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A Geno Technology, Inc. (USA) brand name

# Safety Data Sheet

Cat. # RC-112

Urea (Ultr Pure Grade)

Size: 1kg



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# urea

## Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830  
Revision date: 5/11/2017 Version: 1.1

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

#### 1.1. Product identifier

Product form	: Substance
Substance name	: urea
EC-No.	: 200-315-5
CAS-No.	: 57-13-6
Product code	: 049U
Type of product	: Pure substance, Hygroscopic substance. Preventive measures apply to the substance in dry state only
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
Product group	: Raw material
BIG No	: 10187

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

##### 1.2.1. Relevant identified uses

Use of the substance/mixture	: Fertiliser Food industry: additive Industrial use
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##### 1.2.2. Uses advised against

No additional information available

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

Geno Technology, Inc./ G-Biosciences  
9800 Page Avenue  
63132-1429 Saint Louis - 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: Hazards identification

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

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

Not classified

##### Adverse physicochemical, human health and environmental effects

To our knowledge, this product does not present any particular risk, provided it is handled in accordance with good occupational hygiene and safety practice.

#### 2.2. Label elements

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

No labelling applicable

#### 2.3. Other hazards

This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII

This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

### SECTION 3: Composition/information on ingredients

#### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
urea	(CAS-No.) 57-13-6 (EC-No.) 200-315-5	100	Not classified

#### 3.2. Mixtures

Not applicable

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### 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 ( <a href="http://www.big.be/antigif.htm">www.big.be/antigif.htm</a> ). 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/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. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam.
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#### 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".
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

#### 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.

### SECTION 6: Accidental release measures

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

General measures	: Warning! Product may cause floors to be slippery.
<b>6.1.1. For non-emergency personnel</b>	
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.
<b>6.1.2. For emergency responders</b>	
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 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.

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### 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 and ignition sources	: 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.

### 7.3. Specific end use(s)

No additional information available

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<b>urea (57-13-6)</b>	
<b>DNEL/DMEL (Workers)</b>	
Acute - systemic effects, dermal	580 mg/kg bw/day (Literature study)
Acute - systemic effects, inhalation	292 mg/m <sup>3</sup> (Literature study)
Long-term - systemic effects, dermal	580 mg/kg bw/day (Literature study)
Long-term - systemic effects, inhalation	292 mg/m <sup>3</sup> (Literature study)
<b>DNEL/DMEL (General population)</b>	
Acute - systemic effects, dermal	580 mg/kg bw/day (Literature study)
Acute - systemic effects, inhalation	125 mg/m <sup>3</sup> (Literature study)
Acute - systemic effects, oral	42 mg/kg bw/day (Literature study)
Long-term - systemic effects, oral	42 mg/kg bw/day (Literature study)
Long-term - systemic effects, inhalation	125 mg/m <sup>3</sup> (Literature study)
Long-term - systemic effects, dermal	580 mg/kg bw/day (Literature study)
<b>PNEC (Water)</b>	
PNEC aqua (freshwater)	0.047 mg/l

### 8.2. Exposure controls

#### Appropriate engineering controls:

Ensure good ventilation of the work station.

<b>Materials for protective clothing:</b>
GIVE GOOD RESISTANCE: butyl rubber. chloroprene rubber. PVC. GIVE POOR RESISTANCE: neoprene. nitrile rubber. viton
<b>Hand protection:</b>
Gloves
<b>Eye protection:</b>
Safety glasses. In case of dust production: protective goggles

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### Skin and body protection:

Protective 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.
Molecular mass	: 60.07 g/mol
Colour	: White.
Odour	: Odourless. In moist air: Ammonia odour.
Odour threshold	: No data available
pH	: 7.2 (10 %)
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: 134 °C (EU Method A.1: Melting/freezing point)
Freezing point	: Not applicable
Boiling point	: Not applicable (decomposes)
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: > 133 °C
Flammability (solid, gas)	: Non flammable.
Vapour pressure	: < 0.01 hPa (25 °C, EU Method A.4: Vapour Pressure)
Vapour pressure at 50 °C	: < 0.01 hPa
Relative vapour density at 20 °C	: 2.1
Relative density	: 1.33 (20 °C, EU Method A.3: Relative Density)
Density	: 1335 kg/m³
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)
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable

### 9.2. Other information

Saturation concentration	: < 0.01 g/m³
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.

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### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
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 sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
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.

### 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.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

#### 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. Results of PBT and vPvB assessment

No additional information available

#### 12.6. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Waste treatment 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).

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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.
European List of Waste (LoW) code	: 15 01 01 - paper and cardboard packaging 15 01 02 - plastic packaging 15 01 03 - wooden packaging 15 01 04 - metallic packaging 15 01 07 - glass packaging

### SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

#### 14.1. UN number

UN-No. (ADR)	: Not regulated
UN-No. (IMDG)	: Not regulated
UN-No. (IATA)	: Not regulated
UN-No. (ADN)	: Not regulated
UN-No. (RID)	: Not regulated

#### 14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not regulated
Proper Shipping Name (IMDG)	: Not regulated
Proper Shipping Name (IATA)	: Not regulated
Proper Shipping Name (ADN)	: Not regulated
Proper Shipping Name (RID)	: Not regulated

#### 14.3. Transport hazard class(es)

##### ADR

Transport hazard class(es) (ADR)	: Not regulated
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##### IMDG

Transport hazard class(es) (IMDG)	: Not regulated
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##### IATA

Transport hazard class(es) (IATA)	: Not regulated
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##### ADN

Transport hazard class(es) (ADN)	: Not regulated
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##### RID

Transport hazard class(es) (RID)	: Not regulated
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#### 14.4. Packing group

Packing group (ADR)	: Not regulated
Packing group (IMDG)	: Not regulated
Packing group (IATA)	: Not regulated
Packing group (ADN)	: Not regulated
Packing group (RID)	: Not regulated

#### 14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

#### 14.6. Special precautions for user

##### Overland transport

Not regulated

##### Transport by sea

Not regulated

##### Air transport

Not regulated

##### Inland waterway transport

Not regulated

##### Rail transport

Not regulated

#### 14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

Not applicable

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### SECTION 15: Regulatory information

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

##### 15.1.1. EU-Regulations

No REACH Annex XVII restrictions

urea is not on the REACH Candidate List

urea is not on the REACH Annex XIV List

urea is not subject to REGULATION (EU) No 649/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 concerning the export and import of hazardous chemicals.

urea is not subject to Regulation (EC) No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC

VOC content : 0 %

##### 15.1.2. National regulations

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

Listed on the Canadian DSL (Domestic Substances List)

#### 15.2. Chemical safety assessment

No chemical safety assessment has been carried out

### SECTION 16: Other information

Safety Data Sheet applicable for regions : GB - United Kingdom

SDS EU (REACH Annex II)

*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.*