

# Material Safety Data Sheet

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Issue date: January 2011

## ADBLUE

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name: ADBLUE****Other Names:** AUS32 (Aqueous Urea Solution 32.5%)**Recommended Use:** Used in a selective catalytic reduction (SCR) process to reduce emissions of oxides of nitrogen from the exhaust of diesel engine motor vehicles*Intended for industrial use only.**For further information, refer to the product technical data sheet.***IMPORTER/SUPPLIER****BRENTAG PTY. LTD.**

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### 2. HAZARDS IDENTIFICATION

**AUSTRALIAN CLASSIFICATION**

Not classified as hazardous according to the criteria of Safe Work Australia Council (SWAC).

**Hazard Category:** None allocated**Hazard Classification:** NON-HAZARDOUS SUBSTANCE, NON-DANGEROUS GOODS.**Risk Phrases:** None allocated.**Safety Phrases:** None allocated.**Poison Schedule (Australia):** Not scheduled.**Signal Word(s):** None allocated

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<b>SUBSTANCE NAME</b>	<b>Proportion</b>	<b>CAS Number</b>
Urea	32.5%	57-13-6
Water	Balance	7732-18-5

### 4. FIRST AID MEASURES

**Ingested:**

DO NOT INDUCE VOMITING. Rinse mouth with water. Never give anything by mouth to an unconscious person. Rinse mouth with water. If symptoms develop seek medical attention. If large quantities ingested seek medical attention immediately. Show this sheet to the doctor.

**Eye:**If contact with the eye(s) occurs, flush the eye with copious amounts of water for at least 15 minutes holding eyelid(s) open. Take care not to rinse contaminated water into the non-affected eye. Remove contact lenses, if present and easy to do so. Continue rinsing. If symptoms persist seek medical attention. Show this sheet to the doctor. Do **not** use a neutralisation agent.

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**Skin:**

Remove all contaminated clothing and footwear. Wash skin immediately with mild soap and plenty of water (shower if necessary). Clean contaminated clothing and footwear before reuse or discard. In case of inflammation (redness, irritation, ...) obtain medical attention. Show this sheet to the doctor.

**Inhaled:**

If respiratory irritation or distress occurs remove victim to fresh air. Allow the affected person to rest. Apply artificial respiration if not breathing. Seek medical attention if respiratory irritation or distress continues. Show this sheet to the doctor.

**Aggravated Medical Conditions Caused by Exposure.**

Skin contact may aggravate existing skin disease.

**First Aid Facilities:**

Eye wash fountain, safety shower and normal washroom facilities.

**Advice to Doctor:**

All treatments should be based on observed signs and symptoms of distress in the patient. Consideration should be given to the possibility that overexposure to materials other than this product may have occurred. Treat symptomatically. No specific antidote available.

**Further information:**

Use appropriate protective equipment when treating a contaminated person. Place contaminated clothing in a sealed bag for disposal.

**Poisons Information:**

For advice, contact a Poisons Information Centre (e.g. phone Australia 13 1126; New Zealand 0800 764 766) or a doctor (at once).

**5. FIRE-FIGHTING MEASURES****Extinguishing Media:**

**Recommended:** In case of nearby fire, use of all extinguishing media allowed.

**Hazards from Combustion Products:**

During combustion or on thermal decomposition (pyrolysis), toxic gases are released - carbon oxides (CO), toxic nitrogen oxides (NO<sub>x</sub>) and Ammonia.

**Precautions for Fire Fighters and Special Protective Equipment:**

Fire fighters to wear full protective clothing and self-contained breathing apparatus (SCBA) in confined spaces, oxygen deficient atmospheres or if exposed to products of decomposition. Cool down containers/equipment exposed to heat with a water spray. If safe to do so, move undamaged containers from fire area. Avoid fire-fighting water entering the environment.

**Hazchem Code:** None allocated

**Flammability:** Non-Combustible.

**6. ACCIDENTAL RELEASE MEASURES****PERSONAL PRECAUTIONS:**

Eliminate every possible source of ignition (open fire, sparks, smoking, ...). Evacuate all personnel immediately and ventilate area. Avoid breathing vapour and contact with skin and eyes. Wear recommended personal protective equipment. (See Section 8: Exposure Controls/Personal Protection)

**ENVIRONMENTAL PRECAUTIONS:**

Shut off leaks if without risks. Dike in the spilled product as much as possible with inert material. Prevent entry of product in public water, sewers or soil. Notify authorities if product enters sewers or public waters. Spills may be reportable to the state and/or local agencies, the Environmental Protection Authority, or your local Waste Management Authority.

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**METHODS FOR CLEANING UP:**

Collect the spillage in closable, suitable disposal containers. Clean up any spills as soon as possible, using an inert absorbent material. For the removal of the waste product, (see Section 13: Disposal Considerations). Residue is to be washed down with plenty of water. Keep the recovered washings for subsequent disposal. (see Section 13 "Disposal Considerations").

**Dangerous Goods - Initial Emergency Response Guide (IERG) (SAA/SNZ HB76)**

Not applicable.

**7. HANDLING AND STORAGE****PRECAUTIONS FOR SAFE HANDLING**

Avoid breathing vapour/sprays/mists and contact with skin and eyes. Wear recommended personal protective equipment. (See Section 8: Exposure Controls/Personal Protection)

**Protection against Fire and Explosion:** Eliminate every possible source of ignition (open fire, sparks, smoking, ...).

**CONDITIONS FOR SAFE STORAGE**

Keep only in the original, safely locked container in a cool and well ventilated place. Store away from all heat sources, including direct sunlight.

Keep away from Oxidizing agents, Acids, Bases, Alkalis, Nitrates, Hypochlorites.

**Storage temperature:** < 25 °C

**Packaging materials**

- Recommended: Stainless steel, Synthetic material, Polyethylene, Glass.
- Not suitable: Carbon steel, Copper, Bronze.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION****National Exposure Standards:**

No exposure standards assigned to this specific material by the Safe Work Australia Council (SWAC).

**Biological Limit Values:**

No biological limit allocated.

**Engineering Controls:**

Ensure sufficient ventilation to keep airborne concentrations below exposure limits and as low as practicable. Where engineering controls are indicated by use conditions or a potential for excessive exposure exists, the following traditional exposure control techniques may be used to effectively minimize employee exposures: Extraction to remove vapours at their source.

**Personal Protection Equipment:**

**Eye/Face Protection:** Eye contact should be prevented through use of safety glasses with side shields, splash proof goggles, and/or a full-face shield as appropriate. Final choice of appropriate eye/face protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Eye protection should conform with Australian/New Zealand Standard AS/NZS 1337.1 Personal eye protection - Eye and face protectors for occupational applications.

**Hand Protection:**

Protective gloves ( Butyl rubber, Natural rubber, Nitrile rubber, ...).

Protective gloves must be chosen according to the function of the work station: other chemicals which may be handled, physical protection necessary (resistance to cutting, puncture, heat), dexterity required. The selection of gloves must take into account the extent and duration of use at the workstation. Use suitable chemical-resistant protective gloves (compliant with AS/NZS 2161.1: Occupational protective gloves - Selection, use and maintenance). Contact a supplier whose gloves are approved to AS/NZS 2161.1

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**Respiratory Protection:** If engineering controls are not effective in controlling airborne exposure then respiratory protective equipment should be used suitable for protecting against airborne contaminants. Filtering respiratory protective device with a specific gas canister. Final choice of appropriate respiratory protection will vary according to individual circumstances i.e. methods of handling or engineering controls and according to risk assessments undertaken. Reference should be made to Australian/New Zealand Standards AS/NZS 1715, Selection, Use and maintenance of Respiratory Protective Devices; and AS/NZS 1716, Respiratory Protective Devices.

### Skin and Body Protection

Wear protective clothing including long-sleeved clothing (i.e. shirts and pants) and chemical resistant apron where clothing is likely to be contaminated. Consideration must be given to both durability as well as permeation resistance. Launder contaminated clothing before reuse. It is advisable that a local supplier of personal protective clothing is consulted regarding the choice of material.

**Selection Criteria:** Protective equipment must be chosen according to current AS/NZS standards and in cooperation with the supplier of protective equipment. Personal protective equipment must be defined after risk assessment for the workstation.

### Workplace Hygiene Measures:

Personal hygiene is an important work practice exposure control measure and the following general measures should be taken when working with or handling this material:

1. Wash as often as necessary.
2. Do NOT eat or drink in the workplace.

**Collective emergency equipment:** Personal protective equipment available close by in case of emergency. Emergency equipment, first-aid box with instructions readily available, safety shower and eye fountain for collective emergency.

**Further information:** The user is responsible for monitoring the working environment in accordance with local laws and regulations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Clear colourless liquid.
<b>Odour:</b>	Odour of ammonia.
<b>pH:</b>	9.8 - 10 (10% solution)
<b>Boiling Point:</b>	Not available.
<b>Congealing/Melting point:</b>	-11.5 °C
<b>Decomposition temperature:</b>	100 °C
<b>Flash Point:</b>	Not applicable.
<b>Flammability Limits:</b>	Not applicable.
<b>Vapour pressure:</b>	6.4 kPa (40°C)
<b>Density</b>	approx. 1.09 kg/L @ 20°C
<b>Oxidizing properties:</b>	Not available.
<b>Solubility in Water:</b>	Completely soluble.
<b>Solubility in Organic Solvents:</b>	Soluble in Ethanol, Acetic acid, Hydrogen chloride.
<b>Octanol/water partition coefficient:</b>	Log POW -1.59 @ 20°C

## 10. STABILITY AND REACTIVITY

### CHEMICAL STABILITY:

Stable under normal conditions of use.

### CONDITIONS TO AVOID:

High temperatures.

### INCOMPATIBLE MATERIALS:

Oxidizing agents, Acids, Bases, Alkalis, Nitrates, Hypochlorites.

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**HAZARDOUS DECOMPOSITION PRODUCTS:**

On combustion or on thermal decomposition (pyrolysis) releases carbon oxides (CO), toxic nitrogen oxides (NOx) and ammonia.

**HAZARDOUS REACTIONS:**

Hazardous Polymerisation will not occur.

**11. TOXICOLOGICAL INFORMATION****Acute Health Effects:****Ingested:**

Ingestion of this product may irritate the gastric tract causing nausea, vomiting and diarrhea.

**Eye:**

May be slightly irritating to eyes with possible effects including redness, irritation and pain.

**Skin:**

May be slightly irritating to skin with possible effects including redness, irritation and pain.

**Inhaled:**

If misted or sprayed, inhalation may irritate the respiratory tract with effects including cough and shortness of breath.

**Acute Toxicity:**

Urea: LD50 (Rat, oral): > 5000 mg/kg

Urea: LD50 (Rat, dermal): > 5000 mg/kg

**Chronic Toxicity:**

No information available.

**Other toxicological information:**

Information on the webaddress <http://tcsweb3.jrc.it/esis/> (see IUCLID Data Sheets).

**12. ECOLOGICAL INFORMATION****Ecotoxicity:**

- Urea: LC50 (Fish, 48 h): > 10000 mg/L (Leusiscus idus)
- Urea: EC50 (Daphnia magna, 24 h): > 10000 mg/L

**Biodegradability:**

Biodegradable.

**Mobility:**

Product completely soluble in water.

**Bioaccumulation:**

Bioaccumulation not expected.

**Other ecological information:**

Information on the webaddress <http://tcsweb3.jrc.it/esis/> (see IUCLID Data Sheets).

ThBOD: 0.265 g O<sub>2</sub>/g Substance

BOD: 0.090 g O<sub>2</sub>/g Substance

BOD (%ThOD): 34 % ThOD

WGK class (Germany): 1 ( Weak water pollutant).

Water damaging (The Netherlands): 11

Decontamination exertion (The Netherlands): B

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**Environmental Protection:**

Avoid contaminating waterways, drains or sewers.

**13. DISPOSAL CONSIDERATIONS****RESIDUES FROM PRODUCT**

**Destruction/Disposal:** Chemical additions, processing or otherwise altering this material may make the waste management information presented in this MSDS incomplete, inaccurate or otherwise inappropriate. Dispose of in accordance with relevant national and local regulations, EPA requirements and safety regulations at an authorised site.

**CONTAMINATED PACKAGING**

Packaging is to be used exclusively for the packaging of this product. After use, empty and close the packaging very carefully. Dispose of at an authorised site.

**NOTE:** The user's attention is drawn to the possible existence of local regulations regarding disposal.

**14. TRANSPORT INFORMATION**

**UN Number:** None allocated

**Proper Shipping Name:** None allocated

**Dangerous Goods Class:** None allocated

**Subsidiary risk:** None allocated

**Packing Group:** None allocated

**Hazchem Code:** None allocated

**Road and Rail Transport: (Australia)**

Not classified as a Dangerous Good according to the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG Code) for transport by road and rail.

**Marine Transport:**

Not classified as a Dangerous Good according to the International Maritime Organization Rules (Maritime Dangerous Goods Code - IMDG Code) for transport by sea.

Marine pollutant: NO

**Air Transport:**

Not classified as a Dangerous Good according to the International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.

**NOTE:** The above regulatory prescriptions are those valid on the date of publication of this SDS. Given the possible evolution of transport regulations for hazardous materials, it would be advisable to check their validity with your sales office.

**15. REGULATORY INFORMATION**

**Poison Schedule (Australia):** Not scheduled

**INVENTORY STATUS:**

<i>Inventory</i>	<i>Status</i>
Australia (AICS)	Y

Y = all ingredients are on the inventory.

E = All ingredients are on the inventory or exempt from listing.

P = One or more ingredients fall under the polymer exemption or are on the no longer polymer list. All other ingredients are on the inventory or exempt from listing.

N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing.

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### 16. OTHER INFORMATION

**Revision Date:** Sun, 9 January 2011**Supersedes :** NEW**Reasons For Revision:**

1) Review against current SWAC/NOHSC criteria and latest information from manufacturer.

The customer is advised to consult the product Technical Data Sheets for further information including advice on suitable equipment.

MSDSs are updated frequently. Please ensure that you have a current copy.

**Key Legend Information:**

ACGIH - American Conference of Governmental Industrial Hygienists

AICS - Australian Inventory of Chemical Substances

ASCC - Australian Safety and Compensation Council

CAS - Chemical Abstracts Service

EPA - Environmental Protection Agency [Int]

ERMA - Environmental Risk Management Authority [NZ]

EU - European Union

GHS - United Nations - Globally Harmonized System of Classification and Labelling of Chemicals[Int]

HSNO - Hazardous Substances and New Organisms [NZ]

IACR - International Agency for Research on Cancer

IATA - International Aviation Transport Authority [Int]

ICAO - International Civil Aviation Organization [Int]

IMDG - International Maritime Dangerous Goods [Int]

IMO - International Maritime Organisation. [Int]

NTP - National Toxicology Program

NIOSH - National Institute for Occupational Safety and Health [US]

NOHSC - National Occupational Health &amp; Safety Commission

NZIoC - New Zealand Inventory of Chemicals [NZ]

OSHA - Occupational Safety and Health Administration [US]

SUSMP - Standard for the Uniform Scheduling of Medicines and Poisons [Aust][Formerly SUSDP]

STEL - Short Term Exposure Limit [Int]

SWAC - Safe Work Australia Council [Formerly ASCC]

TWA - Time Weighted Average [Int]

WES - Workplace Exposure Standard [NZ]

[Aust/NZ] = Australia/New Zealand

[Int] = International

[US] = United States of America

**Principal References:**

Material Safety Data Sheet - ADBLUE issued by BRENNTAG N.V., Belgium; and BRENNTAG Nederland B.V., The Netherlands: Date Prepared: 27/8/2010, Revision: 1; Information supplied by manufacturer, reference sources including the public domain.

**Disclaimer:**

This Material Safety Data Sheet should be used in conjunction with the Technical Data Sheet. It does not replace them. The information given is based on our knowledge of the health and safety data of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any purpose other than that for which it was intended. If clarification or further information is needed to enable appropriate risk assessment, the user should contact Brenntag Pty. Ltd. Our responsibility for products is sold subject to our standard terms and conditions sent to customers. No liability whatsoever can be accepted with regard to the handling, processing or use of the product concerned which, in all cases, shall be in accordance with the appropriate regulations and / or legislation.

**End of MSDS**