

# SAFETY DATA SHEET

## Urea, Granular 46-0-0

### SECTION 1: Identification of the substance/mixture and of the company/ undertaking

#### 1.1 Product identifier

**Product name** : Urea, Granular 46-0-0

**EC number** : 200-315-5

**REACH Registration number**

| Registration number   | Substance |
|-----------------------|-----------|
| 01-2119463277-33-XXXX | Urea      |

**CAS number** : 57-13-6

**Product code** : 509-31156

**Product description** : EC FERTILISER Straight Fertiliser Urea, Granulated 46-0-0

**Product type** : Granular solid.

**Other means of identification** : Not available.

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

| Identified uses  |                          |
|--|--------------------------|
| Fertiliser. Manufacture of chemical products. Manufacture of intermediates. Manufacture of personal care products. Manufacture of pharmaceutical products. Manufacture of resins. Manufacture of speciality fertilisers. Pollution control products. |                          |
| Uses advised against   | Reason                   |
| None identified.   | Non-hazardous substance. |

#### 1.3 Details of the supplier of the safety data sheet

Nutrien Europe SA  
Avenue Louise 326/36  
1050 Bruxelles  
Belgium  
Tel : +32 (0)2 646 70 00  
Fax : +32 (0)2 646 68 60  
commercial@nutrien.eu

**e-mail address of person responsible for this SDS** : productsafety@nutrien.com

#### 1.4 Emergency telephone number

**National advisory body/Poison Centre**

**Telephone number** : Nutrien Safety Data Sheets are available in many languages at <https://agproducts.nutrien.com/products/>  
Physicians, Poison Centres, or the Public may contact Nutrien's Global Emergency Response Number 24/7/365 for service in many languages at +1 303 389 1654

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AZERBAIJAN +994 125 979 924  
BELARUS +375 17 287 00 92  
BELGIUM +32 70 245 245  
BULGARIA +359 2 9154 378; +359 887 435 325  
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## SECTION 1: Identification of the substance/mixture and of the company/ undertaking

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FRANCE  
Angers +33 (0)2 41 48 21 21  
Bordeaux +33 (0)5 56 96 40 80  
Lille 0800 59 59 59 (national callers)  
Lyon +33 (0)4 72 11 69 11  
Marseille +33 (0)4 91 75 25 25  
Nancy +33 (0)3 83 22 50 50  
Paris +33 (0)1 40 05 48 48  
Rennes +33 (0)2 99 59 22 22  
Strasbourg +33 (0)3 88 37 37 37  
Toulouse +33 (0)5 61 77 74 47  
GEORGIA +995 99 53 33 20  
GERMANY  
Berlin +49 30 192 40  
Bonn +49 228 192 40  
Erfurt +49 361 730 730  
Freiburg +49 761 192 40  
Goettingen +49 551 192 40  
Homburg (Saar) +49 6841 192 40  
Mainz +49 6131 192 40  
Munich +49 89 192 40  
GREECE +30 21 07 79 37 77  
HUNGARY +36 80 20 11 99  
ICELAND +354 543 22 22  
IRELAND +353 1 837 9964 (medical professionals) +353 1 809 2166 (public)  
ISRAEL +972 4 854 19 00  
ITALY  
Bergamo +39 800 883 300  
Firenze +39 55 794 7819  
Foggia +39 881 732 326  
Genoa +39 10 563 62 45  
Milan +39 02 6610 1029  
Padova +39 49 827 50 78  
Pavia +39 38 224 444  
Rome +39 06 305 43 43  
Turin +39 011 663 7637  
KAZAKHSTAN +7 3272 925 868  
LITHUANIA +370 5 236 20 52; +370 687 533 78  
NETHERLANDS +31 30 274 88 88  
NORWAY +47 22 59 13 00  
POLAND  
Gdansk +48 58 682 04 04  
Krakow +48 12 411 99 99  
Lodz +48 42 63 14 724  
Sosnowiec +48 32 266 11 45  
Warszawa +48 22 619 66 54  
Wroclaw +48 71 343 30 08  
PORTUGAL 808 250 143 (national callers)  
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RUSSIAN FEDERATION  
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SLOVAKIA +421 2 5477 4166  
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## SECTION 1: Identification of the substance/mixture and of the company/undertaking

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TURKEY +90 0312 433 70 01 or 0 800 314 7900  
UNITED KINGDOM  
Belfast 844 892 0111  
Birmingham 844 892 0111  
Edinburgh 844 892 0111  
Newcastle Upon Tyne +44 191 2606182; +44 191 2606180  
Penarth 844 892 0111

### Supplier

**Telephone number** : Nutrien Europe SA  
EMERGENCY TELEPHONE NUMBERS:  
Transportation: 00-1-303-389-1654  
Medical: 00-1-303-389-1654

**Hours of operation** : 24/7/365

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

**Product definition** : Mono-constituent substance

### Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Not classified.

The product is NOT classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

### 2.2 Label elements

**Hazard pictograms** :



**Signal word** : No signal word.

**Hazard statements** : Not applicable.

### 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.

**Hazardous ingredients** : Not applicable.

**Supplemental label elements** : Safety data sheet available on request.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

### Special packaging requirements

**Containers to be fitted with child-resistant fastenings** : Not applicable.

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## SECTION 2: Hazards identification

**Tactile warning of danger** : Not applicable.

### 2.3 Other hazards

**Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII** : No.

**Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII** : No.

**Other hazards which do not result in classification** : Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

## SECTION 3: Composition/information on ingredients

**3.1 Substances** : Mono-constituent substance

| Product/ingredient name | Identifiers  | %  | Regulation (EC) No. 1272/2008 [CLP] | Type |
|-------------------------|--|----|-------------------------------------|------|
| Urea                    | REACH #:<br>01-2119463277-33-XXXX<br>EC: 200-315-5<br>CAS: 57-13-6 | 98 | Not classified.                     | [A]  |

There are no additional ingredients present which, within the current knowledge of the supplier, are classified and contribute to the classification of the substance and hence require reporting in this section.

### Type

[\*] Substance

[A] Constituent

[B] Impurity

[C] Stabilising additive

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

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention if irritation occurs.
- Inhalation** : Remove person to fresh air and keep comfortable for breathing. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention if adverse health effects persist or are severe. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. 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.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- 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. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such

## SECTION 4: First aid measures

as a collar, tie, belt or waistband.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

### 4.2 Most important symptoms and effects, both acute and delayed

#### Over-exposure signs/symptoms

- Eye contact** : May cause irritation due to mechanical action.
- Inhalation** : No specific data.
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### 4.3 Indication of any immediate medical attention and special treatment needed

**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: 00-1-303-389-1654.

**Specific treatments** : No specific treatment.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

**Suitable extinguishing media** : 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). Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

### 5.2 Special hazards arising from the substance or mixture

**Hazards from the substance or mixture** : No specific fire or explosion hazard. Decomposes on heating. In a fire, hazardous decomposition products may be produced. Exposure to decomposition products may cause a health hazard.

**Hazardous combustion products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides

### 5.3 Advice for firefighters

**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. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

**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. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

**Additional information** : If mixed with chlorine or hypochlorites, it may form nitrogen trichloride which may explode spontaneously in air. Contain and collect the water used to fight the fire for later treatment and disposal.

## SECTION 6: Accidental release measures

### 6.1 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 specialised 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".

- 6.2 Environmental precautions** : Avoid dispersal of spilt 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).

### 6.3 Methods and material for containment and cleaning up

- Small spill** : Move containers from spill area. Recover the material and use it for its intended purpose.
- Large spill** : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Avoid creating dusty conditions and prevent wind dispersal. Recover the material and use it for its intended purpose.

- 6.4 Reference to other sections** : See Section 1 for emergency contact information.  
See Section 8 for information on appropriate personal protective equipment.  
See Section 13 for additional waste treatment information.

## SECTION 7: Handling and storage

The information in this section contains generic advice and guidance.

### 7.1 Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid breathing dust. Prevent dust accumulation. Wear appropriate respirator when ventilation is inadequate.
- 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.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. May form steep piles that can collapse without warning when stored in bulk. Avoid forming steep slopes when removing product. 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.

### 7.3 Specific end use(s)

- Recommendations** : Fertiliser. Manufacture of chemical products. Manufacture of intermediates. Manufacture of personal care products. Manufacture of pharmaceutical products. Manufacture of resins. Manufacture of speciality fertilisers. Pollution control products.
- Industrial sector specific solutions** : Not available. Non-hazardous substance.

## SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. Information is provided based on typical anticipated uses of the product. Additional measures might be required for bulk handling or other uses that could significantly increase worker exposure or environmental releases.

### 8.1 Control parameters

#### Occupational exposure limits

No exposure limit value known.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

#### DNELs/DMELs

| Product/ingredient name | Type | Exposure                 | Value                 | Population | Effects  |
|-------------------------|------|--------------------------|-----------------------|------------|----------|
| Urea                    | DNEL | Short term<br>Inhalation | 292 mg/m <sup>3</sup> | Workers    | Systemic |
|                         | DNEL | Short term<br>Inhalation | 125 mg/m <sup>3</sup> | Consumers  | Systemic |

**DNEL/DMEL Summary** : Very low toxicity to humans or animals.

#### PNECs

| Product/ingredient name | Compartment Detail | Value     | Method Detail              |
|-------------------------|--------------------|-----------|----------------------------|
| Urea                    | Fresh water        | 0,47 mg/l | Assessment Factors:<br>100 |

**PNEC Summary** : Slightly harmful to aquatic organisms. Very low acute toxicity to fish.

### 8.2 Exposure controls

**Appropriate engineering controls** : Use with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

#### Individual protection measures

**Hygiene measures** : Solid, low dustiness. If dust is generated and ventilation is inadequate, use respirator that will protect against dust/mist. Wash hands after handling.

**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: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.

#### Skin protection

**Hand protection** : The personal protective equipment required varies, depending upon your risk assessment. For prolonged or repeated handling, use the following type of gloves: leather work gloves

**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.

## SECTION 8: Exposure controls/personal protection

- 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.
- Respiratory protection** : Use a properly fitted, particulate filter respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- 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.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### Appearance

- Physical state** : Solid. [Granular solid. Crystals. Powder.]
- Colour** : White.
- Odour** : Odourless.
- Odour threshold** : Not available.
- pH** : 8 [Conc. (% w/w): 10%]
- Melting point/freezing point** : 134°C
- Initial boiling point and boiling range** : Not available.
- Flash point** : [Product does not sustain combustion.]
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Non-flammable substance. Non-combustible.
- Upper/lower flammability or explosive limits** : Not applicable.
- Vapour pressure** : 0 kPa [room temperature]
- Vapour density** : Not available.
- Relative density** : 1.33
- Solubility(ies)** : Easily soluble in the following materials: cold water and hot water.
- Partition coefficient: n-octanol/ water** : <-1.73
- Auto-ignition temperature** : Not applicable.
- Decomposition temperature** : 135°C
- Viscosity** : Not available.
- Explosive properties** : It may explode when mixed with chlorinated materials such as hypochlorites. Will form nitrogen trichloride which explodes spontaneously in air. Reacts similarly with other halogenated materials.
- Oxidising properties** : No oxidising ingredients present.

### 9.2 Other information

- Solubility in water** : 624 g/l

No additional information.



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## SECTION 10: Stability and reactivity

- 10.1 Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- 10.2 Chemical stability** : The product is stable.
- 10.3 Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- 10.4 Conditions to avoid** : No specific data. Absorbs moisture on long-term storage under high humidity conditions. Store in a well-ventilated, dry place. Protect from moisture.
- 10.5 Incompatible materials** : Reactive or incompatible with the following materials: chlorine-based bleaching agents, oxidizing materials
- 10.6 Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

| Product/ingredient name | Result                | Species               | Dose         | Exposure |
|-------------------------|-----------------------|-----------------------|--------------|----------|
| Urea                    | LD50 Oral             | Mouse - Male          | 11 g/kg      | -        |
|                         | LD50 Oral             | Rat - Male            | 8471 mg/kg   | -        |
|                         | LD50 Subcutaneous     | Mouse - Female        | 9200 mg/kg   | -        |
|                         | TDL <sub>o</sub> Oral | Cattle - Male, Female | 200 mg(N)/kg | -        |

**Conclusion/Summary** : Very low toxicity to humans or animals. Not considered to be acutely toxic.

#### Irritation/Corrosion

##### **Conclusion/Summary**

- Skin** : No known significant effects or critical hazards.
- Eyes** : No known significant effects or critical hazards.
- Respiratory** : Non-irritating to the respiratory system.

#### Sensitisation

##### **Conclusion/Summary**

- Skin** : Non-sensitiser to skin.
- Respiratory** : Non-sensitiser to lungs.

#### Mutagenicity

| Product/ingredient name | Test                                     | Experiment   | Result   |
|-------------------------|--|--|----------|
| Urea                    | OECD 471 Bacterial Reverse Mutation Test | Experiment: In vitro<br>Subject: Bacteria<br>Cell: Somatic<br>Metabolic activation: With and without | Negative |

**Conclusion/Summary** : No mutagenic effect.

#### Carcinogenicity

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

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

#### Reproductive toxicity

## SECTION 11: Toxicological information

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

### Teratogenicity

**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 likely routes of exposure** : Skin contact  
Inhalation (dusts and mists)

### Potential acute health effects

**Eye contact** : No known significant effects or critical hazards.

**Inhalation** : In a fire, hazardous decomposition products may be produced. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**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** : May cause irritation due to mechanical action.

**Inhalation** : No specific data.

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Delayed and immediate effects as well as 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

| Product/ingredient name | Result             | Species               | Dose                     | Exposure                |
|-------------------------|--------------------|-----------------------|--------------------------|-------------------------|
| Urea                    | Chronic NOAEL Oral | Rat - Male,<br>Female | 2250 mg/kg<br>Continuous | 12 months<br>Continuous |

**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.

**Other information** : Not available.

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## SECTION 12: Ecological information

### 12.1 Toxicity

| Product/ingredient name | Result                              | Species                                      | Exposure |
|-------------------------|-------------------------------------|--|----------|
| Urea                    | Acute EC50 6573.1 mg/l Fresh water  | Crustaceans - Ceriodaphnia dubia - Neonate   | 48 hours |
|                         | 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 |
|                         | Acute LC50 22500 µg/l               | Fish - Tilapia mossambica                    | 96 hours |
|                         | Chronic NOEC 2 g/L Fresh water      | Fish - Heteropneustes fossilis               | 30 days  |

**Conclusion/Summary** : Practically non-toxic to aquatic organisms. Based on available data, the classification criteria are not met.

### 12.2 Persistence and degradability

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

**Conclusion/Summary** : Readily biodegradable

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

### 12.3 Bioaccumulative potential

| Product/ingredient name | LogP <sub>ow</sub> | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| Urea                    | <-1.73             | -   | low       |

### 12.4 Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 0.037

**Mobility** : Not available.

### 12.5 Results of PBT and vPvB assessment

**PBT** : No.

**vPvB** : No.

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

## SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance.

### 13.1 Waste treatment methods

#### Product

## SECTION 13: Disposal considerations

**Methods of disposal** : The generation of waste should be avoided or minimised 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.

**Hazardous waste** : Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 2008/98/EC.

### European waste catalogue (EWC)

| Waste code | Waste designation  |
|------------|--|
| 06 10 99   | wastes from the MFSU of nitrogen chemicals, nitrogen chemical processes and fertiliser manufacture<br>wastes not otherwise specified |

### Packaging

**Methods of disposal** : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

**Special precautions** : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## SECTION 14: Transport information

|  | ADR/RID        | ADN            | IMDG           | ICAO           |
|--|----------------|----------------|----------------|----------------|
| <b>14.1 UN number</b>                  | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| <b>14.2 UN proper shipping name</b>    | -              | -              | -              | -              |
| <b>14.3 Transport hazard class(es)</b> | -              | -              | -              | -              |
| <b>14.4 Packing group</b>              | -              | -              | -              | -              |
| <b>14.5 Environmental hazards</b>      | No.            | No.            | No.            | No.            |
| <b>Additional information</b>          | -              | -              | -              | -              |

**14.6 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.

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

## SECTION 15: Regulatory information

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

#### EU Regulation (EC) No. 1907/2006 (REACH)

##### Annex XIV - List of substances subject to authorisation

###### Annex XIV

None of the components are listed.

###### Substances of very high concern

None of the components are listed.

**Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** : Not applicable.

#### Other EU regulations

**Europe inventory** : All components are listed or exempted.

##### Ozone depleting substances (1005/2009/EU)

Not listed.

##### Prior Informed Consent (PIC) (649/2012/EU)

Not listed.

##### Seveso Directive

This product is not controlled under the Seveso III Directive.

#### 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.

#### International lists

##### National inventory

|                          |   |
|--------------------------|---|
| <b>Australia</b>         | : This material is listed or exempted.  |
| <b>Canada</b>            | : This material is listed or exempted.  |
| <b>China</b>             | : This material is listed or exempted.  |
| <b>Japan</b>             | : <b>Japan inventory (ENCS)</b> : This material is listed or exempted.<br><b>Japan inventory (ISHL)</b> : Not determined. |
| <b>Malaysia</b>          | : Not determined.   |
| <b>New Zealand</b>       | : This material is listed or exempted.  |
| <b>Philippines</b>       | : This material is listed or exempted.  |
| <b>Republic of Korea</b> | : This material is listed or exempted.  |
| <b>Taiwan</b>            | : This material is listed or exempted.  |
| <b>Turkey</b>            | : Not determined.   |
| <b>United States</b>     | : This material is listed or exempted.  |

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## SECTION 15: Regulatory information

**15.2 Chemical safety assessment** : Complete.

## SECTION 16: Other information

✔ Indicates information that has changed from previously issued version.

**Abbreviations and acronyms** : ATE = Acute Toxicity Estimate  
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]  
DMEL = Derived Minimal Effect Level  
DNEL = Derived No Effect Level  
EUH statement = CLP-specific Hazard statement  
PBT = Persistent, Bioaccumulative and Toxic  
PNEC = Predicted No Effect Concentration  
RRN = REACH Registration Number  
vPvB = Very Persistent and Very Bioaccumulative

**Key literature references and sources for data** : REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 18 DECEMBER 2006, with successive adaptations, amendments, and corrigenda.  
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 16 DECEMBER 2008, with successive adaptations, amendments, and corrigenda.  
ECHA, European Chemicals Agency, Classification and Labelling Database  
DIRECTIVE 2012/18/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 4 JULY 2012 on the control of major-accident hazards involving dangerous substances  
European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), latest revision.  
Directive 2008/68/EC of the European Parliament and of the Council of 24 September 2008 on the inland transport of dangerous goods, with successive amendments.  
REGULATION (EC) No 2003/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 13 OCTOBER 2003 RELATING TO FERTILISERS, with successive adaptations, amendments, and corrigenda.  
American Conference of Governmental Industrial Hygienists, Threshold Limit Values for Chemical Substances, latest edition.  
Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion Engineers  
ERG 2016 Emergency Response Guidebook  
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans.  
The Fertilizer Institute, Toxicity Testing Results, March 2003  
REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 18 DECEMBER 2006, with successive adaptations, amendments, and corrigenda.  
REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 16 DECEMBER 2008, with successive adaptations, amendments, and corrigenda.  
ECHA, European Chemicals Agency, Classification and Labelling Database  
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REGULATION (EC) No 2003/2003 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL OF 13 OCTOBER 2003 RELATING TO FERTILISERS, with successive adaptations, amendments, and corrigenda.  
American Conference of Governmental Industrial Hygienists, Threshold Limit Values for Chemical Substances, latest edition.  
Corrosion Data Survey, Sixth Edition, 1985, National Association of Corrosion

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## SECTION 16: Other information

Engineers  
ERG 2016 Emergency Response Guidebook  
IARC Monographs on the Evaluation of Carcinogenic Risks to Humans.  
The Fertilizer Institute, Toxicity Testing Results, March 2003

### Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

| Classification  | Justification      |
|-----------------|--------------------|
| Not classified. | Weight of evidence |

### Full text of abbreviated H statements

Not applicable.

### Full text of classifications [CLP/GHS]

Not applicable.

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### Notice to reader

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