



Safety Data Sheet

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

1.1. Product Identifier Chemical

Name of the substance	Urea
EC No	200-315-5
GAS No.	57-13-6
REACH Registration Number	01-2119463277-33-0028
Synonyms	Carbamide

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

Main use category	Industrial use, Professional use, Consumer use
Specific use(s)	Fertilizers Cosmetics Cleaning agent Resin Polymer production Manufacture of textiles Raw material for industry Pharmaceuticals Chemical products Fungicide Additive Laboratory use Waste water treatment Processing aid Anti-freeze and de-icing products Mining chemicals Uses in coatings Diesel Exhaust Fluid Biocides



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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

2.1.1. Classification according to Regulation (EU) 1272/2008

CLP-Classification Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Not classified

2.1.2. Classification according to EU Directives 67/548/EEC or 1999/45/EC

Classification The product is non-dangerous in accordance with Directive 67/548/EEC.

Not classified

2.2. Label elements

2.2.1. Labelling according to Regulation (EU) 1272/2008

Not applicable.

2.2.2. Labelling according to Directives (67/548 - 1999/45)

Not relevant

2.3. Other hazards

Other hazards which do not result in classification

SECTION 3: Composition/information on ingredients

3.1. Substances

Substance name	Product Identifier	%	Classification according to Directive 67/548/EEC
Urea	(CAS No.) 57-13-6 (EC No.) 200-315-5 (EC Index)	98 – 99	Not classified
Biuret	(CAS No.) 108-19-0 (EC No.) 203-559-0	0.7 – 1.1	Not classified
Substance name	Product Identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Urea	(CAS No.) 57-13-6 (EC No.) 200-315-5 (EC Index)	98 – 99	Not classified
Biuret	(CAS No.) 108-19-0 (EC No.) 203-559-0	0.7 – 1.1	Not classified

Additive to prevent caking and dusting, does not influence on classification.

Full text of R-, H- and EUH-phrases: see section 16

3.2. Mixtures

Not applicable



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SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Keep at rest. Move to fresh air. Consult a physician if necessary.
Skin contact	After contact with skin, wash immediately with plenty of water and soap. If skin irritation persists, call a physician.
Eyecontact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.
Ingestion	Rinse mouth. Drink plenty of water. Get medical advice/attention if you feel unwell.
Additional advice	First aider needs to protect himself. Never give anything by mouth to an unconscious person or a person with cramps. Show this safety data sheet to the doctor in attendance. Treat symptomatically. See also section 8

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

Inhalation	May cause irritation of respiratory tract. Inhalation may provoke the following symptoms: Irritation of the gastric/intestinal mucosa, Breathing difficulties.
Skin contact	May be irritating. Skin contact may provoke the following symptoms: Xerosis, Pruritus.
Eye contact	Contact with eyes may cause irritation. Eye contact may provoke the following symptoms: Lacrimation, Corneal opacity.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. May cause cyanosis. Convulsions.

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

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media which shall not be used for safety reasons	High volume water jet

5.2. Special hazards arising from the substance or mixture

Fire hazard	Non-flammable.
Specific hazards	Possible decomposition products are: Carbon oxides Nitrogen oxides (NOx) Ammonia Biuret Hydrogen cyanide (hydrocyanic acid) Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

5.3. Advice for firefighters

Advice for firefighters	Wear personal protective equipment. In case of fire: Wear self-contained breathing apparatus.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

Evacuate personnel to safe areas.
Keep people away from and upwind of spill/leak.
Wear personal protective equipment.
See also section 8 .

Avoid contact with skin, eyes and clothing. Do not breathe dust.

Advice for emergency responders

Only qualified personnel equipped with suitable protective equipment may intervene.

See also section 8.

6.2. Environmental precautions

Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up

Prevent further leakage or spillage if safe to do so.

Dam up.

Sweep up and shovel into suitable containers for disposal. Dispose of in accordance with local regulations.

6.4. Reference to other sections

See also section 8

See also section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handling

Ensure adequate ventilation.

Wear personal protective equipment. See also section 8.

Avoid dust formation.

Avoid contact with the skin and the eyes. Do not breathe dust.

Keep away from heat and sources of ignition. Avoid moisture.

Take any precaution to avoid mixing with incompatible materials.

See also section 10

Take care to avoid waste and spillage when weighing, loading and mixing the product.

Do not let product enter drains.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke.

Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before re-use.

7.2. Conditions for safe storage, including any incompatibilities

Storage

Do not store near or with any of the incompatible materials listed in section 10.

Keep tightly closed in a dry, cool and well-ventilated place.

Packaging material

Plastics

7.3. Specific end use(s)

No data available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limit(s)

Urea (57-13-6)		
Bulgaria	OEL TWA (mg/m ³)	10,0 mg/m ³
Latvia	OEL TWA (mg/m ³)	10 mg/m ³
Lithuania	IPRV (mg/m ³)	10 mg/m ³
Norway	Gjennomsnittsverdier (AN) (mg/m ³)	30 µg Hg/g Kreatinin (Biological limit)
Norway	Gjennomsnittsverdier (Korttidsverdi) (mg/m ³)	45 µg Hg/g Kreatinin (Biological limit)

Recommended monitoring procedures

Concentration measurement in air
Personal monitoring

Urea (57-13-6)	
DNEL/DMEL (workers)	
Acute - systemic effects, dermal	350 mg/kg bodyweight/day
Acute - systemic effects, inhalation	175 mg/m ³
Long-term - systemic effects, dermal	350 mg/kg bodyweight/day
Long-term - systemic effects, inhalation	175

8.2. Exposure controls

Personal protective equipment

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

In case of insufficient ventilation, wear suitable respiratory equipment. Respirator must be worn if exposed to dust.
Respirator with a full face mask (EN 143)
Respirator with a half face mask (EN 143)
Effective dust mask. (EN 149)
Recommended Filter type: P/ENK

Hand protection

Wear chemically resistant gloves (tested to EN374) Rubber gloves (EN 374). The selection of specific gloves for a specific application and time of use in a working area, should also take into account other factors on the working space, such as (but not limited to): other chemicals that are possibly used, physical requirements (protection against cutting/drilling, skill, thermal protection), and the instructions/specification of the supplier of gloves.

Eye protection

Safety glasses (EN 166).

Skin and body protection

Overalls, apron and boots recommended.

Thermal hazard protection

Not required under normal use.
Use dedicated equipment.

Engineering control measures

Ensure adequate ventilation.
Use only in area provided with appropriate exhaust ventilation.
Organisational measures to prevent /limit releases, dispersion and exposure .
See also section 7 .

Environmental exposure controls

Do not flush into surface water or sanitary sewer system.
Comply with applicable Community environmental protection legislation.



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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	solid
Colour	white
Odour	mild
Odour Threshold	No data available
Odour Threshold	No data available
pH	7,5- 9,5 (10%)
Melting point/range	133,3 - 134 °C
Boiling point/boiling range	Not applicable Decomposes below the boiling point.
Flash point	No data available
Evaporation rate	No data available
Flammability (solid, gas)	Nonflammable.
Explosion limits	Not applicable
Vapour pressure	0,0016 Pa @ 25 °C
Vapour density	No data available
Relative density	1330 @ 20 °C
Water solubility	624 g/l @ 20 °C 545 g/l @ 25 °C
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	- 1,56
Autoignition temperature	No data available
Decomposition temperature	> 220 °C
Viscosity	No data available
Explosive properties	Not applicable The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.
Oxidizing properties	Not applicable The classification procedure needs not to be applied because there are no chemical groups present in the molecule which are associated with oxidising properties.

9.2. Other information

Other data dissociation constant : 0.6 - 0.10 @ 21 °C

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity None under normal processing.
See also section 10.4/10.5

10.2. Chemical stability

Stability Stable under normal conditions. See also section 10.4/10.5



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10.3. Possibility of hazardous reactions

Hazardous reactions

Risk of violent reaction.
Exothermic reaction
Danger of polymerisation
Release of: Highly toxic fumes
See also section 10.5

10.4. Conditions to avoid

Conditions to avoid

Avoid temperatures above 220 °C.

10.5. Incompatible materials

Incompatible materials

Incompatible with strong acids and bases. Oxidizing agents, Water (sodium hypochlorite, Calcium hypochlorite, Na Nitrates, perchlorate, Permanganates., Acid chlorides)

10.6. Hazardous decomposition products

Hazardous decomposition products

Thermal decomposition generates : Carbon oxides, Ammonia, biuret, Hydrogen cyanide (hydrocyanic acid) Hydrolysis : Nitrogen oxides (NOx) . Carbon dioxide. . NH₃,

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified (Based on available data, the classification criteria are not met.)

Urea (57-13-6)	
LD50/oral/rat	14,3 – 15 g/kg
Additional information	LD50, acute, oral, mouse: 11.5 – 13.0
Urea (57-13-6)	
LD50/oral/rat	8471 mg/kg
LD50/dermal/rat	8200 mg/kg

Skin corrosion/irritation

Not classified (Based on available data, the classification criteria are not met.)
pH: 7,5- 9,5 (10%)

Serious eye damage/irritation

Not classified (Based on available data, the classification criteria are not met.)
pH: 7,5-9,5 (10%)

Respiratory/skin sensitisation

Not classified (Based on available data, the classification criteria are not met.)

Germ cell mutagenicity

Not classified (Based on available data, the classification criteria are not met.)

Carcinogenicity

Not classified (Based on available data, the classification criteria are not met.)
NOAEL, rat, mouse: 2250 mg/kg bw/day

Reproductive toxicity

Not classified (Based on available data, the classification criteria are not met.)

Specific target organ toxicity (single exposure)

Not classified (Based on available data, the classification criteria are not met.)

Specific target organ toxicity (repeated exposure)

Not classified (Based on available data, the classification criteria are not met.)

Aspiration hazard

Not classified (Based on available data, the classification criteria are not met.)

Further information



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Symptoms related to the physical, chemical and toxicological characteristics, See section 4.2.

SECTION 12: Ecological information

12.1. Toxicity

Urea (57-13-6)	
LC50/96h/fish	16200 - 18300 mg/l (Exposure time: 96 h - Species: Poecilia reticulata)
EC50/48h/daphnia	> 10000 mg/l (Exposure time: 24 h - Species: Daphnia magna Straus)
EC50 Daphnia 2	3910 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

12.2. Persistence and degradability

Persistence and degradability Inherently biodegradable.

12.3. Bioaccumulative potential

Bioaccumulation No data available
Partition coefficient: n-octanol/water - 1,56

12.4. Mobility in soil

Mobility No data available

12.5. Results of PBT and vPvB assessment

PBT/vPvB No data available

12.6. Other adverse effects

Further information No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products In accordance with local and national regulations.
Contaminated packaging If recycling is not practicable, dispose of in compliance with local regulations.
List of suggested waste codes/waste designations in accordance with the EWC: Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities.

SECTION 14: Transport information

14.1. UN number

UN-No. NA

14.2. UN proper shipping name

Proper Shipping Name NA
Proper shipping name IATA/IMDG NA

14.3. Transport hazard class(es)

14.3.1. Overland transport

ADR/RID Not classified as dangerous for conveyance in the meaning of the Carriage of Dangerous Goods by Road and Rail.

14.3.2. Inland waterway transport (ADN)



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ADN Not classified as dangerous in the meaning of transport regulations.

14.3.3. Transport by sea

IMDG Not classified as dangerous in the meaning of sea and air transport regulations.
Class Not applicable

14.3.4. Air transport

ICAO/IATA Not classified as dangerous in the meaning of sea and air transport regulations.
Class Not applicable

14.4. Packing group

Packing group NA

14.5. Environmental hazards

Other information Not applicable.

14.6. Special precautions for user

Special precautions : Not applicable.

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

Code: IBC : Not applicable.

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Restrictions on use Not applicable.

This product contains an ingredient according to the candidate list of Annex XIV of the REACH Regulation 1907/2006/EC.

Authorisations none
Not applicable

15.1.2. National regulations

DE: WGK

15.2. Chemical safety assessment

Chemical Safety Assessment A Chemical Safety Assessment has been carried out for this substance.

SECTION 16: Other information

Sources of key data used to compile the Safety Data Sheet

<http://esis.jrc.ec.europa.eu/>
SOS Supplier

Abbreviations and acronyms

ADN = Accord Européen relatif au Transport International des Marchandises Dangereuses par voie de Navigation du Rhin
ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
CLP = Classification, Labelling and Packaging Regulation according to 1272/2008/EC
IATA = International Air Transport Association
IMDG = International Maritime Dangerous Goods Code



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LEL = Lower Explosive Limit/Lower Explosion Limit
UEL = Upper Explosion Limit/Upper Explosive Limit
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
TWA = time weighted average
DNEL = Derived No Effect Level
LD 50 = Median lethal dose
LC 50 = Median lethal concentration
EC50 = Median Effective Concentration
NOAEL = No observed adverse effect level
PBT = persistent, bioaccumulating and toxic (PBT).
vPvB = very persistent and very bioaccumulating
EWC = European Waste Catalogue
CSR = Chemical Safety Report

The contents and format of this SDS are in accordance with EEC Commission Directive 1999/45/EC, 67/548/EC, 1272/2008/EC and EEC Commission Regulation 1907/2006/EC (REACH) Annex II.

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