

SAFETY DATA SHEET according to Regulation (EC) No. 1907/2006

UREA (ALL GRADES)

Version 5.0

Print Date 2016/08/18

Revision date / valid from 2016/08/18

MSDS code: MURE001

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

1.1. Product identifier

Trade name : UREA (ALL GRADES)
Substance name : Urea
CAS-No. : 57-13-6
EC-No. : 200-315-5
EC Registration : 01-2119463277-33-xxxx

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

Use of the Substance/Mixture : Industrial use, Professional use
Uses advised against : At this moment we have not identified any uses advised against

1.3. Details of the supplier of the safety data sheet

Company : Brenntag UK & Ireland
Albion House, Rawdon Park
GB LS19 7XX Leeds Yeadon
Telephone : +44 (0) 113 3879 200
Telefax : +44 (0) 113 3879 280
E-mail address : msds@brenntag.co.uk

1.4. Emergency telephone number

Emergency telephone number : Emergency only telephone number (open 24 hours):
+44 (0) 1865 407333 (N.C.E.C. Culham)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

The product is not classified as dangerous according to Regulation (EC) No. 1272/2008.

Most important adverse effects

Human Health : See section 11 for toxicological information.
Physical and chemical : See section 9 for physicochemical information.

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hazards
Potential environmental effects : See section 12 for environmental information.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is not labeled as dangerous according to Regulation (EC) No. 1272/2008.

2.3. Other hazards

For Results of PBT and vPvB assessment see section 12.5.

SECTION 3: Composition/information on ingredients

3.1. Substances

Remarks : No dangerous ingredients according to Regulation (EC) No. 1907/2006

Non-hazardous component

Chemical name	Identification Number	Amount [%]
Urea	CAS-No. : 57-13-6 EC-No. 200-315-5 REACH-Reg. No. 01-2119463277-33-xxxx	>= 90 - < 100

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice : No special precautions required.

If inhaled : Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. If symptoms persist, call a physician. Symptoms may be delayed. Call a poison center or doctor if exposed or you feel unwell.

In case of skin contact : Wash off with plenty of water. If skin irritation persists, call a physician.

In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 10 minutes. If eye irritation persists, consult a specialist.

If swallowed : Rinse mouth with water. Never give anything by mouth to an

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unconscious person. DO NOT induce vomiting unless directed to do so by a physician or poison control center. If symptoms persist, call a physician. If large quantities of this material are swallowed, call a physician immediately.

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

Symptoms	: See Section 11 for more detailed information on health effects and symptoms.
Effects	: Health injuries are not known or expected under normal use. See Section 11 for more detailed information on health effects and symptoms. Serious effects may be delayed following exposure.

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

Treatment	: Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	: High volume water jet

5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting	: Heating or fire can release toxic gas.
Hazardous combustion products	: Carbon monoxide, Carbon dioxide (CO ₂), Nitrogen oxides (NO _x), ammonia

5.3. Advice for firefighters

Special protective equipment for firefighters	: In the event of fire, wear self-contained breathing apparatus. Choose protective equipment according to size of fire.
Further advice	: Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	: Use personal protective equipment. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Avoid formation of dust and aerosols. Do not breathe gas/fumes/vapour/spray.
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6.2. Environmental precautions

Environmental precautions : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

6.3. Methods and materials for containment and cleaning up

Methods and materials for containment and cleaning up : Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders). Keep in suitable, closed containers for disposal.
: Use mechanical handling equipment. Sweep up or vacuum up spillage and collect in suitable container for disposal.

Further information : Treat recovered material as described in the section "Disposal considerations".

6.4. Reference to other sections

See Section 1 for emergency contact information.
See Section 8 for information on personal protective equipment.
See Section 13 for waste treatment information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling : Keep container tightly closed. Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Do not breathe vapours/dust. Wet powders and solutions can cause extremely slipping conditions.

Hygiene measures : Keep away from food, drink and animal feedingstuffs. Smoking, eating and drinking should be prohibited in the application area. Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in original container.

Advice on protection against fire and explosion : Normal measures for preventive fire protection.

Further information on storage conditions : Keep tightly closed in a dry and cool place. Keep in a well-ventilated place. Keep away from direct sunlight.

Advice on common storage : Keep away from food, drink and animal feedingstuffs. Incompatible with strong acids and bases. nitrates nitrites Hypochlorites

7.3. Specific end use(s)

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Specific use(s) : No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Other Occupational Exposure Limit Values

(Additional) Information : Contains no substances with occupational exposure limit values.

Component:	Urea	CAS-No. 57-13-6
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Derived No Effect Level (DNEL)/Derived Minimal Effect Level (DMEL)

DNEL	Workers, Long-term - systemic effects, Skin contact	: 580 mg/kg
DNEL	Workers, Acute - systemic effects, Skin contact	: 580 mg/kg
DNEL	Workers, Long-term - systemic effects, Inhalation	: 292 mg/m ³
DNEL	Workers, Acute - systemic effects, Inhalation	: 292 mg/m ³
DNEL	Consumers, Long-term - systemic effects, Skin contact	: 580 mg/kg
DNEL	Consumers, Acute - systemic effects, Skin contact	: 580 mg/kg
DNEL	Consumers, Long-term - systemic effects, Inhalation	: 125 mg/m ³
DNEL	Consumers, Acute - systemic effects, Inhalation	: 125 mg/m ³
DNEL	Consumers, Long-term - systemic effects, Ingestion	: 42 mg/kg
DNEL	Consumers, Acute - systemic effects, Ingestion	: 42 mg/kg

Predicted No Effect Concentration (PNEC)

Fresh water	: 0.047 mg/l
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UREA (ALL GRADES)**8.2. Exposure controls****Appropriate engineering controls**

Refer to protective measures listed in sections 7 and 8.

Provide for appropriate exhaust ventilation and dust collection at machinery.

Provide sufficient air exchange and/or exhaust in work rooms.

Personal protective equipment*Respiratory protection*

Advice : If ventilation is insufficient, suitable respiratory protection must be provided
Required, if exposure limit is exceeded (e.g. OEL).
In the case of dust or aerosol formation use respirator with an approved filter.
Respiratory protection complying with EN 141.

Hand protection

Advice : Protective gloves complying with EN 374.
Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.
Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Protective gloves should be replaced at first signs of wear.

Material : Chemical resistant gloves.

Eye protection

Advice : Safety goggles

Skin and body protection

Advice : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place.
Wear appropriate chemical resistant clothing and boots.

Environmental exposure controls

General advice : Do not flush into surface water or sanitary sewer system.
Avoid subsoil penetration.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Form : solid

Colour : white

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Odour	: odourless
Odour Threshold	: no data available
pH	: 7.5 (100 g/l)
Melting point/freezing point	: 134 °C
Boiling point	: no data available
Flash point	: Not applicable
Evaporation rate	: no data available
Flammability (solid, gas)	: The product is not flammable.
Upper explosion limit	: no data available
Lower explosion limit	: no data available
Vapour pressure	: 0.000016 hPa (20 °C)
Relative vapour density	: no data available
Density	: 1.33 g/cm ³
Water solubility	: > 100 g/l soluble in cold water
Partition coefficient: n-octanol/water	: no data available
Auto-ignition temperature	: no data available
Thermal decomposition	: no data available
Viscosity, dynamic	: no data available
Explosivity	: no data available
Oxidizing properties	: no data available

9.2. Other information

No further information available.

SECTION 10: Stability and reactivity**10.1. Reactivity**

Advice : No decomposition if stored and applied as directed.

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10.2. Chemical stability

Advice : Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions : No dangerous reaction known under conditions of normal use.

10.4. Conditions to avoid

Conditions to avoid : Keep away from direct sunlight.

10.5. Incompatible materials

Materials to avoid : Urea reacts with calcium hypochlorite or sodium hypochlorite to form the explosive nitrogen trichloride. Incompatible with acids and bases. nitrates, nitrites

10.6. Hazardous decomposition products

Hazardous decomposition products : Carbon monoxide, Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Ammonia

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Data for the product

Acute toxicity

Inhalation

Symptoms may be delayed.

Component:

Urea

CAS-No. 57-13-6

Acute toxicity

Oral

LD50 : 14300 mg/kg (Rat)

Inhalation

Study scientifically not justified.

Dermal

Study scientifically not justified.

Irritation

Skin

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Result : (Rabbit; No skin irritation)

Eyes

Result : No eye irritation (Rabbit)

Sensitisation

Result : Study scientifically not justified.

CMR effects

CMR Properties

Carcinogenicity : Animal testing did not show any carcinogenic effects.

Mutagenicity : It is not considered mutagenic.

Teratogenicity : Animal testing did not show any effects on foetal development.

Reproductive toxicity : Study scientifically not justified.

Specific Target Organ Toxicity

Single exposure

Remark : The substance or mixture is not classified as specific target organ toxicant, single exposure.

Repeated exposure

Remark : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Other toxic properties

Aspiration hazard

No aspiration toxicity classification,

SECTION 12: Ecological information

12.1. Toxicity

Data for the product

Acute toxicity

Acute aquatic toxicity

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Result : The product is not classified as dangerous for the environment.

Component:	Urea	CAS-No. 57-13-6
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Acute toxicity**Fish**

LC50 : > 6810 mg/l (Leuciscus idus (Golden orfe)) (DIN 38412)

Toxicity to daphnia and other aquatic invertebrates

LC50 : > 10000 mg/l (Daphnia magna; 48 h)

algae

> 10000 mg/l (Scenedesmus quadricauda (Green algae); 8 d)

Bacteria

> 10000 mg/l (Pseudomonas putida; 16 h)

12.2. Persistence and degradability

Component:	Urea	CAS-No. 57-13-6
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Persistence and degradability**Persistence**

Result : (Related to: Water)
The product is water soluble.

Biodegradability

Result : 96 % (Exposure Time: 16 d)(OECD Test Guideline 302B)
Readily biodegradable

12.3. Bioaccumulative potential

Component:	Urea	CAS-No. 57-13-6
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Bioaccumulation

Result : log Kow -1.59
Bioaccumulation is not expected.

12.4. Mobility in soil

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Component:	Urea	CAS-No. 57-13-6
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Mobility

|| : Not expected to adsorb on soil.

12.5. Results of PBT and vPvB assessment

Data for the product

Results of PBT and vPvB assessment

Result : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Component:	Urea	CAS-No. 57-13-6
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Results of PBT and vPvB assessment

||| Result : This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This substance is not considered to be very persistent and very bioaccumulating (vPvB).

12.6. Other adverse effects

Data for the product

Additional ecological information

Result : Do not flush into surface water or sanitary sewer system. Avoid subsoil penetration.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product : Disposal together with normal waste is not allowed. Special disposal required according to local regulations. Do not let product enter drains. Contact waste disposal services.

Contaminated packaging : Dispose of contaminated packaging in the same way as the product. In accordance with local and national regulations.

European Waste Catalogue Number : No waste code according to the European Waste Catalogue can be assigned for this product, as the intended use dictates the assignment. The waste code is established in consultation with the regional waste disposer.

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SECTION 14: Transport information

Not dangerous goods for ADR, RID, IMDG and IATA.

14.1. UN number

|| Not applicable.

14.2. UN proper shipping name

Not applicable.

14.3. Transport hazard class(es)

Not applicable.

14.4. Packaging group

Not applicable.

14.5. Environmental hazards

Not applicable.

14.6. Special precautions for user

Not applicable.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

IMDG : Not applicable.

SECTION 15: Regulatory information

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

Component:	Urea	CAS-No. 57-13-6
EU. Regulation No 1451/2007 [Biocides], Annex I, OJ (L 325)	:	EC Number: , 200-315-5; Listed
EU. Directive 2012/18/EU (SEVESO III) Annex I	:	; The substance/mixture does not fall under this legislation.
WGK (DE)	:	WGK 1: slightly water endangering: 118; Classification source is Annex 2.

15.2. Chemical safety assessment

no data available

UREA (ALL GRADES)**SECTION 16: Other information****Further information**

- Key literature references : Supplier information and data from the "Database of registered substances" of the European Chemicals Agency (ECHA) were used to create this safety data sheet.
- Other information : The information provided in this Safety Data Sheet is correct to our knowledge at the date of its revision. The information given only describes the products with regard to safety arrangements and is not to be considered as a warranty or quality specification and does not constitute a legal relationship. The information contained in this Safety Data Sheet relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

|| Indicates updated section.