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

### 1.1. Product Identifier Chemical

<table>
<thead>
<tr>
<th>Name of the substance</th>
<th>Urea</th>
</tr>
</thead>
<tbody>
<tr>
<td>EC No.</td>
<td>200-315-5</td>
</tr>
<tr>
<td>GAS No.</td>
<td>57-13-6</td>
</tr>
<tr>
<td>REACH Registration Number</td>
<td>01-2119463277-33-0028</td>
</tr>
<tr>
<td>Synonyms</td>
<td>Carbamide</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Main use category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial use, Professional use, Consumer use</td>
</tr>
<tr>
<td>Fertilizers</td>
</tr>
<tr>
<td>Cosmetics</td>
</tr>
<tr>
<td>Cleaning agent</td>
</tr>
<tr>
<td>Resin</td>
</tr>
<tr>
<td>Polymer production</td>
</tr>
<tr>
<td>Manufacture of textiles</td>
</tr>
<tr>
<td>Raw material for industry</td>
</tr>
<tr>
<td>Pharmaceuticals</td>
</tr>
<tr>
<td>Chemical products</td>
</tr>
<tr>
<td>Fungicide</td>
</tr>
<tr>
<td>Additive</td>
</tr>
<tr>
<td>Laboratory use</td>
</tr>
<tr>
<td>Waste water treatment</td>
</tr>
<tr>
<td>Processing aid</td>
</tr>
<tr>
<td>Anti-freeze and de-icing products</td>
</tr>
<tr>
<td>Mining chemicals</td>
</tr>
<tr>
<td>Uses in coatings</td>
</tr>
<tr>
<td>Diesel Exhaust Fluid</td>
</tr>
<tr>
<td>Biocides</td>
</tr>
</tbody>
</table>
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

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Product Identifier</th>
<th>%</th>
<th>Classification according to Directive 67/548/EEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea</td>
<td>(CAS No.) 57-13-6</td>
<td>98 – 99</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>(EC No.) 200-315-5 (EC Index)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biuret</td>
<td>(CAS No.) 108-19-0</td>
<td>0.7 – 1.1</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>(EC No.) 203-559-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Substance name</th>
<th>Product Identifier</th>
<th>%</th>
<th>Classification according to Regulation (EC) No. 1272/2008 [CLP]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea</td>
<td>(CAS No.) 57-13-6</td>
<td>98 – 99</td>
<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>(EC No.) 200-315-5 (EC Index)</td>
<td></td>
<td></td>
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<td>Not classified</td>
</tr>
<tr>
<td></td>
<td>(EC No.) 203-559-0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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
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.

Eye contact
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.
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)

<table>
<thead>
<tr>
<th></th>
<th>Bulgaria OEL TWA (mg/m³)</th>
<th>Latvia OEL TWA (mg/m³)</th>
<th>Lithuania IPRV (mg/m³)</th>
<th>Norway Gjennomsnittsverdier (AN) (mg/m³)</th>
<th>Norway Gjennomsnittsverdier (Korttidsverdi) (mg/m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Urea (57-13-6)</td>
<td>10,0 mg/m³</td>
<td>10 mg/m³</td>
<td>10 mg/m³</td>
<td>30 µg Hg/g Kreatinin (Biological limit)</td>
<td>45 µg Hg/g Kreatinin (Biological limit)</td>
</tr>
</tbody>
</table>

Recommended monitoring procedures

Concentration measurement in air
Personal monitoring

<table>
<thead>
<tr>
<th></th>
<th>Urea (57-13-6) DNEL/DMEL (workers)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute - systemic effects, dermal</td>
<td>350 mg/kg bodyweight/day</td>
</tr>
<tr>
<td>Acute - systemic effects, inhalation</td>
<td>175 mg/m³</td>
</tr>
<tr>
<td>Long-term - systemic effects, dermal</td>
<td>350 mg/kg bodyweight/day</td>
</tr>
<tr>
<td>Long-term - systemic effects, inhalation</td>
<td>175</td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Personal protective equipment

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.
## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>solid</td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
</tr>
<tr>
<td>Odour</td>
<td>mild</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>7.5- 9.5 (10%)</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>133.3 - 134 °C</td>
</tr>
<tr>
<td>Boiling point/boiling range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Nonflammable.</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>0.0016 Pa @ 25 °C</td>
</tr>
<tr>
<td>Vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>1330 @ 20 °C</td>
</tr>
<tr>
<td>Water solubility</td>
<td>624 g/l @ 20 °C</td>
</tr>
<tr>
<td>Water solubility</td>
<td>545 g/l @ 25 °C</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient: n-octanol/water</td>
<td>- 1.56</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt; 220 °C</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No data available</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Not applicable</td>
</tr>
</tbody>
</table>

The study does not need to be conducted because there are no chemical groups associated with explosive properties present in the molecule.

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
### 10.3 Possibility of hazardous reactions

**Hazardous reactions**
- Risk of violent reaction.
- Exothermic reaction
- Danger of polymerisation
- Release of: Highly toxic fumes

**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**

### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

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

<table>
<thead>
<tr>
<th>Urea (57-13-6)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50/oral/rat</td>
<td>14.3 – 15 g/kg</td>
</tr>
<tr>
<td>Additional information</td>
<td>LD50, acute, oral, mouse: 11.5 – 13.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Urea (57-13-6)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>LD50/oral/rat</td>
<td>8471 mg/kg</td>
</tr>
<tr>
<td>LD50/dermal/rat</td>
<td>8200 mg/kg</td>
</tr>
</tbody>
</table>

**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**
Safety Data Sheet

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)
14.3.3. Transport by sea
IMDG
Class
Not classified as dangerous in the meaning of transport regulations.

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

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

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
Safety Data Sheet

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


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