

Safety Data Sheet

according to 1907/2006/EC, Article 31

Printing date 12.08.2009

Revision: 12.08.2009

* 1 Identification of substance

- . **Product details:**
- . **Trade name:** **BIURON®**
- . **Article number:** -
- . **Application of the substance / the preparation:**
Nutritional physiology additive - Urea for feeding of ruminant animals
- . **Manufacturer/Supplier:**
Borealis Agrolinz Melamine GmbH
St.-Peter-Straße 25
4021 Linz / Austria
sds@borealisgroup.com
- . **Emergency information:**
Pho. (+43) 732/6914-2466 or 2991
Fax (+43) 732/6914-2403

2 Hazards identification

- . **Hazard designation:** Void
- . **Information pertaining to particular dangers for man and environment:** void

* 3 Composition/information on ingredients

- . **Chemical characterization:**
- . **CAS No. Designation:**
57-13-6 urea with minimum 46,2 % nitrogen
- . **Identification number(s):**
- . **EINECS Number:** 200-315-5

* 4 First aid measures

- . **General information:** No special measures required.
- . **After inhalation:** Supply fresh air; consult doctor in case of symptoms.
- . **After skin contact:** Instantly wash with water and soap and rinse thoroughly.
- . **After eye contact:**
Rinse opened eye for several minutes under running water. In case of persistent symptoms consult doctor.
- . **After swallowing:** Rinse out mouth and then drink plenty of water.

* 5 Fire fighting measures

- . **Suitable extinguishing agents:** All.
- . **Special hazards caused by the material, its products of combustion or flue gases:**
Urea does not burn, but it conveys the burning of other flammable materials.
- . **Protective equipment:** Independent respiratory apparatus is recommended.
- . **Additional information:** Usual measures for fires with chemicals.

* 6 Accidental release measures

- . **Person-related safety precautions:**
Particular danger of slipping on leaked/spilled product.

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Wear protective clothing.

. Measures for environmental protection:

Prevent material from reaching sewage system, holes and cellars.

. Measures for cleaning/collecting:

Collect mechanically.

Dispose of the material collected according to regulations.

Depending on the degree of contamination dispose of by use on farm or to an authorized waste facility (e.g. producer).

Wash up residues with much water.

. Additional information: Avoid development of dust.

* 7 Handling and storage

. Handling:**. Information for safe handling:**

Prevent formation of dust.

Take note of emission threshold.

. Information on protection against explosions and fires: Keep ignition sources away - Do not smoke.**. Storage:****. Requirements to be met by storagerooms and containers:** Keep in a dry and cool place.**. Information on storage in one common storage facility:**

Do not store together with oxidizing and acidic materials.

. Further information about storage conditions:

Store under dry conditions.

Protect from heat.

Keep dry.

Avoid contamination through fertilizer, pesticide, veterinary drugs and other dangerous materials.

. Storage class: VCI: 10 - 13

* 8 Exposure controls and personal protection

. Additional information about design of technical systems: No further data; see item 7.**. Components with critical values that require monitoring at the workplace:**

The TLV for biologically inert suspensions applies:

15 mg/m³ inhalable dust fraction6 mg/m³ alveolar dust fraction**. Additional information:** The lists that were valid during the compilation were used as basis.**. Personal protective equipment:****. General protective and hygienic measures:**

The usual precautionary measures should be adhered to in handling the chemicals.

Garments should be preferred separate.

Keep away from foodstuffs, beverages and food.

Do not eat, drink or smoke while working.

Do not inhale dust / smoke / fog.

Instantly remove any soiled and impregnated garments.

Wash hands and face before breaks.

Shower or take a bath at the end of the work.

. Breathing equipment:

required when dusts are generated

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- dustmask
- . **Protection of hands:** not required
- . **Material of gloves:** -
- . **Penetration time of glove material:** -
- . **Eye protection:** Not required.
- . **Body protection:** Protective work clothing

* 9 Physical and chemical properties

. General Information:	
Form:	Prills
Colour:	White
Odour:	Like ammonia
. Change in condition:	
Melting point/Melting range:	~ 133°C
. Flash point:	Not applicable
. Inflammability (solid, gaseous):	Product is not inflammable.
. Ignition temperature:	
. Decomposition temperature:	> 132°C
. Danger of explosion:	Product is not explosive, except of fine dust.
. Vapourpressure at 20°C:	0.9 Pa
. Density at 20°C:	1.335 g/cm ³
. Settled apparent density at 20°C:	700 - 800 kg/m ³
. Solubility in / Miscibility with:	
Water:	very soluble in water (51,2 (G/G) % at 20°C) (71 (G/G) % at 60°C) very soluble in acetone (extractable of water) soluble in glycerine (33,3 (G/G) at 15°C) soluble in ethanole (5,1 (G/G) at 20°C) (13,1 (G/G) at 60°C) insoluble in chloroform, ether and xylene
. pH-value (100 g/l) at 20°C:	9.2 - 9.5
. Viscosity:	
dynamic:	Not applicable
. Additional information:	Explosive properties of dust: Class 1 (determined in 20 L equipment with detonator of 10 kJ energy) Explosive at an ignition energy of 10 - 100 kJ. Avoid trivial ignition sources (i.e. welding, grinding).

* 10 Stability and reactivity

- . **Conditions to be avoided:** Thermal decomposition from ~ 130 °C, with formation of ammonia.

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. Dangerous reactions:

Strong exothermic reaction, production of heat and risk of explosion with chlorine, sodium nitrate and phosphorus pentachloride, exothermic reaction and production of heat with sodium hypochlorite and oxidising agents.

Dissolved in water, urea slowly releases ammonia, and the solution is consequently alkali.

. Dangerous products of composition: Ammonia (NH₃)**. Additional information:**

Urea is chemically stable without change for at least two years under normal conditions (room temperature, dry atmosphere and in covered premises). However, the product hardens after 2 - 3 months, considerably reducing pourability.

11 Toxicological information

. Acute toxicity:**. LD/LC50 values that are relevant for classification:****57-13-6 urea**

Oral | LD50 | 14300 mg/kg (rat)

. Primary irritant effect:**. Skin:** No irritant effect.**. Eye:** No irritant effect.**. Sensitization:** No sensitizing effect known.**. Additional toxicological information:**

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

The material is not subject to classification according to EC lists in the last version.

. CMR effects (carcinogenity, mutagenicity and toxicity for reproduction): Ames-test: negative

*12 Ecological information

. Information about elimination (persistence and degradability):**. Other information:**

Biological degradability in water:

The compound is well degradable. 4 mg/l in 1 h at 20 °C / 68 °F

Zahn-Wellens-Test / 400 mg/l:

3h: 2 %, 7d: 52 %, 14d: 85 %, 16 d: 96 %

. Ecotoxicological effects:**. Aquatic toxicity:****57-13-6 urea**

EC50 > 10000 mg/l/24h (Daphnia magna (water flea))

LC50 > 6810 mg/l/96h (Leuciscus idus (orfe))

. Remark:

Growth Inhibition of algae:

TGK / 8 d / Scenedesmus quadric.: > 10 000 mg/L

Growth-retarding on bacteria:

TGK / 16 h / Pseudomonas putida: > 10 000 mg/L

. General notes:

Water hazard class 1 (Assessment by list): slightly hazardous for water.

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Do not allow product to reach ground water, water bodies or sewage system.

* 13 Disposal considerations

. Product:**. Recommendation:**

If possible collect dried product.

Depending on the degree of contamination dispose of by use on farm or to an authorized waste facility (e.g. producer).

Contact manufacturer or the proper local authorities.

. Waste disposal key number:

ÖNORM S2100: 51507, Fertilizer residues

Accountability: yes

. Uncleaned packagings:**. Recommendation:** Dispose of packaging according to regulations on the disposal of packagings.**. Recommended cleaning agent:** Water, if necessary with cleaning agent.

* 14 Transport information

. Land transport ADR/RID and GGVS/GGVE (cross-border/domestic):**. ADR/RID-GGVS/E Class:** -**. Maritime transport IMDG/GGVSea:****. IMDG/GGVSea Class:** -**. Air transport ICAO-TI and IATA-DGR:****. ICAO/IATA Class:** -

* 15 Regulatory information

. Designation according to EC guidelines:

The material is not subject to classification according to EC lists and other sources of literature known to us.

Observe the normal safety regulations when handling chemicals.

. National regulations:**. Water hazard class:** Water hazard class 1 (Assessment by list): slightly hazardous for water.**. Other regulations, limitations and prohibitive regulations:**

The product subject as nutritional physiology additive to feeding stuff law.

Licence number of manufacturer: α AT6035

* 16 Other information:

The above information is based on the current state of our knowledge and experience at the time this document was prepared. It is provided without warranty as to completeness and accuracy, does not constitute a binding assurance of product characteristics and hence shall not form the basis for any warranty or other liability claims of whatever kind. Nor shall it establish an independent legal relationship. The user shall himself or herself determine the suitability of the product for the intended purpose of use, and shall comply with all relevant regulations when processing or using the product, including any

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conflicting third-party industrial property rights and any safety measures also required.

. Recommended restriction of use:

For applications other than those set out in Chapter 1, please consult the manufacturer of the product to avoid unsafe activities.

. User: Kolm Angelika**. * Data compared to the previous version altered.**
