Safety Data Sheet
AdBlue® / AUS32

Safety Data Sheet according to WHS and the ADG requirements

1. IDENTIFICATION

Product Identifier

Product Name	AdBlue®
Synonyms	AUS 32 Aqueous Urea Solution, DEF (Diesel Exhaust Fluid)
Other Means of Identification	Not available
Recommended Use & Restrictions of Use	Used for NOx reduction in exhaust gases from vehicles with diesel engines. Urea & water additive to be used for injection into diesel SCR exhaust systems. Use as directed by engine manufacturer.

Supplier's Details

Company	DGL AUSblue Pty Ltd
Address	PO Box 5386, Brassall QLD 4306, Australia
Telephone	1300 AUSBLUE (1300 287 258)
Email	ausblue.info@dglgroup.com
Website	ausblue.com.au

Emergency Telephone Number

Association	Australian Poisons Information Centre
Telephone Number	13 11 26
Emergency Services	000

2. HAZARDS IDENTIFICATION

Non-Hazardous Chemical. Non-Dangerous Goods.

According to the WHS Regulations and the ADG Code

Classification of the Substance/Mixture

Not Applicable

Label Elements

GHS Label Elements	Not Applicable
Hazard Statement/s	Not Applicable

Precautionary Statement

Keep out of reach of children. Avoid contact with skin and eyes and avoid breathing dust/vapour or spray mist. Wear overalls, impervious gloves and chemical goggles. Use only in well ventilated areas. Store away from other chemicals. Keep containers closed when not in use.

Harmful if swallowed. Give plenty of water to drink and seek medical advice. If in eye, flush gently with running water for 15 minutes. If inhaled, remove from exposure area. If irritation persists, seek medical attention. If skin or hair contact occurs, remove contaminated clothing and flush affected areas with running water. If irritation persists, seek medical attention.

Refer to Waste Management Authority. Dispose of material through a licensed waste contractor.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances Mixture of demineralised water & urea.

Mixtures

CAS No.	% (weight)	Name
57-13-6	30-40	Urea
7732-18-5	>60	Demineralized water
	Total: 100%	

4. FIRST AID MEASURES

General Information Not expected to be a health hazard when used under normal conditions

Eye Contact
- Flush eye with copious quantities of water.
- If persistent irritation occurs, obtain medical attention.

Skin Contact
- Remove contaminated clothing.
- Flush exposed area with water and follow by washing with soap if available.

Inhalation
- No treatment necessary under normal conditions of use.
- If symptoms persist, obtain medical advice.

Ingestion
- No treatment necessary unless large quantities are swallowed.
- If symptoms persist, obtain medical advice.

Indication of immediate medical attention/special treatment needed
- Treat symptomatically

5. FIRE FIGHTING MEASURES

Extinguishing Media The product contains a substantial proportion of water, therefore there are no restriction on the type of extinguisher that may be used. Choice of extinguisher media should take into account surrounding areas.

Though the material is non-combustive, evaporation of water from the mixture, cause by the heat of nearby fire, may produce floating layers of combustible substances. In such an event consider;
- Foam
- Dry chemical powder
- Carbon dioxide

Special hazards arising from the chemical
- When heated, releases ammonia.
- When heated to decomposition, releases toxic fumes of nitrogen oxides, ammonia, cyanuric acid.

Advice for Fire Fighters
- Clear fire area of non-emergency personal.
- Alert fire brigade: define location, nature of hazard.
- Wear personal safety equipment: breathing apparatus, gloves.
- Use firefighting procedures suitable for the surrounding environment.
- **Do not** approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected locations.
- If safe to do so, remove containers from path of fire.

6. ACCIDENTAL RELEASES MEASURES

Personal precautions, protective equipment and emergency procedures
See 8. Exposure Controls/Personal Protection

Environmental precautions
See 12. Ecological information

Methods & materials for containment & cleaning up

Containment
- Use appropriate containment to avoid environmental contamination.
- Use absorbent material such as sand, earth, vermiculite.

Major spill
- Alert fire brigade: define location, nature of hazard.

Clean up
- Use absorbent material such as sand, earth, vermiculite.
- Prevent entry to sewers, water courses, basements or confined areas.

7. HANDLING & STORAGE

Precautions for safe handling
- Use in well ventilated area.
- Properly dispose of contaminated rags or cleaning materials.
- Use personal safety equipment, including safety footwear when drums are being handled.
- Store away from incompatible materials.

Conditions for safe storage, including anyincompatibilities Suitable containers
- Check all containers are clearly labelled and free from leaks
- Polyethylene (PE)
- Polypropylene (PP)

Incompatible storage
Avoid.
- Storage/mixing with oxidizing agents.
- Carbon steels, zinc coated carbon steels, mild iron.
- Non-ferrous metals & alloys: copper, copper alloys, zinc, lead.
- Solders containing lead, silver zinc, copper.
- Aluminium, aluminium alloys.
- Magnesium, magnesium alloys.
- Plastics or metals coated with nickel.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters
The following materials had no OEL's,
- AdBlue®, AUS 32, DEF.

Ingredient Data See separate SDS for UREA

8. EXPOSURE CONTROLS/PERSONAL PROTECTION *(continued)*

Exposure Controls	
Appropriate engineering controls	• remove a hazard or place a barrier between the worker & the hazard. The basic types of engineering controls are, • process controls: change the way a job activity or process is done to reduce the risk. • enclosure and/or isolation of emission source: keep a selected hazard physically away from the worker and ventilation that appropriately removes or adds air to the work environment.
Personal protection	
Eye and face protection	• Safety glasses with side shield
Skin protection	See Hands/feet protection below
Hands/feet protection	• Protective gloves e.g. PVC safety gloves • Safety footwear or safety gum boots e.g. rubber boots
Body protection	• Overalls • PVC apron
Other protection **Thermal protection**	Barrier cream, skin cleansing cream, eye wash unit. Not available.
Respiratory protection	Particulate. (AS/NZS 1716 & 1715, EN 143:000 & 149:001, ASNI Z88 or national equivalent)

9. PHYSICAL and CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear colourless slightly alkaline liquid with odour of ammonia. Mixes with water.	**Density**	1.09 g/cm3
		Relative density (water=1)	1.09@20C
		Solubility in water	> 100 g/l
Physical State	liquid	**Partition Coefficient**	Not determined
Odour	Slight ammonia	**Auto ignition temp.**	Not determined
Odour threshold	Not determined	**Decomposition temp.**	100
pH as supplied	Not determined	**Viscosity (cSt)**	Not determined
Melting point / freezing point (°C)	-11.5	**Molecular weight (g/mol)**	Not determined
Initial boiling point & boiling range (°C)	100	**Taste**	Not determined
Flash point	Not applicable	**Explosive properties**	Not Available
Evaporation rate	Not determined	**Vapor Density (Air=1)**	Non-determined

9. PHYSICAL and CHEMICAL PROPERTIES *(continued)*

Flammability	Non-Flammable	**Oxidising properties**	Not Available
Upper Explosive Limit	Not Available	**Surface Tension**	Not Available
Lower Explosive Limit	Not Available	**Volatile Component (% vol)**	Not Available
Vapour Pressure (kPa)	6.4 @ 40C	**Gas Group**	Not Available
Solubility in Water	Miscible	**pH as a Solution (1%)**	9.8-10 (10%)
Vapour Density (Air = 1)	Not Available	**VOC (g/L)**	Not Available

10. STABILITY AND REACTIVITY

Reactivity	See 7. Handling and Storage
Chemical stability	• Product is considered stable. • Hazardous polymerization will not occur.
Possibility of hazardous reactions	See 7. Handling and Storage
Conditions to avoid	See 7. Handling and Storage
Incompatible materials	See 7. Handling and Storage
Hazardous decomposition materials	See 7. Handling and Storage

11. TOXICOLOGICAL INFORMATION

Information of toxicological effects

Inhalation	There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.
Ingestion	Urea may cause irritation to the digestive tract, nausea, vomiting, diarrhea, salt depletion, headache, confusion.
Skin contact	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.
Eye contact	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
Chronic	Substance accumulation in the human body may occur and may cause some concern following repeated or long-term occupational exposure.

AdBlue® / AUS 32 Aqueous Urea Solution	**TOXICITY** No adverse health effect are expected If the product is handles in accordance with this Safety Data Sheet.	**IRRITATION** **Eye**: Mild irritation **Skin** contact: Mild irritation **Inhalation**: May cause respiratory irritation **Ingestion:** May cause nausea, vomiting, diarrhea and abdominal pain.

Toxicity

Ingredient	Toxicity	Irritation
AdBlue®	Not available	Not available
Urea	Oral (rat) LD50: 8471 mg/kg [2]	Skin (human): 22mg/3 d (I)- mild
Water	Oral (rat) LD50: >90000 mg/kg [2]	Not available

[1] Value obtained from Europe ECHA Registered Substances – Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS – Register of Toxic Effect of Chemical Substances.*

12 ECOLOGICAL INFORMATION

Toxicity

Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
urea	LC50	96	Fish	5mg/L	4
urea	EC50	48	Crustacea	3910mg/L	4
urea	EC50	96	Algae or other aquatic plants	42184.758mg/L	3
urea	BCF	24	Algae or other aquatic plants	0.05mg/L	4
urea	EC50	384	Crustacea	894.861mg/L	3
urea	NOEC	96	Crustacea	1000mg/L	4
Legend:	*Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*				

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Legislation addressing waste disposal requirement may differ by country, state or territory. Each user must refer to laws operating in their area.

This product may be recycled if unused, or if it has not be contaminated so as the make it unsuitable for its intended use.

Product & packaging disposal

- Do not allow wash water from cleaning or process equipment to enter storm-water drains.
- It may be necessary to collect all wash water for treatment before disposal.
- Disposal to sewer may be subject to local laws & regulations and these should be considered first.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- Dispose of by: burial in a specifically licensed landfill (chemical and/or pharmaceutical waste), or incineration in licensed apparatus (after admixture with suitable combustible material).
- decontaminate empty containers.

14. TRANSPORT INFORMATION

Labels Required

Marine Pollutant NO
HAZCHEM Not Applicable

Land transport (ADG): **NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**
Air transport (ICAO-IATA / DGR): **NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**
Sea transport (IMDG-Code / GGVSee): **NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

15. REGULATORY INFORMATION

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

Non-Hazardous Chemical. Non-Dangerous Goods.

According to the WHS Regulations and the ADG Code

UREA(57-13-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Inventory of Chemical Substances (AICS)

WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS
Australia Inventory of Chemical Substances (AICS)

16. OTHER INFORMATION

This safety data sheet has been prepared by DGL AUSblue Pty Ltd.

This SDS summarises to our best knowledge at the date of issue, the chemical health and safety hazards of the material and general guidance on how to safely handle the material in the workplace. Since DGL AUSblue Pty Ltd cannot anticipate or control the conditions under which the product may be used, each user must, prior to usage, assess and control the risks arising from its use of the material.

If clarification or further information is needed, the user should contact their DGL AUSblue representative or DGL AUSblue Pty Ltd at the contact details on page 1.

DGL AUSblue Pty Ltd's responsibility for the material as sold is subject to the terms and conditions of sale, a copy of which is available upon request.