

Safety Data Sheet



Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

Product Name	• Diammonium Phosphate Food Grade
Synonyms	• Ammonium Phosphate, Dibasic; Ammonium Phosphate, Secondary; DAP
CAS Number	• 7783-28-0
SDS Number/Grade	• 31a
EC Number	• 231-987-8
REACH Registration Number	• 01-2119490974-22-0057
Product Description	• White powder solid with ammonia-like odor.
Molecular Formula	• (NH ₄) ₂ HPO ₄
Molecular Weight	• 132.06

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified use(s)	• Nutrient in manufacture of yeast; ingredient in compound bread improvers. Flame retardant. Agriculture - Ingredient in specialty all-soluble dry fertilizers. Building Materials - Flame-proofing of wood. Paint - Ingredient in flame-proofing of specialty paper; prevention of afterglow in matches. Pulp and Paper - Flame-proofing of specialty paper; prevention of afterglow in materials. Textile - Flame-proofing of fabrics and cotton batting. Nutrient feed for biological treatment plants.
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1.3 Details of the supplier of the safety data sheet

Manufacturer	• Innophos 259 Prospect Plains Rd. Bldg A Cranbury, NJ 08512-3706 United States
Telephone (Technical)	• 609-495-2495
Responsible Party - EU	• LSR Associates Ltd Woolley Road Alconbury, Cambridgeshire PE28 4HS United Kingdom info@lsr-associates.com
Telephone (General)	• +44 (0) 1954 212132

Distributed By: PVS NOLWOOD CHEMICALS, INC. 10900 Harper Avenue Detroit, MI. 48213 (313) 925-0300	
PVS ITEM #	PVS SDS #

**CONTROLLED DOCUMENT
IF STAMPED IN RED**

1.4 Emergency telephone number

Manufacturer	• 800-424-9300 - Chemtrec - within USA and Canada
Manufacturer	• +1 703-527-3887 - Chemtrec - outside USA and Canada (collect calls accepted)
Manufacturer	• 615-386-7816 - Innophos Emergency Communication Team (ECT)

Section 2: Hazards Identification

EU/EEC

According to Regulation (EC) No 1272/2008 (CLP)/REACH 1907/2006 [amended by 453/2010]
According to EU Directive 67/548/EEC (DSD) or 1999/45/EC (DPD)

2.1 Classification of the substance or mixture

- CLP
 - Not classified
- DSD/DPD
 - Not classified

2.2 Label Elements

- CLP **Hazard statements**
 - No label element(s) required.
- DSD/DPD **Risk phrases**
 - No label element(s) required.

2.3 Other Hazards

- CLP
 - According to Regulation (EC) No. 1272/2008 (CLP) this material is not considered hazardous.
- DSD/DPD
 - This product is not considered dangerous under the European Directive 67/548/EEC
-

United States (US)

According to OSHA 29 CFR 1910.1200 HCS

2.1 Classification of the substance or mixture

- OSHA HCS 2012
 - Not classified

2.2 Label elements

- OSHA HCS 2012 **Hazard statements**
 - No label element(s) required.

2.3 Other hazards

- OSHA HCS 2012
 - This product is not considered hazardous under the U.S. OSHA 29 CFR 1910.1200 Hazard Communication Standard.
-

Canada

According to WHMIS

2.1 Classification of the substance or mixture

- WHMIS
 - Not classified

2.2 Label elements

- WHMIS
 - No label element(s) required.

2.3 Other hazards

- WHMIS
 - In Canada, the product mentioned above is not considered hazardous under the Workplace Hazardous Materials Information System (WHMIS)
-
-

Section 3 - Composition/Information on Ingredients

3.1 Substances

Composition					
Chemical Name	Identifiers	%	LD50/LC50	Classifications According to Regulation/Directive	Comments
Phosphoric acid, ammonium salt (1:2)	CAS:7783-28-0 EC Number:231-987-8	100%	NDA	EU DSD/DPD: Not Classified EU CLP: Not Classified OSHA HCS 2012: Not Classified	NDA

3.2 Mixtures

- Material does not meet the criteria of a mixture in accordance with Regulation (EC) No 1272/2008.

Section 4 - First Aid Measures

4.1 Description of first aid measures

Inhalation

- Move victim to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. If signs/symptoms continue, get medical attention.

Skin

- IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

Eye

- Flush eyes with water for at least 15 minutes while holding eyelids open. Remove contact lenses if worn. If eye irritation persists: Get medical advice/attention.

Ingestion

- If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. If swallowed give 2-3 glasses of water if victim is conscious and alert. Do not give anything by mouth to an unconscious person. Rinse mouth. Vomiting may occur spontaneously. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. If vomiting occurs and the victim is conscious, give water to further dilute the chemical.

4.2 Most important symptoms and effects, both acute and delayed

- Refer to Section 11 - Toxicological Information.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician

- All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

Section 5 - Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media • Not combustible. Use extinguishing media suitable for surrounding fire.

Unsuitable Extinguishing Media • None known.

5.2 Special hazards arising from the substance or mixture

Unusual Fire and Explosion Hazards • Non-combustible.

Hazardous Combustion Products • Ammonia
Oxides of nitrogen, oxides of phosphorus.

5.3 Advice for firefighters

- Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Move containers from fire area if you can do it without risk.

LARGE FIRES: Dike fire-control water for later disposal.
LARGE FIRES: Do not scatter spilled material with high pressure water streams.

Section 6 - Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal Precautions**
- Do not touch or walk through spilled material. Wear appropriate personal protective equipment, avoid direct contact.
- Emergency Procedures**
- Ventilate closed spaces before entering. Keep unauthorized personnel away.

6.2 Environmental precautions

- Runoff from fire control or dilution water may cause pollution. Prevent material from entering public sewer system or any waterways. Spills may be reportable to the National Response Center (800-424-8802) and to state and/or local agencies.

6.3 Methods and material for containment and cleaning up

- Containment/Clean-up Measures**
- Sweep or vacuum up and place in an appropriate closed container. Avoid generating dust. Clean up residual material by washing area with water and detergent. Collect washings for disposal.

6.4 Reference to other sections

- Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

Section 7 - Handling and Storage

7.1 Precautions for safe handling

- Handling**
- Keep containers closed when not in use. Avoid breathing dust. Avoid direct or prolonged contact with skin and eyes. Do not ingest. Do not use in areas without adequate ventilation. Wash hands and face carefully before eating, drinking, using tobacco, applying cosmetics, or using the toilet.

7.2 Conditions for safe storage, including any incompatibilities

- Storage**
- Store in a cool/low-temperature, well-ventilated, dry place. Store in a tightly closed container. Product is hygroscopic and tends to cake on storage.

7.3 Specific end use(s)

- Refer to Section 1.2 - Relevant identified uses.

Section 8 - Exposure Controls/Personal Protection

8.1 Control parameters

- Exposure Limits/Guidelines**
- No exposure limits were found for this product or any of its ingredients.

8.2 Exposure controls

- Engineering Measures/Controls**
- Adequate ventilation systems as needed to control concentrations of airborne contaminants below applicable threshold limit values.

Personal Protective Equipment

Respiratory

- For limited exposure use an N95 dust mask. For prolonged exposure use an air-purifying respirator with high efficiency particulate air (HEPA) filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or symptoms are experienced.

Eye/Face

- Wear safety glasses.

Skin/Body

- Wear appropriate gloves.

Environmental Exposure Controls

- Follow best practice for site management and disposal of waste.

Section 9 - Physical and Chemical Properties**9.1 Information on Physical and Chemical Properties**

Material Description			
Physical Form	Solid	Appearance/Description	White powder solid with ammonia-like odor.
Color	White	Odor	Ammonia-like
Odor Threshold	Data lacking		
General Properties			
Boiling Point	Data lacking	Melting Point	Data lacking
Decomposition Temperature	Data lacking	pH	8
Specific Gravity/Relative Density	Data lacking	Water Solubility	Soluble 41 %
Viscosity	Data lacking	Explosive Properties	Not relevant.
Oxidizing Properties:	Not relevant.		
Volatility			
Vapor Pressure	Data lacking	Vapor Density	Data lacking
Evaporation Rate	Data lacking		
Flammability			
Flash Point	Data lacking	UEL	Data lacking
LEL	Data lacking	Autoignition	Data lacking
Flammability (solid, gas)	Not relevant.		
Environmental			
Octanol/Water Partition coefficient	Data lacking		

9.2 Other Information

- No additional physical and chemical parameters noted.

Section 10: Stability and Reactivity**10.1 Reactivity**

- No dangerous reaction known under conditions of normal use.

10.2 Chemical stability

- Stable under normal temperatures and pressures.

10.3 Possibility of hazardous reactions

- Hazardous polymerization will not occur.

10.4 Conditions to avoid

- Dusting conditions, extreme heat, extreme humidity.

10.5 Incompatible materials

- Strong bases, strong oxidizing agents. Sodium hypochlorite.

10.6 Hazardous decomposition products

- Ammonia Oxides of nitrogen. Phosphoric acid. Oxides of phosphorus.

Section 11 - Toxicological Information

11.1 Information on toxicological effects

	CAS	
Diammonium Phosphate Food Grade	7783-28-0	Acute Toxicity: Ingestion/Oral-Rat LD50 • >1000 mg/kg; Irritation: Skin-Rabbit • Mild irritation

GHS Properties	Classification
Acute toxicity	EU/CLP • Data lacking OSHA HCS 2012 • Acute Toxicity - Data lacking
Aspiration Hazard	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Carcinogenicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Germ Cell Mutagenicity	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Skin corrosion/Irritation	EU/CLP • Data lacking OSHA HCS 2012 • Inconclusive data
Skin sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
STOT-RE	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
STOT-SE	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Toxicity for Reproduction	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Respiratory sensitization	EU/CLP • Data lacking OSHA HCS 2012 • Data lacking
Serious eye damage/Irritation	EU/CLP • Data lacking OSHA HCS 2012 • Inconclusive data

Route(s) of entry/exposure • Inhalation, Skin, Eye, Ingestion

Potential Health Effects

Inhalation

- Acute (Immediate)** • May cause respiratory irritation.
- Chronic (Delayed)** • No data available.

Skin

- Acute (Immediate)** • May cause irritation.
- Chronic (Delayed)** • No data available.

Eye

- Acute (Immediate)** • May cause irritation.
- Chronic (Delayed)** • No data available.

Ingestion

- Acute (Immediate)** • Low acute oral toxicity. Ingestion of large quantities may cause abdominal pain, abdominal cramps, nausea, vomiting, diarrhea.
- Chronic (Delayed)** • No data available.

Carcinogenic Effects

- This product does not contain any ingredient designated by IARC, NTP, ACGIH or OSHA as probable or suspected human carcinogens.

Key to abbreviations

LD = Lethal Dose

Section 12 - Ecological Information**12.1 Toxicity**

Diammonium Phosphate Food Grade			7783-28-0		
Dosage	Species	Duration	Results	Exposure Conditions	Comments
155 mg/L	Fish: Pimephales promelas	96 Hour(s)	LC50	NDA	NDA

12.2 Persistence and degradability

- No data found for product.

12.3 Bioaccumulative potential

- No data found for product.

12.4 Mobility in Soil

- No data found for product.

12.5 Results of PBT and vPvB assessment

- PBT and vPvB assessment has not been carried out.

12.6 Other adverse effects**Ecological Fate**

- No data found for product.

Section 13 - Disposal Considerations**13.1 Waste treatment methods****Product waste**

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Packaging waste

- Dispose of content and/or container in accordance with local, regional, national, and/or international regulations.

Section 14 - Transport Information

	14.1 UN number	14.2 UN proper shipping name	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards
DOT	NDA	Not Regulated	NDA	NDA	NDA
TDG	NDA	Not Regulated	NDA	NDA	NDA
IMO/IMDG	NDA	Not Regulated	NDA	NDA	NDA
IATA/ICAO	NDA	Not Regulated	NDA	NDA	NDA

14.6 Special precautions for user

- None known.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

- Not relevant.

Section 15 - Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

SARA Hazard Classifications • Acute

Inventory						
Component	CAS	Canada DSL	Canada NDSL	China	EU EINECS	EU ELNICS
Phosphoric acid, ammonium salt (1:2)	7783-28-0	Yes	No	Yes	Yes	No

Inventory (Con't.)				
Component	CAS	New Zealand	Philippines PICCS	TSCA
Phosphoric acid, ammonium salt (1:2)	7783-28-0	Yes	Yes	Yes

Canada

Labor

Canada - WHMIS - Classifications of Substances

• Phosphoric acid, ammonium salt (1:2) 7783-28-0 Not Listed

Canada - WHMIS - Ingredient Disclosure List

• Phosphoric acid, ammonium salt (1:2) 7783-28-0 Not Listed

Environment

Canada - 2004 NPRI (National Pollutant Release Inventory)

• Phosphoric acid, ammonium salt (1:2) 7783-28-0 Not Listed

Canada - 2005 NPRI (National Pollutant Release Inventory)

• Phosphoric acid, ammonium salt (1:2) 7783-28-0 Not Listed

Canada - CEPA - Greenhouse Gases Subject to Mandatory Reporting

• Phosphoric acid, ammonium salt (1:2) 7783-28-0 Not Listed

Canada - CEPA - Priority Substances List

• Phosphoric acid, ammonium salt (1:2) 7783-28-0 Not Listed

Canada - DWQ (Drinking Water Quality) - IMACs

• Phosphoric acid, ammonium salt (1:2) 7783-28-0 Not Listed

Other

Canada - Accelerated Reduction/Elimination of Toxics (ARET)

• Phosphoric acid, ammonium salt (1:2) 7783-28-0 Not Listed

Canada New Brunswick

Environment

Canada - New Brunswick - Ozone Depleting Substances - Schedule A

• Phosphoric acid, ammonium salt (1:2) 7783-28-0 Not Listed

Canada - New Brunswick - Ozone Depleting Substances - Schedule B

• Phosphoric acid, ammonium salt (1:2) 7783-28-0 Not Listed

China

Other

China - Classification and Labeling of Dangerous Chemical Substances Commonly Used

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

Germany

Environment

Germany - TA Luft - Types and Classes

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

Germany - Water Classification (VwVwS) - Annex 1

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

Germany - Water Classification (VwVwS) - Annex 2 - Water Hazard Classes

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

Germany - Water Classification (VwVwS) - Annex 3

- | | | |
|--|-----------|---|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | ID Number 7150, hazard class 1 - low hazard to waters |
|--|-----------|---|

Philippines

Other

Philippines - Priority Chemical List

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

Singapore

Other

Singapore - Corrosive and Explosive Substances - Corrosive Substances

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

United States

Labor

U.S. - OSHA - Process Safety Management - Highly Hazardous Chemicals

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

U.S. - OSHA - Specifically Regulated Chemicals

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

Environment

U.S. - CAA (Clean Air Act) - 1990 Hazardous Air Pollutants

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

U.S. - CAA (Clean Air Act) - Class II Ozone Depletors

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

U.S. - CERCLA/SARA - Hazardous Substances and their Reportable Quantities

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

U.S. - CERCLA/SARA - Radionuclides and Their Reportable Quantities

- | | | |
|--|-----------|------------|
| • Phosphoric acid, ammonium salt (1:2) | 7783-28-0 | Not Listed |
|--|-----------|------------|

U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances EPCRA RQs

• Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed
U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs		
• Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed
U.S. - CERCLA/SARA - Section 313 - Emission Reporting		
• Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed
U.S. - CERCLA/SARA - Section 313 - PBT Chemical Listing		
• Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed

United States - California

Environment

U.S. - California - Proposition 65 - Carcinogens List		
• Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed
U.S. - California - Proposition 65 - Developmental Toxicity		
• Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed
U.S. - California - Proposition 65 - Maximum Allowable Dose Levels (MADL)		
• Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed
U.S. - California - Proposition 65 - No Significant Risk Levels (NSRL)		
• Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Female		
• Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed
U.S. - California - Proposition 65 - Reproductive Toxicity - Male		
• Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed

Vietnam

Environment

Vietnam - Industrial Wastewater Discharge Standards - Specific Permitted Water Bodies		
• Phosphoric acid, ammonium salt (1:2)	7783-28-0	Not Listed

15.2 Chemical Safety Assessment

- No Chemical Safety Assessment has been carried out.

Section 16 - Other Information

Last Revision Date	• 14/October/2014
Preparation Date	• 14/October/2014
Disclaimer/Statement of Liability	• The information herein is given in good faith but no warranty, expressed or implied, is made.
Key to abbreviations	
NDA = No Data Available	

Urea, Dry

Section 1. Identification

Product identifier : Urea, Dry

SDS # : 301

Other means of identification

Synonyms : Urea Granular; Urea Microprills; Urea Pastille; Urea Prills

Distributed By: PVS NOLWOOD CHEMICALS, INC. 10900 Harper Avenue Detroit, MI, 48213 (313) 925-0300	
PVS ITEM #	PVS SDS #

CONTROLLED DOCUMENT
IF STAMPED IN RED

This safety data sheet applies to the following:

URGRAN – Urea Granular 46-0-0, Agricultural Grade
 URGRANFR – Urea Granular 46-0-0, Forest Grade
 URGRANTF – Urea Granular 46-0-0, Turf Grade
 URPRL – Urea Prilled Industrial Grade
 URPRLAG – Urea Prilled 46-0-0, Agricultural Grade
 URPRLAGF – Urea Prilled 46-0-0, Agricultural Grade Forestry
 URPRLC – Urea Prilled Commercial Grade
 URPRLCF – Urea Prilled Commercial Grade, Conditioned
 URPRLCH – Urea Prilled Chemical Grade
 URPRLENV – Urea Prilled Environmental Grade
 URPRLMIA – Urea Microprilled 46-0-0, Agricultural Grade
 URPRLMIF – Urea Microprilled Feed Grade
 URPRLMII – Urea Microprilled Industrial Grade
 URPRLR – Urea Prilled Reagent Grade
 URPAS – Pastille Urea Chemical Grade

Product code(s) : URGRAN, URGRANFR, URGRANOS, URGRANTF, URTURFOS, URPRILOS, URPRL, URPRLAG, URPRLAGF, URPRLC, URPRLCF, URPRLCH, URPRLENV, URPRLMIA, URPRLMIF, URPRLMII, URPRLR, URPAS, URPASOS

Product type : Granular solid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses

Fertilizer. Manufacture of chemical products. Manufacture of intermediates. Manufacture of personal care products. Manufacture of pharmaceutical products. Manufacture of resins. Manufacture of specialty fertilizers. Pollution control products.

Uses advised against

None identified.

Reason

Non-hazardous substance.

Supplier's details : PCS Sales (USA), Inc. (A Subsidiary of Nutrien Ltd.)
 1101 Skokie Blvd.
 Suite 400
 Northbrook, IL 60062
 T 1-800-524-0132

PCS Sales (Canada), Inc. (A Subsidiary of Nutrien Ltd.)
 Suite 500
 122 1st Avenue South
 Saskatoon, Saskatchewan Canada S7K 7G3
 T 1-800-542-0132

sds@nutrien.com - www.nutrien.com

Section 1. Identification

Emergency telephone number (with hours of operation) : Nutrien North American
24 HOUR EMERGENCY TELEPHONE NUMBERS:

English:
Transportation Emergencies: 1-800-792-8311
Medical Emergencies: 1-303-389-1653

French or Spanish:
Transportation or Medical Emergencies: 1-303-389-1654

Section 2. Hazard identification

Classification of the substance or mixture : Not classified.

OSHA/HCS status : 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 this product.

GHS label elements

Hazard pictograms : **Not Applicable.**
No Aplicable.
Non applicable.

Signal word : No signal word.

Hazard statements : No known significant effects or critical hazards.

Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.

Prevention : Not applicable.

Response : Not applicable.

Storage : Not applicable.

Disposal : Not applicable.

Supplemental label elements : None known.

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Multi-constituent substance

Ingredient name	% (w/w)	CAS number
UREA	97.5 - 99.7	57-13-6
Urea, reaction products with formaldehyde	0 - < 1.5	68611-64-3
imidodicarbonic diamide	< 1.5	108-19-0

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

- Eye contact** : May cause irritation due to mechanical action. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. If possible, remove contact lenses being careful not to cause additional eye damage. Get medical attention if irritation occurs.
- Inhalation** : Remove person to fresh air. No known significant effects. Seek medical attention for any signs of wheezing and/or breathing difficulties. For additional advice call the medical emergency number on this SDS or your poison center or medical provider.
- Skin contact** : No known significant effects. Rinse the affected areas with water. Remove contaminated clothing, jewelry, and shoes. Wash/clean items before reuse. Seek medical attention for persistent skin pain or irritation. For additional advice call the medical emergency number on this SDS or your poison center or doctor.
- Ingestion** : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : No known significant effects or critical hazards. May cause slight transient irritation.
- Inhalation** : No known significant effects or critical hazards. May cause slight transient irritation.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : No specific data. May cause irritation due to mechanical action.
- Inhalation** : No specific data. Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No specific data. Inorganic salt. Prolonged or repeated exposure may dry the skin, causing irritation.
- Ingestion** : No specific data. May cause irritation of the digestive tract with accompanying nausea, vomiting and diarrhea.

Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. For professional, multilingual, medical support, in case of medical emergencies involving Nutrien products, telephone the Nutrien global 24 hour Emergency Number: 1-303-389-1653.
- Specific treatments** : No specific treatment. If necessary, veterinary advice may be obtained by calling the Medical Emergency number in Section 1.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. Mouth-to-mouth resuscitation of oral exposure patients is not recommended. First-aiders with contaminated clothing should be properly decontaminated.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Non-flammable. Material will not burn. Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

Specific hazards arising from the chemical

- Hazardous thermal decomposition products** : Incompatible with halogens. If mixed with chlorine or hypochlorites, it may form nitrogen trichloride which may explode spontaneously in air.
- Hazardous thermal decomposition products** : Material will not burn. Undergoes thermal decomposition at elevated temperatures to produce solid cyanuric acid and release toxic and combustible gases (ammonia, carbon dioxide, and oxides of nitrogen).

Special protective actions for fire-fighters

- : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

- : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark

- : Contain and collect the water used to fight the fire for later treatment and disposal.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

- : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused adverse impacts (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Recover the material and use it for the intended purpose.
or
Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Collect spillage. Use appropriate equipment to put the spilled substance in a container for reuse or disposal. Recycle to process, if possible.
or
Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. If user operations generate dust, fumes or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.
- Advice on general occupational hygiene** : Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. May form steep piles that can collapse without warning when transported or stored in bulk. This may damage equipment and endanger workers. The risk of cliffing and sudden collapse increases if product is loaded or stored when hot or in high humidity conditions. Avoid forming steep slopes when removing product. If product has caked, cliffed, or has adhered to the storage or transport container, stay out of the potential engulfment zone in case the material collapses. Do not enter bins, railcars or trucks without conducting a risk assessment and following all confined space entry requirements. Ensure that consideration is given to fall protection and mobile equipment securement if applicable. Carefully loosen the set product from outside the container using mechanical vibration, sledge hammers, or other devices.

Ensure that bulk bags or smaller packaged products stored in tiers are stacked, racked, blocked, interlocked, or otherwise secured to prevent sliding, rolling, or collapse. Use caution when opening truck or railcar doors as product may have shifted during transport.

Must be stored in a dry location. Absorbs moisture on long-term storage under high humidity conditions. Store away from incompatible materials (see Section 10). When product is stored in sealable containers, keep container tightly closed and sealed until ready for use. Sealable containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
<p>Canadian Regulations: Urea, including: Urea, reaction products with formaldehyde Biuret</p> <p>U.S. Federal Regulations: Urea including: Urea, reaction products with formaldehyde Biuret</p>	<p>AIHA WEEL (United States, 10/2011). TWA: 10 mg/m³ 8 hours.</p> <p>CA Alberta Provincial: Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 10 mg/m³; Respirable fraction: 3 mg/m³.</p> <p>AIHA WEEL (United States, 10/2011). TWA: 10 mg/m³ 8 hours.</p> <p>OSHA (United States): Particulates not otherwise regulated (PNOR) TWA (8 hours), Total dust: 15 mg/m³; Respirable fraction: 5 mg/m³.</p>

Appropriate engineering controls : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Wash contaminated clothing before reusing.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: sealed eyewear

Skin protection

Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Cotton or cotton/synthetic overalls or coveralls are normally suitable.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Hazard of slipping on spilled product. Use slip resistant footwear.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Solid. [Granular solid. Crystals. Powder. Solid beads.]
- Color** : White.
- Odor** : Slight Ammoniacal.
- Odor threshold** : Not available.
- pH** : 7 to 8 [Conc. (% w/w): 10%]
- Melting point** : 134°C (273.2°F)
- Boiling point** : Not available.
- Flash point** : Not applicable.
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Non-flammable substance. Non-combustible.
- Lower and upper explosive (flammable) limits** : Not applicable.
- Vapor pressure** : 0 kPa (0 mm Hg) [room temperature]
- Vapor density** : Not available.
- Relative density** : 2.31
- Solubility** : Easily soluble in the following materials: cold water and hot water: 1193 g/l @ 25 °C
- Solubility in water** : 620 g/l
- Partition coefficient: n-octanol/water** : <-1.73
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : 135°C (275°F)
- Viscosity** : Not available.

Section 10. Stability and reactivity

- Reactivity** : Incompatible with halogens, hydrogen peroxide, chlorinated hydrocarbons, fluorine, nitric acid, oxidizing agents and sulfuric acid.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : Absorbs moisture on long-term storage under high humidity conditions. Decomposes on heating. Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10).

Section 10. Stability and reactivity

Incompatible materials : See above. May be incompatible with some materials of construction. Contact your sales representative or a metallurgical specialist to ensure compatibility with your equipment.

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

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Urea	LD50 Oral TDLo Oral	Rat Cattle - Male, Female	8471 mg/kg 200 mg(N)/kg	- -

Conclusion/Summary : Very low toxicity to humans or animals. Effects are not sufficient for classification as hazardous.

Irritation/Corrosion

Not available.

Conclusion/Summary

Skin : May cause slight transient irritation. Inorganic salt. Prolonged or repeated exposure may dry the skin, causing irritation. Effects are not sufficient for classification as hazardous.

Eyes : No known significant effects or critical hazards. May cause irritation due to mechanical action.

Respiratory : Non-irritating to the respiratory system.

Sensitization

Not available.

Conclusion/Summary

Skin : Non-sensitizer to skin.

Respiratory : Non-sensitizer to lungs.

Mutagenicity

Product/ingredient name	Test	Experiment	Result
Urea, Dry	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria Cell: Somatic Metabolic activation: With and without	Negative

Conclusion/Summary : No mutagenic effect.

Carcinogenicity

Product/ingredient name	Result	Species	Dose	Exposure
Urea, Dry	Negative - Oral - TC	Rat - Male, Female	2250 mg/kg Continuous	-

Conclusion/Summary : No known significant effects or critical hazards.

Reproductive toxicity

Not available.

Conclusion/Summary : No known significant effects or critical hazards.

Teratogenicity

Not available.

Section 11. Toxicological information

Conclusion/Summary : No known significant effects or critical hazards.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely routes of exposure : Skin contact
Inhalation (dusts and mists)

Potential acute health effects

Eye contact : No known significant effects or critical hazards. May cause slight transient irritation.
Inhalation : No known significant effects or critical hazards. May cause slight transient irritation.
Skin contact : No known significant effects or critical hazards.
Ingestion : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data. May cause irritation due to mechanical action.
Inhalation : No specific data. Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Skin contact : No specific data. Inorganic salt. Prolonged or repeated exposure may dry the skin, causing irritation.
Ingestion : No specific data. May cause irritation of the digestive tract with accompanying nausea, vomiting and diarrhea.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : See above.
Potential delayed effects : See above.

Long term exposure

Potential immediate effects : See above.
Potential delayed effects : See below.

Potential chronic health effects

Conclusion/Summary : No known significant effects or critical hazards.
General : No known significant effects or critical hazards.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Urea	Acute EC50 3910000 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1000 mg/l Marine water	Crustaceans - Chaetogammarus marinus - Young	48 hours
	Acute LC50 5000 µg/l Fresh water	Fish - Colisa fasciata - Fingerling	96 hours
	Chronic NOEC 2 g/L Fresh water	Fish - Heteropneustes fossilis	30 days

Conclusion/Summary : Excessive nutrient runoff to a body of water may result in eutrophication.

Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Urea, Dry	OECD 302B Inherent Biodegradability: Zahn-Wellens/ EMPA Test	96 % - Readily - 16 days	-	-

Conclusion/Summary : Readily biodegradable

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Urea, Dry	-	-	Readily

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
Urea, Dry	<-1.73	-	low

Mobility in soil

Soil/water partition coefficient (K_{oc}) : 0.037

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	TDG Classification	DOT Classification	Mexico Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.

Section 14. Transport information

UN proper shipping name	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.
Additional information	-	-	-	-	Marine Pollutant (MARPOL): No.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

Canadian lists

Canadian NPRI : None of the components are listed.

CEPA Toxic substances : None of the components are listed.

Canada inventory : This material is listed or exempted.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : This material is listed or exempted.

China : This material is listed or exempted.

Europe : All components are listed or exempted.

Japan : This material is listed or exempted.

Malaysia : Not determined.

New Zealand : This material is listed or exempted.

Philippines : This material is listed or exempted.

Republic of Korea : This material is listed or exempted.

Taiwan : This material is listed or exempted.

Turkey : Not determined.

Section 15. Regulatory information

U.S. Federal Regulations: : TSCA 8(a) CDR Exempt/Partial exemption: Not determined
TSCA 8(b) Active inventory: This material is listed or exempted.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304 Composition/information on ingredients

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Not applicable.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

California Prop. 65 : This product, as manufactured, does NOT contain any substance in concentrations known to the state of California to cause cancer, birth defects or other reproductive harm. Nutrien cannot guarantee the downstream compliance of any product once out of Nutrien custody.

Section 16. Other information

History

Date of issue/Date of revision : 1/22/2019

Date of previous issue : 5/28/2018

Version : 2.2

☑ Indicates information that has changed from previously issued version.
General format change.

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
UN = United Nations
HPR = Hazardous Products Regulations

Procedure used to derive the classification

Classification	Justification
Not classified.	Weight of evidence

Section 16. Other information

References

- : Transportation of Dangerous Goods Act and Clear Language Regulations, current edition at time of SDS preparation, Transport Canada;
- Hazardous Products Act and Regulations, current revision at time of SDS preparation, Health Canada;
- Domestic Substances List, current revision at time of SDS preparation, Environment Canada;
- 29 CFR Part 1910, current revision at time of SDS preparation, U.S. Occupational Safety and Health Administration;
- 40 CFR Parts 1-799, current revision at time of SDS preparation, U.S. Environmental Protection Agency;
- 49 CFR Parts 1-199, current revision at time of SDS preparation, U.S. Department of Transport;
- Mexican Official Standard NOM-018-STPS-2015, Harmonised System for the Identification and Communication of Hazards and Risks by Hazardous Chemicals in the Workplace;
- NORMA Oficial Mexicana NOM-010-STPS-2014, Agentes químicos contaminantes del ambiente laboral-Reconocimiento, evaluación y control.
- Mexican Official Standard NOM-002-SCT / 2011, List of the most commonly transported hazardous substances and materials;
- Threshold Limit Values for Chemical Substances, current edition at time of SDS preparation, American Conference of Governmental Industrial Hygienists;
- NFPA 400, National Fire Codes, National Fire Protection Association, current edition at time of SDS preparation;
- NFPA 704, National Fire Codes, National Fire Protection Association, current edition at time of SDS preparation;
- Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion Engineers;
- ERG 2016, Emergency Response Guidebook, U.S. Department of Transport, Transport Canada, and the Secretariat of Transportation and Communications of Mexico
- Hazardous Substances Data Bank, current revision at time of SDS preparation, National Library of Medicine, Bethesda, Maryland
- Integrated Risk Information System, current revision at time of SDS preparation, U. S. Environmental Protection Agency, Washington, D.C.
- Pocket Guide to Chemical Hazards, current revision at time of SDS preparation, National Institute for Occupational Safety and Health, Cincinnati, Ohio ;
- Agency for Toxic Substances and Disease Registry Databank, current revision at time of SDS preparation, U.S. Department of Health and Human Services, Atlanta, Georgia
- National Toxicology Program, Report on Carcinogens, Division of the National Institute of Environmental Health Sciences, Research Triangle Park, North Carolina.
- Registry of Toxic Effects of Chemical Substances. National Institute for Occupational Safety and Health, Cincinnati, Ohio
- California Code of Regulations, Title 27, Div 4, Chapter 1, Proposition 65 Aug 30, 2018 rev and current updates
- The Fertilizer Institute, Product Toxicology Testing Program Results, TFI, Washington , D.C., 2003

Notice to reader

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Section 16. Other information

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