# Urea 46-0-0

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 06/23/2015 Version: 1.0

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

### 1.1. Product identifier

| | | |
|---|---|---|
| Product form | : | Substance |
| Substance name | : | Urea 46-0-0 |
| CAS No | : | 57-13-6 |
| Formula | : | CH4N2O |
| Synonyms | : | amide of carbonic acid / aquacare / aquadrate / basodexan / BIK / B-I-K / carbamide / carbamide, resin / carbamidic acid / carbonyldiamide / carbonyldiamine / isourea / keratinamin / mocovina / nutraplus / pastarom / prespersion / prespersion,75 urea / pseudo-urea / supercel 3000 / ureaphil / ureophil / urepearl / urevert / varioform II |
| BIG no | : | 10187 |

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

| | | |
|---|---|---|
| Use of the substance/mixture | : | Fertilizer<br>Food industry: additive<br>Industrial use |

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

Two Rivers Terminal
3300 North Glade Road
Pasco, Wa. 99302 - USA
T 509-547-7776 - F 509-546-9508
www.tworiversterminal.com

### 1.4. Emergency telephone number

| | | |
|---|---|---|
| Emergency number | : | 24 Hour Emergency HAZMAT Response: (800) 229-5252; EPA National Response Center (800) 424-8802 |

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification (GHS-US)**

Eye Irrit. 2B H320

Full text of H-phrases: see section 16

### 2.2. Label elements

**GHS-US labeling**

| | | |
|---|---|---|
| Signal word (GHS-US) | : | Warning |
| Hazard statements (GHS-US) | : | H320 - Causes eye irritation |
| Precautionary statements (GHS-US) | : | P264 - Wash Skin thoroughly after handling<br>P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing<br>P337+P313 - If eye irritation persists: Get medical advice/attention |

### 2.3. Other hazards

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/information on ingredients

### 3.1. Substance

| Name | Product identifier | % | Classification (GHS-US) |
|---|---|---|---|
| Urea 46-0-0<br>(Main constituent) | (CAS No) 57-13-6 | 100 | Eye Irrit. 2B, H320 |

Full text of H-phrases: see section 16

### 3.2. Mixture

Not applicable

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

First-aid measures after skin contact : Rinse with water. Soap may be used. Do not apply (chemical) neutralizing agents. Take victim to a doctor if irritation persists. Wash skin with plenty of water.

First-aid measures after eye contact : Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.

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

Symptoms/injuries : Not expected to present a significant hazard under anticipated conditions of normal use.

Symptoms/injuries after inhalation : AFTER INHALATION OF DUST: Dry/sore throat. Coughing.

Symptoms/injuries after skin contact : No effects known.

Symptoms/injuries after eye contact : Redness of the eye tissue.

Symptoms/injuries after ingestion : Nausea. Vomiting. Cramps/uncontrolled muscular contractions.

Symptoms/injuries upon intravenous administration : No effects known.

Chronic symptoms : No effects known.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media : All extinguishing media allowed. Water spray. Dry powder. Foam.

Unsuitable extinguishing media : No unsuitable extinguishing media known.

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

Fire hazard : DIRECT FIRE HAZARD. Non combustible. INDIRECT FIRE HAZARD. Reactions involving a fire hazard: see "Reactivity Hazard".

Explosion hazard : INDIRECT EXPLOSION HAZARD. Reactions with explosion hazards: see "Reactivity Hazard".

Reactivity : Decomposes slowly on exposure to water (moisture) and in moist air: release of corrosive gases/vapours (ammonia). On heating: release of toxic/corrosive/combustible gases/vapours (ammonia). On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide). Violent to explosive reaction with (some) halogens compounds: release of heat. Reacts with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion.

### 5.3. Advice for firefighters

Precautionary measures fire : Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. Take account of toxic/corrosive precipitation water.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. See "Material-Handling" to select protective clothing.

| | | |
|---|---|---|
| Emergency procedures | : | Ventilate spillage area. Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes. In case of reactivity hazard: consider evacuation. Avoid contact with skin and eyes. |
| Measures in case of dust release | : | In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows. |

#### 6.1.2. For emergency responders

| | | |
|---|---|---|
| Protective equipment | : | Do not attempt to take action without suitable protective equipment. For further information refer to section 8 Exposure controls/personal protection" ". |

### 6.2. Environmental precautions

Avoid release to the environment.

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

| | | |
|---|---|---|
| For containment | : | Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. |
| Methods for cleaning up | : | Recover mechanically the product. Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. |
| Other information | : | Dispose of materials or solid residues at an authorized site. |

### 6.4. Reference to other sections

For further information refer to section 8 : Exposure-controls/personal protection"".

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

| | | |
|---|---|---|
| Precautions for safe handling | : | Ensure good ventilation of the work station. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Avoid raising dust. Use earthed equipment. Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Avoid contact with skin and eyes. Wear personal protective equipment. |
| Hygiene measures | : | Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |

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

| | | |
|---|---|---|
| Storage conditions | : | Store in a well-ventilated place. Keep cool. |
| Incompatible products | : | Strong oxidizers. |
| Heat-ignition | : | KEEP SUBSTANCE AWAY FROM: heat sources. |
| Prohibitions on mixed storage | : | KEEP SUBSTANCE AWAY FROM: oxidizing agents. (strong) acids. halogens. water/moisture. |
| Storage area | : | Store in a dry area. Keep out of direct sunlight. Keep container in a well-ventilated place. Meet the legal requirements. |
| Special rules on packaging | : | SPECIAL REQUIREMENTS: hermetical. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers. |
| Packaging materials | : | SUITABLE MATERIAL: stainless steel. synthetic material. glass. cardboard. wood. MATERIAL TO AVOID: carbon steel. copper. bronze. |

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| **Urea 46-0-0 (57-13-6)** | |
|---|---|
| ACGIH | Not applicable |
| OSHA | Not applicable |

### 8.2. Exposure controls

| | | |
|---|---|---|
| Appropriate engineering controls | : | Ensure good ventilation of the work station. |
| Materials for protective clothing | : | GIVE EXCELLENT RESISTANCE: No data available. GIVE GOOD RESISTANCE: butyl rubber. chloroprene rubber. PVC. GIVE LESS RESISTANCE: No data available. GIVE POOR RESISTANCE: neoprene. nitrile rubber. viton. |
| Hand protection | : | Gloves. |

| | | |
|---|---|---|
| Eye protection | : | In case of dust production: protective goggles. Safety glasses. |
| Skin and body protection | : | Protective clothing. In case of dust production: head/neck protection. In case of dust production: dustproof clothing. |
| Respiratory protection | : | Dust production: dust mask with filter type P1. |
| Environmental exposure controls | : | Avoid release to the environment. |

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

| | | |
|---|---|---|
| Physical state | : | Solid |
| Appearance | : | Crystalline solid. Crystalline powder. Little spheres. Grains. |
| Color | : | White |
| Odor | : | Odourless In moist air: Ammonia odour |
| Odor threshold | : | No data available |
| pH | : | 7.2 (10 %) |
| pH solution | : | 10 % |
| Melting point | : | 133 °C |
| Freezing point | : | Not applicable |
| Boiling point | : | Not applicable |
| Flash point | : | Not applicable |
| Relative evaporation rate (butyl acetate=1) | : | No data available |
| Flammability (solid, gas) | : | No data available |
| Explosion limits | : | Not applicable |
| Explosive properties | : | No data available |
| Oxidizing properties | : | No data available |
| Vapor pressure | : | < 0.01 hPa |
| Vapor pressure at 50 °C | : | < 0.01 hPa |
| Relative density | : | Not applicable |
| Relative vapor density at 20 °C | : | 2.1 |
| Specific gravity / density | : | 1335 kg/m³ |
| Molecular mass | : | 60.07 g/mol |
| Solubility | : | Soluble in water. Soluble in ethanol. Soluble in acetic acid. Soluble in pyrimidine. Soluble in hydrogenchloride.<br>Water: 100 g/100ml<br>Ethanol: 10 g/100ml |
| Log Pow | : | < -1.73 (Experimental value; EU Method A.8: Partition Coefficient) |
| Log Kow | : | No data available |
| Auto-ignition temperature | : | Not applicable |
| Decomposition temperature | : | > 133 °C |
| Viscosity | : | No data available |
| Viscosity, kinematic | : | Not applicable |
| Viscosity, dynamic | : | 0.002 Pa.s (20 °C) |

### 9.2. Other information

| | | |
|---|---|---|
| Saturation concentration | : | < 0.01 g/m³ |
| VOC content | : | 0 % |
| Other properties | : | Hygroscopic. |

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Decomposes slowly on exposure to water (moisture) and in moist air: release of corrosive gases/vapours (ammonia). On heating: release of toxic/corrosive/combustible gases/vapours (ammonia). On burning: release of toxic and corrosive gases/vapours (nitrous vapours, carbon monoxide - carbon dioxide). Violent to explosive reaction with (some) halogens compounds: release of heat. Reacts with many compounds e.g.: with (strong) oxidizers: (increased) risk of fire/explosion.

### 10.2. Chemical stability

Unstable on exposure to moisture.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

No additional information available

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Likely routes of exposure : Inhalation; Skin and eyes contact.

Acute toxicity : Not classified

| Urea 46-0-0 (57-13-6) | |
|---|---|
| LD50 oral rat | 8471 mg/kg (Rat; OECD 401: Acute Oral Toxicity; Literature study; 14300 mg/kg bodyweight; Rat; Experimental value) |
| LD50 dermal rat | > 3200 mg/kg (Rat; Literature study) |
| LD50 dermal rabbit | > 21000 mg/kg (Rabbit; Literature study) |
| ATE US (oral) | 8471.000 mg/kg body weight |

Skin corrosion/irritation : Not classified
pH: 7.2 (10 %)

Serious eye damage/irritation : Causes eye irritation.
pH: 7.2 (10 %)

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity (single exposure) : Not classified

Specific target organ toxicity (repeated exposure) : Not classified

Aspiration hazard : Not classified

Potential Adverse human health effects and symptoms : Based on available data, the classification criteria are not met.

Symptoms/injuries after inhalation : AFTER INHALATION OF DUST: Dry/sore throat. Coughing.

Symptoms/injuries after skin contact : No effects known.

Symptoms/injuries after eye contact : Redness of the eye tissue.

Symptoms/injuries after ingestion : Nausea. Vomiting. Cramps/uncontrolled muscular contractions.

Symptoms/injuries upon intravenous administration : No effects known.

Chronic symptoms : No effects known.

## SECTION 12: Ecological information

### 12.1. Toxicity

Ecology - general : Not classified as dangerous for the environment according to the criteria of Regulation (EC) No 1272/2008.

Ecology - air : Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009). Not included in the list of fluorinated greenhouse gases (Regulation (EC) No 842/2006). TA-Luft Klasse 5.2.5/I.

Ecology - water : Ground water pollutant. Not harmful to fishes (LC50(96h) >1000 mg/l). Not harmful to invertebrates (Daphnia) (EC50 (48h) > 1000 mg/l). Not harmful to algae.

| Urea 46-0-0 (57-13-6) | |
|---|---|
| LC50 fish 1 | > 6810 mg/l (96 h; Leuciscus idus; Nominal concentration) |
| EC50 Daphnia 1 | > 10000 mg/l (48 h; Daphnia magna; Nominal concentration) |

| Urea 46-0-0 (57-13-6) | |
|---|---|
| LC50 fish 2 | 17500 mg/l (96 h; Poecilia reticulata) |
| EC50 Daphnia 2 | > 10000 mg/l (24 h; Daphnia magna) |
| TLM fish 1 | 17500 ppm (96 h; Poecilia reticulata) |
| Threshold limit other aquatic organisms 1 | 120000 mg/l (16 h; Bacteria; Toxicity test) |
| Threshold limit other aquatic organisms 2 | > 10000 mg/l (Pseudomonas putida) |
| Threshold limit algae 1 | > 10000 mg/l (168 h; Scenedesmus quadricauda; Growth rate) |
| Threshold limit algae 2 | 47 mg/l (192 h; Microcystis aeruginosa; Growth rate) |

### 12.2. Persistence and degradability

| Urea 46-0-0 (57-13-6) | |
|---|---|
| Persistence and degradability | Inherently biodegradable. Hydrolysis in water. Highly mobile in soil. |
| ThOD | 0.27 g $O_2$/g substance |

### 12.3. Bioaccumulative potential

| Urea 46-0-0 (57-13-6) | |
|---|---|
| BCF fish 1 | 1 (72 h; Brachydanio rerio; Fresh water) |
| BCF other aquatic organisms 1 | 11700 (Chlorella sp.) |
| Log Pow | < -1.73 (Experimental value; EU Method A.8: Partition Coefficient) |
| Bioaccumulative potential | Bioaccumulation: not applicable. |

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

No additional information available

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Waste disposal recommendations : Remove waste in accordance with local and/or national regulations. Remove to an authorized dump (Class II). Do not discharge into drains or the environment.

Additional information : LWCA (the Netherlands): KGA category 03. Can be considered as non hazardous waste according to Directive 2008/98/EC.

## SECTION 14: Transport information

**Department of Transportation (DOT)**

In accordance with DOT

Not regulated for transport

**Additional information**

Other information : No supplementary information available.

**ADR**

No additional information available

**Transport by sea**

No additional information available

**Air transport**

No additional information available

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

| Urea 46-0-0 (57-13-6) |
|---|
| Listed on the United States TSCA (Toxic Substances Control Act) inventory |

### 15.2. International regulations

**CANADA**

No additional information available

### EU-Regulations
No additional information available

### Classification according to Regulation (EC) No. 1272/2008 [CLP]
Not classified

### Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]
Not classified

### National regulations
No additional information available

### 15.3. US State regulations

## SECTION 16: Other information

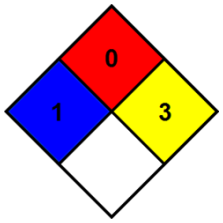
Full text of H-phrases:

| | |
|---|---|
| Eye Irrit. 2B | Serious eye damage/eye irritation Category 2B |
| H320 | Causes eye irritation |

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 0 - Materials that will not burn.

NFPA reactivity : 3 - Capable of detonation or explosive reaction, but requires a strong initiating source or must be heated under confinement before initiation, or reacts explosively with water.




SDS US (GHS HazCom 2012)

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