

# Safety data sheet

In accordance with Regulation (EC) 1907/2006 (REACH), Annex II

03017 11

Revision date:  
17/02/2015  
Version No. 1  
Revision No. 6

## 1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY

### 1.1 Product identifier

Trade name of mixture 03017 11

Composition: a mixture of urea and water.

#### Identification of ingredients:

Trade name: Urea;

INDEX number as listed in Annex VI of CLP: Not listed

CAS number: 57-13-6

EC number: 200-315-5

REACH registration number: 01-2119463277-33-xxxx

### 1.2 Relevant identified uses of the mixture and uses advised against

1.2.1 Uses: NOx reducing agent – is injected to the exhaust systems of diesel engines before a selective catalytic converter.

1.2.2 Uses advised against: None.

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

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1.4 Emergency telephone number: +49 4103 1211110

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance

2.1.1 Classification according to Regulation No. 1272/2008: not classified as hazardous.

#### 2.1.2 Additional information:

Full text of precaution phrases is in chapter 16.

### 2.2 Label elements

Labeling according to Regulation No. 1272/2008:

Keep out of reach of children (P102).

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P305+P351+P338).

IF ON SKIN: Wash with plenty of soap and water. (P302+P352).

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<p><b>2.3 Other hazards.</b> According to Annex XIII of Regulation (EC) No 1907/2006, no PBT and vPvB assessment has been conducted.</p>
<p><b>3. COMPOSITION/INFORMATION ON INGREDIENTS</b></p>
<p><b>3.1. Mixtures.</b> According to the REACH Regulation the product is a multi-constituent substance containing no hazard components.</p>
<p><b>4. FIRST-AID MEASURES</b></p>
<p><b>4.1 1 Description of first aid measures</b> <b>Inhalation:</b> None. <b>Skin contact:</b> After contact with urea solution, wash hands. <b>Eye contact:</b> In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. <b>Ingestion:</b> Rinse mouth, drink water, seek medical advice.</p> <p><b>4.2 Most important symptoms and effects:</b> None known.</p> <p><b>4.3 Indication of any immediate medical attention and special treatment needed:</b> None.</p>
<p><b>5. FIRE-FIGHTING MEASURES</b></p>
<p><b>5.1 1 Extinguishing media</b> <b>Suitable:</b> Non-flammable. <b>Not suitable:</b> None.</p> <p><b>5.2 Special hazards arising from the substance or mixture</b> None.</p> <p><b>5.3 Advice for firefighters</b> Upon drying of a solution, when temperature exceeds 220 °C, urea decomposes forming substances flammable with difficulty. <b>Personal protective equipment:</b> insulating gas masks.</p>
<p><b>6. ACCIDENTAL RELEASE MEASURES</b></p>
<p><b>6.1 Personal precautions, protective equipment and emergency procedures.</b> Personal protective equipment is listed in subsection 8.</p> <p><b>6.2 Environmental precautions</b> Collect the spillage and place into containers. Prevent the spillage from entering drains and watercourses. Waste disposal – see subsection 13.</p>

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### 6.3 Methods and material for containment and cleaning up

Mechanical.

### 6.4 Reference to other sections

See section 8 for personal protective equipment and section 13 for waste disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Usage requirements and recommendations: use as per instructions for motor vehicles.

**Technical measures/ Precautions:** Store in a closed, dry room with good ventilation at temperature not below -11 °C and not above +30 °C. Instructions on the limit quantity of the substance/preparation to be stored under the conditions specified: no.

### 7.2 Conditions for safe storage, including any incompatibilities.

**Incompatible products:** Due to very strict requirements applied for product cleanliness, contact with other substances shall not be allowed.

**Requirements to packages:** Requirements for the package of the substance/preparation: packages (containers) manufactured of high-pressure polyethylene or polypropylene and high alloyed austenitic -Ni, Cr-Ni-Mo steels.

**7.3 Relevant identified uses:** NOx reducing agent – is injected to the exhaust systems of diesel engines before a selective catalytic converter.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

**Regulated occupational exposure limit values:** None.

### 8.2 Exposure controls

**8.2.1 Appropriate engineering controls:** Inlet and exhaust ventilation.

**Environmental exposure controls:** Dispose of rinse water in accordance with local and national regulations.

### 8.2.2. Individual protection measures:

**Respiratory protection:** Respirators. Dispose of rinse water in accordance with local and national regulations.

**Eye protection:** Wear protection glasses.

**Hand protection:** Protective gloves.

**Skin and body protection:** Work footwear and clothing.

**Hygiene measures:** Have a wash and change clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

**Appearance:** Liquid colourless;

**Odour:** with mild odour of ammonia;

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**pH:** (8-10) 10 % solution, mass fraction;  
**Melting/Freezing temperature:** -11 °C;  
**Boiling temperature:** About 100 °C;  
**Flash-point:** Not relevant;  
**Flammability:** Non flammable (based on molecular structure);  
**Explosive properties:** Non explosive;  
**Vapour pressure:** 23 mbar at 20 °C;  
**Relative density (D4 (20)):** (1087 – 1093) kg/m<sup>3</sup> at 20 °C;  
**Solubility in water:** Very soluble;  
**Partition coefficient n-octanol/water:** The substance is inorganic. In accordance with Column 2 of REACH Annex VII, the partition coefficient n-octanol/water does not need to be conducted in case the substance is inorganic.  
**Viscosity:** 1,4 mPas at 25 °C;  
**Specific conductivity:** No data;  
**Surface tension:** Not surface active (based on molecular structure);  
**Oxidizing properties:** None.

### 9.2 Other information.

None

## 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Stable under regular conditions (see section 7, handling and storage).

### 10.2 Chemical stability

Stable under regular conditions (see section 7, handling and storage).

Need for and the presence of stabilizers: not required.

### 10.3 Possibility of hazardous reactions

None.

### 10.4 Conditions to avoid

Environment temperature lower than crystallisation temperature and higher than 30 °C (urea hydrolysis takes place). Entrance of any materials will pollute the substance and it will be impossible to use the substance for intended purpose.

### 10.5 Incompatible materials

Entrance of any materials will pollute the substance and it will be impossible to use the substance for intended purpose.

### 10.6 Hazardous decomposition products

When heated dangerous gases might appear: HCN, NO<sub>x</sub>, NH<sub>3</sub>.

## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects:

#### 11.1.1. Acute toxicity:

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Acute oral toxicity: LD<sub>50</sub>: 8471 mg/kg bw (for urea).  
Acute dermal toxicity: LD<sub>50</sub>: 8200 mg/kg bw (for urea).  
Acute inhalation toxicity: not relevant.  
**11.1.2. Skin irritation or/and sensitization:** Not irritating. Not sensitizing effect known.  
**11.1.4. Mutagenicity:** Ames-test: negative  
**11.1.5. Carcinogenicity:** Ames-test: negative  
**11.1.6. Reproductive toxicity:** Ames-test: negative  
**11.1.7 Specific toxicity for particular organ (STOT) (one time effect):** None.  
**11.1.8 Specific toxicity for particular organ (STOT) (repeated effect):** None.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

In bodies of drinking water, maximum allowable concentration of urea shall not exceed the amount of organic matter established by calculations against the amounts of biochemical allowable concentration (BPC) and dissolved oxygen. In water bodies of fishing farms, maximum allowable concentration of urea is 80mg/dm<sup>3</sup>.

Leuciscus idus (orfe): 96-h LC<sub>50</sub>> 6810 mg/l

Daphnia magna (short-term): 24-h EC<sub>50</sub>: > 10000 mg/l

Daphnia magna (long-term): No data.

### 12.2 Persistence and degradability

**Biodegradation:** 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 %.

In soil and water, urea decomposes to ammonia and carbon dioxide and degrades easily.

**Hydrolysis:** No hydrolysable group is present.

### 12.3 Bioaccumulative potential

**Octanol-water partition coefficient (K<sub>ow</sub>):** Considered to be low (based on high water solubility). Urea does not have any bioaccumulative properties, does not form any toxic compound with other substances present in the air or drainage waters.

**Bioconcentration factor (BCF):** Low potential for bioaccumulation (based on substance properties).

### 12.4 Mobility in soil

**Adsorption coefficient:** Low potential for adsorption (based on substance properties).

### 12.5 Results of PBT and vPvB assessment

According to Annex XIII of Regulation (EC) No1907/2006, no PBT and vPvB assessment has been conducted.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste from residues:

Urea solution waste at the customer place shall be collected and after dilution used as fertilisers.

### 13.2 Container:

Waste shall be handled as per applicable Waste Handling Law. Package waste shall be handled as per applicable Package and Package Waste Handling Law.

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### 14. TRANSPORT INFORMATION

#### 14.1 UN Number

None

#### 14.2 Proper shipping name

Aqueous urea solution AUS 32.

#### 14.3 Transport hazard classes

None

#### 14.4 Packaging group

None

#### 14.5 Other information

The product is not classified as hazardous substance according to the Orange Book and International Transport Codes RID (Railway), ADR (Road) and IMDG (sea transport).

### 15. REGULATORY INFORMATION

#### 15.1 Safety, health and environmental regulation/legislation specific for the substance or mixture:

- Regulation (EC) 1907/2006 (REACH);
- Regulation (EC) No 1272/2008 of the European parliament and of the council on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006;
- Commission regulation (EU) No 453/2010, amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH);
- in compliance with HN23 Maximum Allowable Concentrations of Hazardous Chemical Substances and Preparations in Working Environment. General Requirements;
- in compliance with HN36 Banned and Restricted Substances;
- As per applicable "Regulations on Personnel Protection Against Chemical Factors at Work" and "Regulations on Personnel Protection Against Carcinogenic Effects at Work";
- As per applicable "General Storage Rules of Hazardous Substances/Preparations";
- As per applicable "Law on Waste Handling of the Republic of Lithuania";
- As per applicable "Law on Package and Package Waste Handling of the Republic of Lithuania";
- As per applicable "Waste Handling Rules";
- As per applicable "Regulations for Labelling and Price Indication of the Items (Goods) Sold of the Republic of Lithuania";
- Directive 67/548/EEC (amended for the seventh time by Directive 92/32/EEC)- requirement to convey information on dangerous substances/preparations in the form of material safety data sheets;
- Directive 1999/45/EC- requirement to convey information on dangerous substances/preparations in the form of material safety data sheet.

Additional information provided on the label of the chemical preparation package:

Visual signs No. 4 „Protect from sun“ and No. 17 „Temperature limitation“ (-5°C ÷ 25°C) in compliance with LST EN ISO 780.

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### 15.2 Chemical safety assessment

As in accordance with Regulation No. 1272/2008 aqueous urea solution are not classified as hazardous consequently in accordance with REACH Article 14 no Chemical Safety Assessment has been carried out for this mixture.

### 16. OTHER INFORMATION

Additional data that may be important to consumers' safety and health, as well as environment protection.

Used abbreviations:

Keep out of reach of children (P102).

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P305+P351+P338).

IF ON SKIN: Wash with plenty of soap and water. (P302+P352).

ADR – European Agreement on Dangerous Goods by Road;

IATA- International Air Transport Organization;

IMO – International Marine Organization;

RID – Regulations Concerning the International Carriage of Dangerous Goods by Rail;

SMGS – International Agreement on Carriage of Loads by Rail.

The information provided in this safety data sheet is correct to the best of our knowledge, information, and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any proceed, unless specified in the text.

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The end of Safety Data Sheet.