



**AdBlue®4you**

## SAFETY DATA SHEET

according to the Regulation EC No. 2015/830  
AdBlue®

### SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. Product Identifier

Substance Name: Water solution of urea, AUS 32

Registration Number REACH: **01-2119463277-33-0018**

Trade name: AdBlue®

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

Relevant identified uses: The product is a NO<sub>x</sub>-gases reduction agent used in the selective catalytic reduction (SCR) in motor vehicles with a diesel engine.

Uses advised against: Not recommended for other uses than is mentioned.

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

Supplier: **GreenChem Holding BV**  
Gravinnen van Nassauboulevard 95  
4811 BN BREDA - Netherland  
Tel. +31 (0)76 - 581 27 27  
Email: msds@greenchem-adblue.com

Representative Office SVK: **GreenChem SK, s. r. o.**  
Nobelova 34  
836 05 Bratislava, Slovakia  
Tel. +421 2 4951 2737  
Email: msds@greenchem-adblue.com

#### 1.4. Emergency Telephone Number

NÁRODNÉ TOXIKOLOGICKÉ INFORMAČNÉ CENTRUM: 24/7 consultancy service for the acute intoxications - : **+421 2 5477 4166**

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Univerzitná nemocnica Bratislava  
Pracovisko - Nemocnica akad. L. Déreza, Kramáre  
Klinika pracovného lekárstva a toxikológie LF UK,  
SZU a UNB, Limbová 5, 833 05 Bratislava,  
Slovakia

Email: ntic@ntic.sk

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

Mixture is not classified as dangerous according to the Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

### 2.2. Label elements

None

### 2.3. Other hazards

The substance does not meet the criteria for PBT and vPvB.

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

CAS	EC	Registration Number	Classification	Content (%)
<b>Urea</b>				
57-13-6	200-315-5	01-2119463277-33-0018	XXX	32,5
Impurities:				
<b>Biuret</b>				
108-19-0	203-559-0	XXX	XXX	≤0,3

Remark: Complete wording of H-phrases is stated in Section 16.

### 3.2. Mixtures

Contains no hazardous mixtures.

## SECTION 4: FIRST AID MEASURES

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**4.1. Description of first aid measures**

Inhalation: Take out the exposed person to the fresh air.

Skin contact: Wash skin with warm water and soap.

Eye contact: Wash out the eye with plenty of clean water 15 min., seek for medical care.

Ingestion: Drink ca. 2 dcl lukewarm water, do not induce vomiting and seek for medical care.

Clothing exposure: Remove the exposed clothing and shoes.

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

No information available.

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

No information available.

**SECTION 5: FIREFIGHTING MEASURES**

**5.1. Extinguishing media**

Suitable extinguishing media: Urea solution has not flammable properties.

Unsuitable extinguishing media: Combustible material.

**5.2. Special hazards arising from the substance or mixture**

No information available.

**5.3. Advice for firefighters**

No information available.

**SECTION 6: ACCIDENTAL RELEASE MEASURES**

**6.1. Personal precautions, protective equipment and emergency procedures**

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Use personal protective equipment during handling with the product (see Section 8). Avoid contact with eyes, skin and clothing. Contamination does not rise. Flush residues down into the sewage and drainage system leading to waste treatment plant in a controlled manner.

**6.2. Environmental precautions**

Prevent release to water resources, sewerage and soil. The product is not classified as hazardous for environment.

**6.3. Reference to other sections**

For more information about protective equipment see Section 8.  
For more information about the disposal of substance, see Section 13.

**SECTION 7: HANDLING AND STORAGE**

**7.1. Precautions for safe handling**

Provide adequate ventilation during manipulation with product and avoid contact with skin and eyes using personal protective equipment. Follow the rules of safe handling of chemicals and basic hygiene habits.

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

Suitable material for storage:	Alloy steels, various plastics, as well as metal tanks with plastic coating
Unsuitable material for storage:	Plain steels, copper, aluminum, alloys containing copper and aluminum, galvanized steels.
General recommendations for storage:	In order to avoid crystallization or hydrolysis in the urea solution, store under common conditions (optimally to 25°C).

**7.3. Specific end use(s)**

See point 1.2.

**SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**8.1. Control parameters**

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Indicative occupational exposure limit values (IOELVs) for the protection of workers from chemical risks according to the Directive 98/24/EC.

Name of Agent	CAS	NPEL				Notation
		8 hours		Short-term		
		ppm	mg.m <sup>-3</sup>	ppm	mg.m <sup>-3</sup>	
Ammonia, anhydrous	7664-41-7	20	14	50	36	XXX

DNEL value (urea EC 200-315-5) for employees		
Exposure pattern	Route	DNEL
Acute – systematic effects	Dermal	580 mg/kg bw/d
Acute – systematic effects	Inhalation	292 mg/m <sup>3</sup>
Long-term-systematic effects	Dermal	580 mg/kg bw/d
Long-term – systematic effects	Inhalation	292 mg/m <sup>3</sup>
DNEL value (urea EC 200-315-5) for public		
Acute – systematic effects	Dermal	580 mg/kg bw/d
Acute – systematic effects	Inhalation	125 mg/m <sup>3</sup>
Acute – systematic effects	Oral	42 mg/kg bw/d
Long-term-systematic effects	Dermal	580 mg/kg bw/d
Long-term-systematic effects	Inhalation	125 mg/m <sup>3</sup>
Long-term-systematic effects	Oral	42 mg/kg bw/d
PNEC value (urea EC 200-315-5)		
PNEC	Value	Assessment factor
Aqua (fresh water)	0,047 mg/l	1 000
Aqua (marine water)	0,047 mg/l	-

## 8.2. Exposure controls

Ensure sufficient local ventilation.

Eye/face protection:

Use protective goggles with side shields.

Skin protection:

Hand protection: the breakthrough time: > 8 hours; suitable glove material: PVC, natural rubber (latex), butyl rubber, Nitrile rubber; Material to be avoided: leather.

Other: Wear suitable protective gloves and shoes.

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Respiratory protection: In case of insufficient ventilation system, use effective respirator, mask with ammonia-proof filter.

Thermal hazards: Information is not available.

### 8.3. Environmental exposure controls

Prevent uncontrolled release to environment.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties.

Appearance:	Liquid
Color:	Clear
Odor:	Slight ammonia-like
Odor threshold:	Information is not available.
pH:	Max. 10 (10% aqueous liquid )
Melting point/freezing point:	Information is not available.
Initial boiling point and boiling range:	Information is not available.
Flash point:	Information is not available.
Evaporation rate:	Information is not available.
Flammability (solid, gas):	Information is not available.
Upper/lower flammability or explosive limits:	Information is not available.
Vapor pressure:	Information is not available.
Vapor density:	Information is not available.
Relative density:	1 087 – 1 093 kg/m <sup>3</sup>
Solubility (ies):	Information is not available.
Partition coefficient: n-oktanol/water:	Information is not available.
Auto-ignition temperature:	Information is not available.
Decomposition temperature:	Information is not available.
Viscosity:	ca. 1,4 mPa.s at 25°C
Explosive properties:	Information is not available.
Oxidizing properties:	Information is not available.

### 9.2. Other information

Molecular weight:	60,06 kg/kmol
Thermal conductivity (at 25°C):	ca. 0,57 W/m.K
Specific heat (at 25°C):	ca. 3,4 kJ/kg.K

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Surface tension:	min. 65 mN/m
Refractive index at 20°C:	1,3814 – 1,3843
Crystallization point:	-11,5 °C

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

Stable under recommended storage and handling conditions (see Section 7, handling and storage).

### 10.2. Chemical stability

Stable under recommended storage and handling conditions (see Section 7, handling and storage).

### 10.3. Possibility of hazardous reactions

When heated, decomposition of products.

### 10.4. Conditions to avoid

Heating causes thermal decomposition and the gases formation.

### 10.5. Incompatible materials

Not know.

### 10.6. Hazardous decomposition products

NO<sub>x</sub>, NH<sub>3</sub>, CO<sub>2</sub>

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

Acute toxicity: No information about acute toxicity for product available.

<b>For urea (EC 200-315-5):</b>	
Oral:	OECD Guideline 401; Acute oral toxicity: Rat (Wistar): LD <sub>50</sub> : 14 300 mg/kg bw (male)

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Skin corrosion/irritation:	Based on available data, the classification criteria are not met.
Serious eye damage/irritation:	Based on available data, the classification criteria are not met.
Respiratory or skin sensation:	Based on available data, the classification criteria are not met.
Germ cell mutagenicity:	Based on available data, the classification criteria are not met.
Carcinogenicity:	Based on available data, the classification criteria are not met.
Reproductive toxicity:	Based on available data, the classification criteria are not met.
STOT-single exposure:	Information is not available.
STOT-repeated exposure:	Information is not available.
Aspiration hazards:	Information is not available.

## SECTION 12: EKOLOGICAL INFORMATION

### 12.1. Toxicity

The product is not classified as hazardous for environment.

For urea (EC 200-315-5)

Fish:

Short-term: LD<sub>50</sub>: 6 810mg/l

Aquatic invertebrates:

EC<sub>50</sub>/LC<sub>50</sub>: 10 000 mg/l

Algae and aquatic plants:

EC<sub>10</sub>/LC<sub>10</sub> (NOEC): 47 mg/l

### 12.2. Persistence and degradability

It is considered readily biodegradable material.

### 12.3. Bio-accumulative potential

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Biodegradation, in view of the main component (urea) is not assumed.

#### **12.4. Mobility in soil**

The product is soluble in water.

#### **12.5. Results of PBT and vPvB assessment**

The substance does not meet the criteria for PBT and vPvB.

#### **12.6. Other adverse effects**

It is possible to contaminate the surface and ground waters due to improper manipulation.

### **SECTION 13: DISPOSAL CONSIDERATIONS**

#### **13.1. Waste treatment methods**

Depending on the degree and character of contamination, the product is suitable to use for agricultural purposes or for disposal under control by authorized waste contractors. Empty container damaged during the usage have to be stored at the designated place and disposed by combustion in a solid waste incineration plant.

### **SECTION 14: TRANSPORT INFORMATION**

Product is not classified as dangerous good for transport according to ADR/RID/IMDG Code.

- 14.1. UN Number:** unassigned
- 14.2. UN proper shipping name:** unassigned
- 14.3. Transport hazard class(es):** unassigned
- 14.4. Packing group:** unassigned
- 14.5. Environmental hazards:** AdBlue® is not classified as environmentally hazardous substance according to the ADR/RID/IMDG Code.
- 14.6. Special precautions for user:** Transported in insulated tank trucks or palletized plastic tanks (IBC). Materials suitable for these tanks are alloy steels, various plastics, as well as

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metal tanks with plastic coating. Plain steels, copper, aluminum, alloys containing copper and aluminum, galvanized steels must not be used.

**14.7. Transport in bulk according to Annex II of Marpol and the IBC Code:**

Unassigned

**SECTION 15: REGULATORY INFORMATION**

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

Corrigendum to Regulation (EC) No 1907/2006 of the European Parliament and of the Council on Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and as amended;

REGULATION (EC) No 1272/2008 of the European Parliament 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 and as amended;

Commission Regulation (EU) 2015/830 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH);

Directive of European parliament and Council No 2014/27/EU;

Act No 79/2015 Z.z. on waste;

Regulation (EC) No 2015/830, changing the Regulation of European Parliament and Council (ES) No 1907/2006 on registration, evaluation, authorization and restriction of chemicals (REACH).

**SECTION 16: OTHER INFORMATION**

**16.1. Used information sources**

Available information form DUSLO, a.s. and chemical safety report for urea.

**16.2. Instructions for the training**

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Instructions for the manipulation with product shall be included into the educational system on the work safety (initial training, training at the workplace, repeated trainings) according to the specific conditions at the workplace.

### 16.3. List of relevant H-phrases

XXX

### 16.4. Changes executed within the revision

SECTION	SUB-SECTION	SUB-HEADING	CHANGE DESCRIPTION
Entire document			Change of formatting and wording
1.	1.2.	Relevant identified uses	Wording adjustment
1.	1.3.	Supplier	Email address adding
1.	1.3.	Representative Office SVK	Complete adding
1.	1.4.	Emergency telephone number	Phone number and institution name adding
2.	2.1.	Classification of the substance or mixture	Wording adjustment
2.	2.2.	Label elements	Adding
2.	2.3.	Other hazards	Adding
3.	3.1.	Substances	Table adding, corrections of substance denominations, adding of impurities, remark adding
3.	3.2.	Mixtures	Wording adjustment
4.	4.1.	Description of first aid measures	Removal of "General Remarks" part – this part is not required in Regulation (ES) No. 2015/830
4.	4.1.	Description of first aid measures	Wording adjustment for: „Inhalation“; „Skin contact“; „Eye Contact“;

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			„Ingestion“; „Clothing Exposure“
4.	4.2.		Adding the information on information availability
4.	4.3.		Adding the information on information availability
5.	5.1.	Extinguishing media	Wording adjustment and adding
5.	5.2.		Adding the information on information availability
5.	5.3.		Adding the information on information availability
6.	6.1.		Change of text formatting
6.	6.2.		Wording adjustment
6.	6.3.		Wording adjustment and adding
7.			Wording adjustment and adding
8.	8.1.		Wording adjustment and adding Adding the table showing values NPEL a DNEL.
8.	8.2.		Wording adjustment
9.	9.1.		Wording adjustment and adding
9.	9.2.		Adding to the table
10.			Wording adjustment and change of text formatting
11.			Wording adjustment and change of text formatting, Data

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			correction
12.			Wording adjustment and change of text formatting, Data correction
13.			Wording adjustment and change of text formatting
14.			Wording adjustment and change of text formatting
15.			Wording adjustment and change of text formatting. Adding of relevant regulations => Regulation of European Union (ES) No 2015/830
16.			Wording adjustment and change of text formatting
16.	16.2.		Adding the entire subsection
16.	16.5.		Adding the entire subsection

### 16.5. Other information

This 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 process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy themselves as to the suitability of such information for his own particular use.

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