



# Safety Data Sheet

Cat. # BC89

Urea, Ultrapure Grade

Size: 500g





# urea

## Safety Data Sheet

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

Date of issue: 12/09/2015

Revision date: 05/11/2017

Version: 7.1

### SECTION 1: Identification

#### 1.1. Identification

Product form : Substance  
Substance name : urea  
CAS-No. : 57-13-6  
Product code : 049U  
Formula : CH<sub>4</sub>N<sub>2</sub>O  
Synonyms : amide of carbonic acid / aquacare / aquadrate / basodexan / BIK / B-I-K / carbamide / carbamide, resin / carbamidic acid / carbonyldiamide / carbonyldiamine / E927b / isourea / keratinamin / mocovina / nutraplus / pastarom / prespersion / prespersion,75 urea / pseudo-urea / supercel 3000 / urea / ureaphil / ureophil / urepearl / urevert / varioform II  
BIG No : 10187

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Fertiliser  
Food industry: additive  
Industrial use

#### 1.3. Supplier

Geno Technology, Inc./ G-Biosciences  
9800 Page Avenue  
Saint Louis, 63132-1429 - United States  
T 800-628-7730 - F 314-991-1504  
[technical@GBiosciences.com](mailto:technical@GBiosciences.com) - [www.GBiosciences.com](http://www.GBiosciences.com)

#### 1.4. Emergency telephone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Not classified

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

No labeling applicable

#### 2.3. Other hazards which do not result in classification

No additional information available

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

Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
urea	amide of carbonic acid / aquacare / aquadrate / basodexan / BIK / B-I-K / carbamide / carbamide, resin / carbamidic acid / carbonyldiamide / carbonyldiamine / E927b / isourea / keratinamin / mocovina / nutraplus / pastarom / prespersion / prespersion,75 urea / pseudo-urea / supercel 3000 / urea / ureaphil / ureophil / urepearl / urevert / varioform II	(CAS-No.) 57-13-6		Not classified

Full text of hazard classes and H-statements : see section 16

#### 3.2. Mixtures

Not applicable

# urea

## Safety Data Sheet

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

### 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 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.
- First-aid measures after eye contact : Rinse with water. Remove contact lenses, if present and easy to do. Continue rinsing. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.
- 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](http://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 (acute and delayed)

- Potential Adverse human health effects and symptoms : Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Not irritant to skin. Slightly irritant to eyes.
- Symptoms/effects after inhalation : AFTER INHALATION OF DUST/MIST: Dry/sore throat. Coughing.
- Symptoms/effects after skin contact : No effects known.
- Symptoms/effects after eye contact : Redness of the eye tissue.
- Symptoms/effects after ingestion : Nausea. Vomiting. Cramps/uncontrolled muscular contractions.
- Chronic symptoms : No effects known.

#### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

- Suitable extinguishing media : Water spray. Dry powder. Foam.

#### 5.2. Specific hazards arising from the chemical

- 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".

#### 5.3. Special protective equipment and precautions for fire-fighters

- 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.

### SECTION 6: Accidental release measures

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

- General measures : Warning! Product may cause floors to be slippery.

##### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus.
- Emergency procedures : 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.
- 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.

# urea

## Safety Data Sheet

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

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

- For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray.
- Methods for cleaning up : Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. 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 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Avoid raising dust. Use earthed equipment. Keep away from naked flames/heat. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Keep container tightly closed.
- 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.
- Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.
- Information 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.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### urea (57-13-6)

No additional information available

### 8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
- Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Materials for protective clothing:

GIVE GOOD RESISTANCE: butyl rubber. chloroprene rubber. PVC. GIVE POOR RESISTANCE: neoprene. nitrile rubber. viton

#### Hand protection:

Gloves

#### Eye protection:

Safety glasses. In case of dust production: protective goggles

#### Skin and body protection:

Protective clothing

#### Respiratory protection:

Dust production: dust mask with filter type P1

## SECTION 9: Physical and chemical properties

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

- Physical state : Solid

# urea

## Safety Data Sheet

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

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 %)
Melting point	: 134 °C (EU Method A.1: Melting/freezing point)
Freezing point	: Not applicable
Boiling point	: Not applicable (decomposes)
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: < 0.01 hPa (25 °C, EU Method A.4: Vapour Pressure)
Vapor pressure at 50 °C	: < 0.01 hPa
Relative vapor density at 20 °C	: 2.1
Relative density	: 1.33 (20 °C, EU Method A.3: Relative Density)
Specific gravity / density	: 1335 kg/m <sup>3</sup>
Molecular mass	: 60.07 g/mol
Solubility	: Soluble in water. Soluble in ethanol. Soluble in acetic acid. Soluble in pyrimidine. Soluble in hydrogenchloride. Water: 624 g/l (20 °C, EU Method A.6: Water solubility)
Log Pow	: < -1.73 (Experimental value, EU Method A.8: Partition Coefficient)
Auto-ignition temperature	: Not applicable
Decomposition temperature	: > 133 °C
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

Saturation concentration	: < 0.01 g/m <sup>3</sup>
VOC content	: 0 %
Other properties	: Hygroscopic.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

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

No additional information available

### 10.6. Hazardous decomposition products

Hazardous decomposition products.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified

# urea

## Safety Data Sheet

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

Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified pH: 7.2 (10 %)
Serious eye damage/irritation	: Not classified 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
Viscosity, kinematic	: No data available
Potential Adverse human health effects and symptoms	: Non-toxic if swallowed (LD50 oral, rat > 5000 mg/kg). Not irritant to skin. Slightly irritant to eyes.
Symptoms/effects after inhalation	: AFTER INHALATION OF DUST/MIST: Dry/sore throat. Coughing.
Symptoms/effects after skin contact	: No effects known.
Symptoms/effects after eye contact	: Redness of the eye tissue.
Symptoms/effects after ingestion	: Nausea. Vomiting. Cramps/uncontrolled muscular contractions.
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 included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water	: Not harmful to crustacea. Not harmful to fishes. Groundwater pollutant. Not harmful to algae. Not harmful to bacteria. Hydrolysis in water.

urea (57-13-6)	
LC50 fish 1	> 6810 mg/l (96 h, Leuciscus idus, Experimental value, Nominal concentration)
EC50 Daphnia 1	> 10000 mg/l (DIN 38412-11, 24 h, Daphnia magna, Static system, Fresh water, Experimental value, Nominal concentration)

### 12.2. Persistence and degradability

urea (57-13-6)	
Persistence and degradability	Readily biodegradable in water.
ThOD	0.27 g O <sub>2</sub> /g substance

### 12.3. Bioaccumulative potential

urea (57-13-6)	
BCF fish 1	1 (72 h, Brachydanio rerio, Fresh water, Literature study)
Log Pow	< -1.73 (Experimental value, EU Method A.8: Partition Coefficient)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

### 12.4. Mobility in soil

urea (57-13-6)	
Log Koc	-1.43 - -1.19 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.

### 12.5. Other adverse effects

No additional information available

# urea

## Safety Data Sheet

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

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

- Waste treatment methods : Waste treatment methods.
- Product/Packaging disposal recommendations : Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Remove to an authorized dump (Class II).
- Additional information : Can be considered as non hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No 1357/2014 and Regulation (EU) No 2017/997.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Other information : No supplementary information available.

#### Transportation of Dangerous Goods

#### Transport by sea

Not regulated

#### Air transport

Not regulated

### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

##### urea (57-13-6)

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

##### urea (57-13-6)

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

#### 15.2. International regulations

##### CANADA

##### urea (57-13-6)

Listed on the Canadian DSL (Domestic Substances List)

##### urea (57-13-6)

Listed on the Canadian DSL (Domestic Substances List)

#### EU-Regulations

#### National regulations

No additional information available

#### 15.3. US State regulations

### SECTION 16: Other information

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

Revision date : 05/11/2017

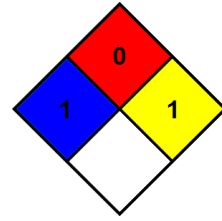
# urea

## Safety Data Sheet

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

---

- NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.
- NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
- NFPA reactivity : 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



SDS US (GHS HazCom 2012)

*This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.*