



## **1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY**

Product name AdBlue®.

Company

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## **2. COMPOSITION / INFORMATION ON INGREDIENTS**

Composition	Urea
Concentration	32.5%
CAS No.	57-13-6
EINECS No.	200-315-5
Further Information	Aqueous solution of Urea

## **3. HAZARDS IDENTIFICATION**

Main hazards: No Significant Hazard

## **4. FIRST AID MEASURES**

Skin contact: May cause irritation to skin. Wash off immediately with plenty of soap and water. Remove contaminated clothing. Seek medical attention if irritation or symptoms persist.

Eye contact: May cause irritation to eyes. Rinse immediately with plenty of water for 15 minutes holding the eyelids open. Seek medical attention if irritation or symptoms persist.

Inhalation: May cause irritation to mucous membranes. Move the exposed person to fresh air.

Ingestion: May cause irritation to mucous membranes. DO NOT INDUCE VOMITING. Seek medical attention if irritation or symptoms persist.

## **5. FIRE FIGHTING MEASURES**

Extinguishing media: Use extinguishing media appropriate to the surrounding fire conditions.

Fire hazards: Burning produces irritating, toxic and obnoxious fumes.

Protective equipment Wear suitable respiratory equipment when necessary.

## **6. ACCIDENTAL RELEASE MEASURES**

Personal precautions: Ensure adequate ventilation of the working area.

Environmental precautions: Do not allow product to enter drains. Prevent further spillage if safe.

Clean up methods: Absorb with inert, absorbent material. Sweep up. Transfer to suitable, labelled containers for disposal. Clean spillage area thoroughly with plenty of water.

## **7. HANDLING AND STORAGE**

Handling: Avoid contact with eyes and skin. Ensure adequate ventilation of the working area. Adopt best Manual Handling considerations when handling, carrying and dispensing. In order to avoid crystallisation or hydrolysis of AdBlue®. It is recommended to store the product under normal conditions at temperatures between -5 to 30°C. This product is not flammable.

Storage: Keep in a cool, dry, well-ventilated area. Keep containers tightly closed. Store in correctly labelled containers. Avoid subsoil penetration.

Suitable packaging: Tanks and related facilities which may get in contact with AdBlue®, shall be made of high alloyed austenitic Cr-Ni Steel and Mo-Cr-Ni steel according to DIN EN 10 088-1 to 3 (e.g. 1.4541 and 1.4571). UNSUITABLE: Materials such as copper, copper-containing alloys and unalloyed and galvanised steels are not suitable. Under these conditions AdBlue® has a shelf life of at least one year.

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Engineering measures: Ensure adequate ventilation of the working area.

Hand protection: Chemical resistant gloves (PVC)

Eye protection: In case of splashing, wear: Approved safety goggles.

Protective equipment: Wear protective clothing.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Description:	Liquid.
Colour:	Colourless.
Odour:	Slight, ammonia
pH:	10
Boiling point:	103°C
Relative density:	1.087-1.093 g/cm <sup>3</sup> @ 20 Deg. C.
Water solubility:	miscible in water.
Viscosity:	1.4 mPas @ 25 Deg. C.

As Sold specification to ISO 22241

### Specification:

Urea	31.8 – 33.2	% by weight
Alkalinity as NH <sub>3</sub>	max. 0.2	% by weight
Biuret	max. 0.3	% by weight
Insolubles	max. 20	mg/kg
Aldehyde	max. 5	mg/kg
Phosphate (PO <sub>4</sub> )*	max. 0.5	mg/kg
Aluminium*	max. 0.5	mg/kg
Calcium*	max. 0.5	mg/kg
Iron*	max. 0.5	mg/kg
Copper*	max. 0.2	mg/kg
Zinc*	max. 0.2	mg/kg
Chromium*	max. 0.2	mg/kg
Nickel*	max. 0.2	mg/kg
Magnesium*	max. 0.5	mg/kg
Sodium*	max. 0.5	mg/kg
Potassium*	max. 0.5	mg/kg
Density at 20°C	1087.0 - 1093.0	kg/m <sup>3</sup>
Refractive index at 20°C	1.3814 - 1.3843	(-)
Identity identical to reference		(-)

The analytical methods are defined in ISO 22241-2.

\* Contents should be analytically checked for non-dedicated containers/filling equipment prior to use using the methods specified in ISO 22241-2.

### Storage:

To maintain the product quality it is recommended that AdBlue® is stored below 25°C and out of direct sunlight

Shelf Life (in accordance with ISO 22241-3)

Constant ambient storage temperature (°C)	Minimum shelf life (months)
≤10	36
≤25	18
≤30	12
≤35	6
≥35	Significant decomposition test before use

### Freezing:

AdBlue® will begin to freeze at -11.5°C; this does not affect the product quality or strength. The liquid phase of a partially frozen solution will still be at the required concentration and may continue to be used. The remaining frozen portion may be used after allowing to thaw.

**10. STABILITY AND REACTIVITY**

Stability: Stable under normal conditions.

Materials to avoid: Strong oxidising agents. Nitrites.

Hazardous decomposition products: Ammonia

**11. TOXICOLOGICAL INFORMATION**

Acute Oral Toxicity	LD50/Oral/Rat = 14300 mg/kg
Skin Irritation	LD50/Oral/Mouse = 11500 mg/kg
Eye Irritation	May cause eye irritation
Genotoxicity In Vitro	Urea has not caused sensitisation on laboratory animals No adverse health effects are known or expected under normal use

**12. ECOLOGICAL INFORMATION**

Eco toxicity

AdBlue®.	Daphnia LC50/24h = 1000 mg/l Fish LC50/96h = >6810 mg/l
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Degradability: Do not allow uncontrolled discharge of the product into the environment. Biodegradable.

**13. DISPOSAL CONSIDERATIONS**

General information: Dispose of in compliance with all local and national regulations.

**14. TRANSPORT INFORMATION**

Product is not classified, i.e. is not regarded as a dangerous material according to the Orange Book of UNO and international codes of transport, e.g. RID (railway), ADR (road transport) and IMDG (sea transport).

**15. REGULATORY INFORMATION**

Risk phrases: NSH - No Significant Hazard.

**16. OTHER INFORMATION**

Further information: The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. 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 other process.

NoxDown Ltd are not responsible for any damage or injury resulting from abnormal use. Or from any failure to follow appropriate practices or from hazards inherent in the nature of the product.

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