



SAFETY DATA SHEET

Urea Granules

Section 1. IDENTIFICATION

Product Name: Urea Granules

Synonyms: Urea Granules

Recommended use: Fertilizer

Restrictions on use: Use only as directed

Manufacturer: Iowa Fertilizer Company, LLC
3550 180th St.
Wever, IA 52658
319-376-4500
319-376-4700 (24 hour)

Emergency phone number: 800-424-9300 (Chemtrec)

Section 2. HAZARD(S) IDENTIFICATION

Classification:

Physical	Health	Environmental
Not Hazardous	Not Hazardous	Not hazardous

Label Elements:

Signal Word and Pictogram

None Required

Precautionary Phrases

Avoid release to the environment.

Dispose of contents and container in accordance with local and national regulations.

Section 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration
Urea	57-13-6	≥ 96.1 % wt
Moisture Content (water)	7732-18-5	≤ 0.5 % wt
Biuret	108-19-0	≤ 1.2 % wt
Methylenediurea (reaction products with formaldehyde)	68611-64-3	≤ 2.2 % wt
Free ammonia	7664-41-7	≤ 150 ppm

Section 4. FIRST-AID MEASURES

Inhalation: Remove to fresh air. If irritation occurs or breathing is difficult, get medical attention.

Skin contact: Wash with soap and water. If irritation develops and persists, get medical attention.

Eye contact: Flush eyes with water while lifting the upper and lower lids. Get medical attention if irritation develops or persists.

Ingestion: Rinse mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to a person who is unconscious or convulsing. Get medical attention.

Most important symptoms/effects, acute and delayed: Contact with eyes and skin may cause mechanical irritation. Inhalation of dust may cause upper respiratory tract irritation. Swallowing large amounts may cause gastric upset.

Indication of immediate medical attention and special treatment, if necessary: Immediate medical attention is not required under normal use conditions.

Section 5. FIRE-FIGHTING MEASURES

Suitable (and unsuitable) extinguishing media: Use water spray, foam, carbon dioxide, dry chemical. A solid stream of water may spread the fire.

Specific hazards arising from the chemical: Fine dust dispersed in air in sufficient concentrations and in the presence of an ignition source is a potential dust explosion hazard. Settled dust presents a fire hazard. Resuspension of the dust into the air by vibration, traffic, material handling, etc. in high concentrations in the presence of an ignition source could result in a dust explosion. Minimize the generation and accumulation of dust. Combustion may produce oxides of carbon, nitrogen, and ammonia.

Special protective equipment and precautions for fire-fighters: Firefighters should wear full emergency equipment and NIOSH approved positive pressure self-contained breathing apparatus. Cool fire exposure containers with water.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment, and emergency procedures: Wear appropriate protective clothing and equipment, see section 8 for more information.

Environmental hazards: Report spill as required by local, state, and federal regulations.

Methods and materials for containment and cleaning up: Wet down powder and collect in a manner to minimize the generation of airborne dusts or vacuum with a high efficiency vacuum cleaner. If a vacuum is used, explosion proof equipment is required. Nonsparking tools should be used. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentrations. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air.) Place into a closable, labeled container for disposal.

Section 7. HANDLING AND STORAGE

Precautions for safe handling: Avoid contact with eyes, skin, and clothing. Avoid breathing dust. Use with adequate ventilation. Wash thoroughly after handling. Minimize dust generation and accumulation. Housekeeping should be instituted to ensure that dusts do not accumulate on surfaces. Do not use compressed air to clean surfaces.

Keep away from heat, sparks, and all sources of ignition. Do not smoke in areas where the product is used or stored. Provide grounding and bonding during transfer to reduce the possibility of fire or explosion.

Conditions for safe storage, including any incompatibilities: Keep container tightly closed. Store in a cool, dry, well-ventilated area. Protect storage container from physical damage.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure guidelines:

Urea	10 mg/m ³ TWA AIHA WEEL
Water	None Established
Biuret	None Established
Methylenediurea (reaction products with formaldehyde)	None Established
Ammonia	50 ppm TWA OSHA PEL 25 ppm TWA, 35 ppm STEL ACGIH TLV

Appropriate engineering controls: No special ventilation required for normal use. If use generates dust, use general ventilation or local exhaust as required to maintain exposures below the occupational exposure limits. It is recommended that all dust control equipment such as local exhaust ventilation and material transport systems involved in handling this product contain explosion relief vents, or an explosion suppression system, or an oxygen deficient environment. Ensure that dust handling systems (such as exhaust ducts, dust collectors, vessels, and processing equipment) are designed in a manner to prevent the escape of dust into the work area (i.e. there is no leakage from the equipment). Use only appropriately classified electrical equipment and powered industrial trucks.

Individual protection measures, such as personal protective equipment:

Respiratory protection: In operations where the occupational exposure limits exceeded, an approved respirator with dust/mist cartridges or supplied air respirator should be used. Respirator selection and use should be based on contaminant type, form, and concentration. Follow applicable regulations and good Industrial Hygiene practice.

Skin protection: None normally needed. Work gloves are recommended to avoid skin contact.

Eye/face protection: Chemical safety goggles should be worn if contact with dust is possible.

Other: Appropriate protective clothing as needed to minimize skin contact. Suitable washing facilities should be available in the work area.



Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: White granules.

Odor: Odorless or slight ammonia odor.

Odor threshold: Not available	pH: 7.2 (10% solution)
Melting point/freezing point: 270.8°F (132.7°C) (Decomposes)	Boiling point: Not available
Flash point: Not applicable	Evaporation rate: Not available
Flammability (solid, gas): Dust may be combustible or explosive.	
Flammable limits: LEL: Not applicable	UEL: Not applicable
Vapor pressure: Not available	Vapor Density (air =1): Not available
Relative density: 48-52 lbs/ft ³	Solubility in Water: 119 g/L @25°C
Partition coefficient: n-octanol/water: 0.026	Auto-ignition temperature: Not available
Decomposition temperature: 270.8°F (132.7°C)	Viscosity: 1.78 mPas (46% solution) @ 20°C

Section 10. STABILITY AND REACTIVITY

Reactivity: Not expected to be reactive. Airborne dust may become flammable or explosive.

Chemical stability: Stable.

Possibility of hazardous reactions: Reacts violently with strong oxidizing agents, nitrites, inorganic chlorides, chlorites and perchlorates causing fire and explosion hazard.

Conditions to avoid: Avoid creating and accumulating dust. The product will absorb water by contact with the moisture in the air.

Incompatible materials: Avoid oxidizing agents, alkalis, acids, azo and diazo compounds, strong reducing agents, and moisture.

Hazardous decomposition products: Thermal decomposition may produce oxides of carbon, nitrogen, and ammonia.

Section 11. TOXICOLOGICAL INFORMATION

Inhalation: High concentrations of dust may cause nose, throat, and upper respiratory tract irritation.

Ingestion: Swallowing large amounts may cause gastrointestinal irritating and nausea.

Skin contact: May cause mechanical irritation with redness and itching.

Eye contact: Dust may cause mechanical irritation with redness and tearing.

Chronic effects: None known.

Reproductive Toxicity: None of the components have been shown to cause reproductive or developmental toxicity.

Mutagenicity: None of the components have been shown to cause mutagenic activity.

Carcinogenicity: None of the ingredients are listed as a carcinogen by IARC, NTP or OSHA.

Acute Toxicity Values:

Urea: Oral rat LD50 14,300-15,000 mg/kg mg/kg

Biuret: No toxicity data available

Methylenediurea (reaction products with formaldehyde): Oral rat LD50 >2000 mg/kg

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity:

Urea: 96 hr LC50 *Leuciscus idus* >6810 mg/L, 24 hr EC50 *daphnia magna* >10000 mg/L

Biuret: No data available

Methylenediurea (reaction products with formaldehyde): 48 hr EC50 *daphnia magna* >150 mg/L. 72 hr EC50

Desmodesmus subspicatus 70.6 mg/L

Persistence and degradability: Urea is rapidly hydrolyzed to ammonia and carbon dioxide in environmental systems.

Bioaccumulative potential: The potential for bioconcentration in aquatic organisms is expected to be low.

Mobility in soil: Urea is highly mobile in soil.

Other adverse effects: None known.

Section 13. DISPOSAL CONSIDERATIONS

Dispose in accordance with all local, state, and federal regulations.

Section 14. TRANSPORT INFORMATION

	UN Number	Proper shipping name	Hazard Class	Packing Group	Environmental Hazard
DOT	None	Not Regulated			
TDG	None	Not Regulated			
IMDG	None	Not Regulated			
IATA	None	Not Regulated			

Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code): Not applicable – product is transported only in packaged form.

Special precautions: None known.

STCC Code: 2871314

Section 15. REGULATORY INFORMATION

Safety, health, and environmental regulations specific for the product in question.

CERCLA: This product is not subject to CERCLA reporting requirements, however, many states have more stringent release reporting requirements. Report spills required under federal, state and local regulations.

SARA Hazard Category (311/312): Not hazardous.

SARA 313: This Product does not contain any Chemicals Subject to Annual Release Reporting Requirements Under SARA Title III, Section 313 (40 CFR 372).

EPA TSCA Inventory: All of the components of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.

Canadian CEPA: All of the ingredients are listed on the Canadian Domestic Substances List.

Section 16. OTHER INFORMATION

NFPA Rating: Health = 1

Flammability = 0

Instability = 0

HMIS Rating: Health = 1

Flammability = 0

Physical Hazard = 0

SDS Revision History: Added STCC Code.

Date of preparation: February 9, 2017

Date of last revision: January 13, 2017

NOTICE: The information that Iowa Fertilizer Company, LLC (the "Company") has presented here was prepared in accordance with governmental regulations, is based upon data the Company believes to be accurate as of the date of this version, applies solely to the specific product designated and may not be accurate if such product is used with any other product. THE COMPANY MAKES NO WARRANTIES OF ANY KIND WHATSOEVER, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR COURSE OF PERFORMANCE OR USAGE OF TRADE. The party purchasing, using or applying the product is responsible for determining its suitability for such party's particular use or purpose, and such party assumes all risks with respect to handling, transferring, transporting, storing, applying or otherwise using the product ("Assumed Risks"), many of which are within the exclusive control of such party. THE COMPANY HEREBY DISCLAIMS ANY AND ALL LIABILITY FOR ANY AND ALL ASSUMED RISKS. Such party is solely responsible for complying with all applicable federal, state and local laws and regulations (collectively, the "Applicable Laws") governing the handling, transfer, transportation, storage, application and use of the product. Before handling, transferring, transporting, storing, applying or otherwise using the product, such party should thoroughly review all Applicable Laws.