Safety Data Sheet

SECTION 1 – IDENTIFICATION

Name, Address, and Telephone of the Responsible Party

Dyno Nobel Inc.
2795 East Cottonwood Parkway, Suite 500
Salt Lake City, Utah 84121
Phone: 801-364-4800 Fax 801-321-6703
E-Mail: dnna.hse@am.dynonobel.com
www.dynonobel.com

SDS #: 1135
Date: 05/07/2015
Supersedes: 12/20/2012

Product Identifier
Product Form: Liquid
Product Name: Urea Solution

Other Means of Identification
Trade Name(s): Urea Solution, 32.5% or 40%
Synonyms:
Urea
46-0-0
DEF (Diesel exhaust fluid)

Product Class: Urea Solutions

Intended Use of the Product
Plant and crop fertilizer, DEF (diesel exhaust fluid)

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

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
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.

Classification (GHS-US) Not classified
Label Elements
GHS-US Labeling No labeling applicable

Other Hazards
Hazards Not Otherwise Classified (HNOC): None known

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Name	Product identifier	% (w/w)	Ingredient Classification (GHS-US)
Water	(CAS No) 7732-18-5	60 - 68	Not classified
Urea	(CAS No) 57-13-6	32 - 40	Not classified
Ammonia	(CAS No) 7664-41-7	< 0.1	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 Aquatic Chronic 2, H411

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 deminimus 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. Speed and thoroughness in rinsing eyes are important to avoid permanent injury.

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 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: Exercise caution when fighting any chemical fire. Under fire conditions, hazardous fumes will be present.

Firefighting Instructions: Use water spray or fog for cooling exposed containers.

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

Hazardous Combustion Products: Ammonia. Nitrogen oxides.

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: Use proper hygiene practices and avoid excessive skin contact.

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. Notify authorities if liquid enters sewers or 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 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. Do not pressurize, cut, weld, braze, solder, drill, grind or expose such containers to heat, flames, sparks or other sources of ignition; 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 compliance with all Federal, State, and local regulations.
Incompatible Materials: Nitric Acid, gallium, perchlorate, strong oxidizing agents, caustics and alkalis.

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 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.

Materials for Protective Clothing: Not specified
Hand Protection: Wear chemically resistant protective gloves.
Eye Protection: Safety glasses.
Skin and Body Protection: Wear suitable protective clothing.
Respiratory Protection: Use a NIOSH-approved respirator or self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.
Environmental Exposure Controls: Collect 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	:	Liquid
Appearance	:	Colorless
Odor	:	Slight ammonia
Odor Threshold	:	Not available
pH	:	Not available
Evaporation Rate	:	Not available
Melting Point	:	Not available
Freezing Point	:	Not available
Boiling Point	:	Not available
Flash Point	:	Not applicable
Auto-ignition Temperature	:	Not available
Decomposition Temperature	:	135 °C (275 °F) (Urea)
Flammability (solid, gas)	:	Not applicable
Lower Flammable Limit	:	Not applicable
Upper Flammable Limit	:	Not applicable
Vapor Pressure	:	Not available
Relative Vapor Density at 20 °C	:	Not available
Specific Gravity	:	1.09 - 1.13 g/cc (9.1 - 9.4 lb/gal)
Solubility	:	Not available
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.
Crystallization Temperature	:	-11°C (12°F) for 32.5% and 0°C (32°F) for 40% solution

SECTION 10 - STABILITY AND REACTIVITY

Reactivity: Hazardous reactions will not occur under normal conditions.
Chemical Stability: 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.
Incompatible Materials: Nitric acid. Gallium. Perchlorates. Strong oxidizers. Caustic products. Alkalis.
Hazardous Decomposition Products: Ammonia. Nitrogen oxides.

SECTION 11 - TOXICOLOGICAL INFORMATION

Information on Toxicological Effects - Product
Acute Toxicity: Not classified
LD50 and LC50 Data: Not available
Skin Corrosion/Irritation: Not classified
Serious Eye Damage/Irritation: Not classified
Respiratory or Skin Sensitization: Not classified
Germ Cell Mutagenicity: Not classified
Teratogenicity: Not available
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 respiratory irritation.
Symptoms/Injuries After Skin Contact: May cause skin irritation.
Symptoms/Injuries After Eye Contact: May 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
Ammonia (7664-41-7)	
LC50 Inhalation Rat	5.1 mg/l (Exposure time: 1 h)
LC50 Inhalation Rat	2000 ppm/4h (Exposure time: 4 h)

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)
EC50 Daphnia 1	3910 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
Ammonia (7664-41-7)	
LC50 Fish 1	0.44 mg/l (Exposure time: 96 h - Species: Cyprinus carpio)
EC50 Daphnia 1	25.4 mg/l (Exposure time: 48 h - Species: Daphnia magna)
LC 50 Fish 2	0.26 - 4.6 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus)

Persistence and Degradability Not available

Bioaccumulative Potential

Urea (57-13-6)	
BCF fish 1	< 10
Log Pow	-1.59 (at 25 °C)
Ammonia (7664-41-7)	
Log Pow	-1.14 (at 25 °C)

Mobility in Soil Not available
Other Adverse Effects
Other Information: Avoid release to the environment.

SECTION 13 - DISPOSAL CONSIDERATIONS

Waste Disposal Recommendations: Dispose of waste material in accordance with all local, regional, national, and international regulations.
Additional Information: Spilled chemical can be used as fertilizer.

SECTION 14 - TRANSPORT INFORMATION

In Accordance with DOT Not regulated for transport.
In Accordance with IMDG Not regulated for transport.
In Accordance with IATA Not regulated for transport.
In Accordance with TDG Not regulated for transport.

SECTION 15 - REGULATORY INFORMATION

US Federal Regulations

Urea (57-13-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
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	
SARA Section 302 Threshold Planning Quantity (TPQ)	500
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard Sudden release of pressure hazard
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)

Canadian Regulations

Urea Solution, 32.5% or 40%	
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
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 : 05/07/2015

Other Information : This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

Party Responsible for the Preparation of This Document

Dyno Nobel Inc.
2795 East Cottonwood Parkway, Suite 500
Salt Lake City, Utah 84121
Phone: 801-364-4800

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