Do not reuse clothing or shoes until cleaned. If irritation develops or persists, get medical attention. Wash with soap and water. For contact with molten product do not remove clothing, flush skin immediately with cold water.

Inhalation: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion: If fully conscious, give two glasses of water, then induce vomiting by touching back of throat with finger. Keep head below hips to prevent aspiration of liquid into the lungs. CALL A PHYSICIAN immediately. Never induce vomiting or give anything by mouth to an unconscious victim.

Most Important Symptoms/Effects:

Eye Contact: May cause mild to severe irritation. Contact with heated material may cause: thermal burns.

Skin Contact: May cause mild irritation. Prolonged or repeated exposure may cause: redness. itching. inflammation. Contact with heated material may cause: thermal burns.

Skin Absorption: No data available.

Inhalation: May irritate: respiratory tract. mucous membranes.

Ingestion: Low toxicity. May cause: gastrointestinal irritation. gastrointestinal disturbances. vomiting. diarrhea. nausea. A single dose of 100 grams has reportedly caused mild symptoms of central nervous system depression (e.g. drowsiness, slow reflexes, and slurred speech).

5. FIRE-FIGHTING MEASURES

Extinguishing Media: Not flammable. Use extinguishing agents appropriate for surrounding fire.

Fire Fighting Methods: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-Approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. CAUTION: Spilled material becomes slippery when wet.

Fire and Explosion Hazards: May form explosive mixtures if mixed with strong acids such as nitric or perchloric. May be explosive on contact with halogens such as chlorine. May be explosive when mixed with hypochlorites due to the formation of nitrogen trichloride which explodes spontaneously in air. Material itself burns with difficulty. Short-term exposures to smoke and gases may lead to irreversible lung injury without early signs and symptoms.

Hazardous Combustion Products: Thermal decomposition may release: Ammonia. Biuret. Nitrogen oxides. Carbon oxides. Cyanuric acid. Unidentified toxic and/or irritating compounds.

6. ACCIDENTAL RELEASE MEASURES

Spill Clean-Up Procedures: Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Shut off source of leak if safe to do so. Avoid dust formation. Sweep or shovel up, recover, and use, if uncontaminated. Prevent large quantities from contacting vegetation. Keep animals away from large spills. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs. Product will promote algae growth which may degrade water quality and taste. Notify downstream users. CAUTION: Spilled material is slippery when wet.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling.

Storage: Store in a cool, well ventilated area, out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Keep away from all sources of ignition. Avoid containers, piping or fittings made of brass, bronze, or other copper-bearing alloys, or galvanized metal. HYGROSCOPIC MATERIAL. Avoid contact with moisture. See Section 10 for incompatible materials.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

OSHA Exposure Guidelines:

Component	Limits
No components found.	

ACGIH Exposure Guidelines:

Component	Limits
No components found.	

Engineering Controls: General room ventilation and/or local exhaust are required. If user operations generate dust, fumes, or mist, use ventilation as necessary to keep exposure to airborne contaminants below the exposure limits. Do not use in closed or confined spaces. Avoid creating dust or mist. Maintain adequate ventilation. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Eye/Face Protection: Wear safety glasses with side shields while handling this product. If dust may be generated, then wear chemical safety goggles. Do not wear contact lenses.

Skin Protection: No special skin protection is usually necessary. Avoid prolonged or frequently repeated skin contact with this material. Skin contact can be minimized by wearing protective clothing.

Respiratory Protection: None required under normal use. If exposure limits are exceeded, wear: NIOSH-Approved respirator for dusts and mists. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

Other Protective Equipment: Eye-wash station. Safety shower. Protective clothing.

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift. Good manufacturing practices require gross amounts of any chemical be removed from skin as soon as practical, especially before eating or smoking.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Granule or sphere.
Color: White.
Odor: Odorless to slight ammonia odor.
Odor Threshold: N.D.
pH: ~ ~ 8 (10% solution/water)
Freezing Point (deg. F): N.A.
Melting Point (deg. F): 271
Initial Boiling Point or Boiling Range: 275 (decomposes)
Flash Point: N.A.
Flash Point Method: N.A.
Evaporation Rate (nBuAc = 1): N.A.
Flammability (solid, gas): N.D.
Lower Explosion Limit: N.A.
Upper Explosion Limit: N.A.
Vapor Pressure (mm Hg): ~ 0.6 @ 20 C
Vapor Density (air=1): N.A.
Specific Gravity or Relative Density: 0.76
Solubility in Water: Soluble
Partition Coefficient (n-octanol/water): N.D.
Autoignition Temperature: N.A.
Decomposition Temperature: N.D.
Viscosity: N.A.
% Volatile (wt%): N.A.
VOC (wt%): 0
VOC (lbs/gal): 0
Fire Point: N.D.

10. STABILITY AND REACTIVITY

Reactivity: No data available.

Chemical Stability: Stable under normal conditions.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions. Dry urea and dry ammonium nitrate will react together to produce a slurry. Slow hydrolysis may produce acids corrosive to metals. Reactive with halogens. Slightly reactive with oxidizing agents, reducing agents, acids, alkalis, moisture. Reacts with Sodium or Calcium Hypochlorite to form explosive Nitrogen Trichloride. May react with other hypochlorites to form explosive Nitrogen Trichloride. Undergoes thermal decomposition at elevated temperatures to produce solid cyanuric acid.

Conditions to Avoid: Avoid elevated temperatures. May slowly hydrolyze to ammonium carbamate after a long period of time which decomposes to ammonia and carbon dioxide. HYGROSCOPIC MATERIAL. Avoid contact with moisture.

Incompatible Materials: Strong oxidizing agents. Acids. Bases. Nitrates. Sodium hypochlorite. Calcium hypochlorite. Hypochlorites. Halogens. Reducing agents. Alkalies. Caustics. Nitric Acid. Gallium perchlorate. Moisture. Mild steel. Aluminum. Zinc. Copper.

Hazardous Decomposition Products: Thermal decomposition may release: Biuret. Ammonia. Nitrogen oxides. Carbon oxides. Cyanuric acid.

11. TOXICOLOGICAL INFORMATION

Component	Oral LD50	Dermal LD50	Inhalation LC50
Urea	Rat: 8471 mg/kg	No Data	No Data

Routes of Exposure: Eyes. Ingestion. Inhalation. Skin.

Eye Contact: May cause mild to severe irritation. Contact with heated material may cause: thermal burns.

Skin Contact: May cause mild irritation. Prolonged or repeated exposure may cause: redness. itching. inflammation. Contact with heated material may cause: thermal burns.

Skin Absorption: No data available.

Inhalation: May irritate: respiratory tract. mucous membranes.

Ingestion: Low toxicity. May cause: gastrointestinal irritation. gastrointestinal disturbances. vomiting. diarrhea. nausea. A single dose of 100 grams has reportedly caused mild symptoms of central nervous system depression (e.g. drowsiness, slow reflexes, and slurred speech).

Medical Conditions Aggravated by Exposure to Product: No data available.

Other: Urea is a naturally occurring chemical in the body. It is an end product of protein metabolism and is excreted in the urine.

Cancer Information:
This product does not contain 0.1% or more of the known or potential carcinogens listed in NTP, IARC, or OSHA.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: Acute Toxicity to Fish: 96-h: (Barillius barna) LC50 =>9,100 mg/L. Acute Toxicity Aquatic Invertebrates: (Daphnia magna): 24-h EC50: >10,000 mg/L. Toxicity to Aquatic Plants: (Scenadesmus quadricauda) 192-hr cell multiplication inhibition test-TT>10,000 mg/L. Toxicity to Other Non-Mammalian Terrestrial Species: (Pigeon)-Subcutaneous-LDLo=16,000 mg/kg. Since Urea is a fertilizer, it may promote eutrophication in waterways. Non-toxic to aquatic organisms as defined by USEPA. This product in elevated concentrations can cause vegetation kill and contribute to eutrophication. Very low toxicity for humans and animals. Will slowly release ammonia and degrade to nitrate. Ammonia is a toxic hazard to fish. However, ammonia release is slow making urea much less toxic than ammonia salts. Aquatic tests indicate 24 hr. exposure at 16,000 mg/L of urea did not kill Creek Chubs. Urea ingestion may be toxic to mammals and birds at body burdens of several thousands of mg/kg. Urea is used as a feed suppliment for livestock. Non-persistent. Non-cumalative when applied using normal agricultural practises.

Chemical Fate Information: Stability in water: T (1/2) > 1 year. Transport: 0.16% in air; 99.84% in water. Biodegradation: Ultimately biodegradable. When released to soil, this product will hydrolyze to ammonium in a matter of days. Ammonia in soil can be rapidly transformed to nitrate by the microbial population through nitrification. The nitrate form will either leach through the soil or be taken up by plants or other organisms. In water ammonia can undergo sequential transformation by two processes in the nitrogen cycle, nitrification and denitrification, which would produce ionic nitrogen compounds, and from these, elemental nitrogen.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: N.A.
Disposal Method: Dispose of in accordance with all local, state and federal regulations. Consult with appropriate regulatory agencies for acceptable disposal/use of the recovered materials. Recovered product may be suitable for use or may need to be sent to a waste treatment facility.

14. TRANSPORT INFORMATION

DOT (Department of Transportation):

Proper Shipping Name: Not regulated by the DOT.

15. REGULATORY INFORMATION

TSCA Inventory Status: This product or all components of this product are listed on the EPA/TSCA Inventory of Chemical Substances.

SARA Title III Section 311/312 Category Hazards:

Immediate (Acute)	Delayed (Chronic)	Fire Hazard	Pressure Release	Reactive
No	No	No	No	No

Regulated Components:

Component	CAS Number	CERCLA RQ	SARA EHS	SARA 313	U.S. HAP	WI HAP	Prop 65
No components found.							

***Prop 65 - May Contain the Following Trace Components:**
No data available.

16. OTHER INFORMATION

Hazard Rating System
Health: 1
Flammability: 0
Reactivity: 0
* = Chronic Health Hazard

NFPA Rating System
Health: 0
Flammability: 0
Reactivity: 0
Special Hazard: None

MSDS Abbreviations
N.A. = Not Applicable
N.D. = Not Determined
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
C = Ceiling Limit
N.E./Not Estab. = Not Established

MSDS Prepared by: CSH

Reason for Revision: New format. Changes made throughout the MSDS.

Revised: 01-29-2014
Replaces: 08-18-2010

Party Responsible for the Preparation of This Document:
NPS Corporation
3303 Spirit Way Green Bay, WI 54304 800-558-5066

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.

North America GHS US 2012 & WHMIS 2