

Safety Data Sheet

SECTION 1 – IDENTIFICATION

Name, Address, and Telephone of the Responsible Party

Dyno Nobel Inc.

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SDS #: 1132

Date: 05/07/2015

Supersedes: 12/20/2012

Product Identifier

Product Form: Solid

Product Name: Urea Feed

Other Means of Identification

Trade Name(s): Urea - RBU™, Urea Fertilizer

Synonyms:

Urea Feed

Urea, Prilled, 46-0-0

Product Class: Urea

Intended Use of the Product

Ingredient for animal feed and fertilizer

Uses advised against: Not to be used as an ingredient for human food. Not approved for human use.

Emergency Telephone Number

FOR 24 HOUR EMERGENCY, CALL CHEMTREC (USA) 800-424-9300

CANUTEC (CANADA) 613-996-6666

SECTION 2 – HAZARD(S) IDENTIFICATION

Classification of the Substance or Mixture

Classification (GHS-US)

While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of the product.

Label Elements

GHS-US Labeling

Hazard Pictograms (GHS-US) : Not Applicable

Signal Word (GHS-US) : Not Applicable

Hazard Statements (GHS-US) : No known significant effects or critical hazards

Precautionary Statements (GHS-US) : Read label before use. Keep out of reach of children. If medical advice needed, have product container or label at hand.

Other Hazards

Hazards Not Otherwise Classified (HNOC): None known

Unknown Acute Toxicity: None known

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SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product identifier	% (w/w)	Ingredient Classification (GHS-US)
Urea	(CAS No) 57-13-6	98 - 99	Not Classified
Methylenediurea	(CAS No) 68611-64-3	0.3 – 0.5	Aquatic Chronic 3, H412
Biuret	(CAS No) 108-19-0	0.4 – 0.5	Not Classified

Ingredients, other than those mentioned above, as used in this product are not hazardous as defined under current Department of Labor regulations, or are present in de minimus concentrations (less than 0.1% for carcinogens, less than 1.0% for other hazardous materials).

SECTION 4 - FIRST AID MEASURES

Description of First Aid Measures

Eye Contact: Immediately flush with large amounts of water, including under the eyelids. If pain or irritation persists seek medical attention.

Inhalation: Remove to fresh air and keep at rest in a position comfortable for breathing. Obtain medical attention if breathing difficulty persists.

Skin Contact: Remove contaminated clothing. Rinse immediately with plenty of water. Obtain medical attention if irritation develops or persists. Wash contaminated clothing before reuse.

Ingestion: Do not induce vomiting. Get medical attention immediately.

Most Important Symptoms and Effects Both Acute and Delayed

General: May cause skin irritation and eye irritation.

Inhalation: May cause respiratory irritation.

Skin Contact: May cause skin irritation.

Eye Contact: May cause eye irritation.

Ingestion: Do not induce vomiting. Get medical attention immediately.

Chronic Symptoms: None expected under normal conditions of use.

Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed and feeling unwell, seek medical advice (show the label where possible).

SECTION 5 - FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media: Use extinguishing media appropriate for surrounding fire.

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

Special Hazards Arising From the Substance or Mixture

Fire Hazard: Not considered combustible but may decompose at high temperatures.

Explosion Hazard: Product is not explosive.

Reactivity: Hazardous reactions will not occur under normal conditions.

Advice for Firefighters

Precautionary Measures Fire: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool. Collect contaminated fire-fighting water separately. It must not enter the sewage system. Exercise caution when fighting any chemical fire.

Firefighting Instructions: Urea will not burn or support combustion but will decompose into noxious, poisonous gas when exposed to the high temperatures of a fire. Firefighters should wear self-contained breathing apparatus and full protective clothing.

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

Hazardous Combustion Products: Ammonia and Nitrogen Oxides (Nitric Oxide and Nitrogen Dioxide).

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

SECTION 6 - ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency Procedures

General Measures: Avoid all contact with skin, eyes, or clothing. Avoid breathing dust.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protection equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedures: Ventilate area.

Environmental Precautions

Prevent entry to sewers and public waters.

Methods and Material for Containment and Cleaning Up

For Containment: Contain any spills to prevent migration and entry into sewers or streams.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities as appropriate after a spill.

Reference to Other Sections

See heading 8, Exposure Controls and Personal Protection

SECTION 7 - HANDLING AND STORAGE

Precautions for Safe Handling

Store in compliance with all Federal, State, and local regulations. Store in a well-ventilated area, away from incompatible materials or sources of heat and ignition. Empty containers may contain residue and can be dangerous if exposed to hot work conditions. Do not pressurize, cut, weld, braze, solder, drill, grind or expose contaminated containers to heat, flames, sparks or other sources of ignition; as they may evolve noxious fumes.

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 when leaving work.

Conditions for Safe Storage, Including Any Incompatibilities

Storage Conditions: Store in a dry, cool and well-ventilated place. Keep container closed when not in use. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

Incompatible Materials: Strong acids. Strong bases. Strong oxidizers. Aldehydes.

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

No Occupational Exposure Limits (OELs) have been established for this product or its chemical components.

Exposure Controls

Appropriate Engineering Controls: Ensure adequate ventilation, especially in confined areas. Emergency eye wash fountains and safety showers should be available but are not required.

Personal Protective Equipment: Safety glasses, gloves and general work clothing are recommended. Where ventilation is insufficient, wear respiratory protection. Wearing of appropriate protective clothing and gloves is suggested if epidermal sensitivity develops.



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Materials for Protective Clothing: Not specified

Hand Protection: Wear appropriate protective gloves.

Eye Protection: Chemical goggles or safety glasses.

Skin and Body Protection: Wear suitable protective clothing to avoid skin contact.

Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.

Environmental Exposure Controls: Shovel spilled material into containers for disposal. Do not flush to surface water. Spilled chemical can be used as fertilizer (46-0-0). Follow applicable Federal, State and local reporting requirements.

Consumer Exposure Controls: Do not eat, drink or smoke during use

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	: Solid
Appearance	: White crystalline
Odor	: Slight ammonia odor
Odor Threshold	: Not available
pH	: 7.2 @ 10% solution
Relative Evaporation Rate (butylacetate=1)	: Not available
Melting Point	: 133 °C (271 °F)
Freezing Point	: Not available
Boiling Point	: Not available
Flash Point	: Not available
Auto-ignition Temperature	: Not available
Decomposition Temperature	: 135 °C (275 °F)
Flammability (solid, gas)	: Not available
Lower Flammable Limit	: Not available
Upper Flammable Limit	: Not available
Vapor Pressure	: .08 kPa (.06 mm Hg) [room temperature]
Relative Vapor Density at 20 °C	: Not available
Relative Density	: 1.33
Specific Gravity	: 0.74 - 0.83 g/cc (46 - 52 lb/ft ³)
Solubility	: In water: 112.4 g/100ml @ 20 °C (68 °F)
Partition coefficient: n-octanol/water	: -1.59
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.

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SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.

Chemical Stability: Stable. Decomposes at about 135°C, just above its melting point. Can be made explosive when dissolved in Nitric Acid, even without completely drying. Stable under recommended handling and storage conditions (see section 7).

Possibility of Hazardous Reactions: Hazardous polymerization will not occur.

Conditions to Avoid: Avoid exposing containers to heat or flame. Keep separated from incompatible materials. Avoid moisture while in storage as urea will readily absorb moisture. Incompatible materials.

Incompatible Materials: Nitric Acid, gallium, perchlorate, strong oxidizing agents, caustics and alkalis.

Hazardous Decomposition Products: Ammonia and Nitrogen Oxides (Nitric Oxide and Nitrogen Dioxide).

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product

Acute Toxicity: Not classified

LD50 and LC50 Data: Not available

Skin Corrosion/Irritation: May cause skin irritation.

Serious Eye Damage/Irritation: Causes eye irritation.

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: Excessive inhalation of the dust may cause sore throat, coughing and irritation of mucous membranes and the respiratory tract.

Symptoms/Injuries After Skin Contact: May cause skin irritation.

Symptoms/Injuries After Eye Contact: Dust and micro particles are likely to cause eye irritation.

Symptoms/Injuries After Ingestion: Abdominal pain, nausea, vomiting and gastrointestinal irritation may result. (Urea is a protein to ruminants, animals with the enzyme Urease in their digestive systems, but is moderately toxic to humans when ingested).

Chronic Symptoms: None expected under normal conditions of use.

Information on Toxicological Effects - Ingredient(s)

LD50 and LC50 Data:

Urea (57-13-6)

LD50 Oral Rat	8471 mg/kg
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Methylenediurea (68611-64-3)

LD50 Oral Rat	> 2000 mg/kg
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SECTION 12: ECOLOGICAL INFORMATION

Toxicity Not classified

Urea (57-13-6)

LC50 Fish 1	16200 - 18300 mg/l (Exposure time: 96 h - Species: Poecilia reticulata)
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EC50 Daphnia 1	3910 mg/l (Exposure time: 48 h - Species: Daphnia magna [static])
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Methylenediurea (68611-64-3)

EC50 Daphnia 1	> 150 mg/l (Exposure time: 48 h - Species: Daphnia magna [static])
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Persistence and Degradability Not available

Bioaccumulative Potential

Urea (57-13-6)

BCF fish 1	< 10
Log Pow	-1.59 (at 25 °C)

Mobility in Soil Not available

Other Adverse Effects

Other Information: None

SECTION 13 - DISPOSAL CONSIDERATIONS

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

Additional Information: Spilled chemical can be used as fertilizer.

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

US Federal Regulations

Urea

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
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Urea (57-13-6)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Biuret (108-19-0)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
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Methylenediurea (68611-64-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

EPA TSCA Regulatory Flag	T - T - indicates a substance that is the subject of a Section 4 test rule under TSCA.
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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

Canadian Regulations

Urea (57-13-6)

WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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Urea (57-13-6)

Listed on the Canadian DSL (Domestic Substances List) inventory.

WHMIS Classification	Class D Division 2 Subdivision B - Toxic material causing other toxic effects
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