

SAFETY DATA SHEET

SECTION 1. PRODUCT IDENTIFICATION AND SUPPLY COMPANY DETAILS


Product name:	AdBlue®
Synonyms:	AUS 32 (Aqueous urea solution); DEF (Diesel exhaust fluid); urea solution 32.5%
Recommended use:	Additive for injection into diesel SCR exhaust systems (NO reduction in exhaust gases).
Supplier:	EcoBlue International Pty Ltd
NZBN:	9429047339170
Street Address:	18 Seven Mile Drive, Belfast, Christchurch 8051
Website:	https://www.ecoblue.com
Email:	deliveries@ecoblueinternational.com.au
Telephone:	0800 310 340
Emergency Telephone:	New Zealand - Poisons Information Centre 0800 764 766

SECTION 2. HAZARD IDENTIFICATION

Classification of mixture

	Considered a Hazardous Substance according to the criteria of the New Zealand Hazardous Substances New Organisms legislation. Not regulated for transport of Dangerous Goods.
Poisons Schedule	Not Applicable
Classification^[1]	Serious Eye Damage/Eye Irritation Category 2A, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Skin Corrosion/Irritation Category 2
Legend	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 -Annex VI

Label Elements

Hazard pictogram	
Signal word	Warning
Hazard statement(s)	
H319	Causes serious eye irritation.
H315	Causes skin irritation.
Precautionary Statement(s) – Prevention	
P280	Wear protective gloves, protective clothing, eye protection and face protection.

P264 Wash all exposed external body areas thoroughly after handling.

Precautionary Statement(s) – Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P302+P352	IF ON SKIN: Wash with plenty of water.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statement(s) – Storage

Not Applicable

Precautionary Statement(s) – Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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SECTION 3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO.	%[WEIGHT]
Water	7732-18-5	67.5%
Urea	57-13-6	32.5%

SECTION 4. FIRST AID MEASURES

Australia Poisons Information Centre **13 11 26** | Australia Emergency Services: **000**

Description of first aid measures

Eye contact	<p>If this product comes into contact with eyes:</p> <ul style="list-style-type: none"> Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin contact	<p>If skin contact occurs:</p> <ul style="list-style-type: none"> Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.

Inhalation	<ul style="list-style-type: none"> • If fumes or combustion products are inhaled remove from contaminated area. • Lay patient down. Keep warm and rested. • Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. • Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. • Transport to hospital, or doctor
Ingestion	<ul style="list-style-type: none"> • If swallowed do NOT induce vomiting. • If vomiting occurs, lean patient forward or place on left side (headdown position, if possible) to maintain open airway and prevent aspiration. • Observe the patient carefully. • Never give liquid to a person showing signs of being sleepy or with reduced awareness, i.e. becoming unconscious. • Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. • Seek medical advice

SECTION 5. FIRE FIGHTING MEASURES

Suitable Extinguishing media:

There is no restriction on the type of extinguisher which may be used.

Choice of extinguishing media should take into account surrounding areas. Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.

In such an event consider:

- Foam
- Dry Chemical Powder
- Carbon Dioxide

Specific hazards arising from the substance or mixture.

Fire incompatibility	<p>Avoid contamination with strong oxidising agents as ignition may result.</p> <ul style="list-style-type: none"> • Avoid strong acids, acid chlorides, acid anhydrides and chloroformates.
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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> • Alert Fire Brigade and tell them location and nature of hazard. • Wear breathing apparatus plus protective gloves in the event of a fire. • Prevent, by any means available, spillage from entering drains or water courses. • Use firefighting procedures suitable for surrounding area. • DO NOT approach containers suspected to be hot. • Cool fire exposed containers with water spray from a protected location. • If safe to do so, remove containers from path of fire. • Equipment should be thoroughly decontaminated after use.
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Fire/Explosion	<ul style="list-style-type: none"> • Noncombustible. • Not considered to be a significant fire risk. • Expansion or decomposition on heating may lead to violent rupture of containers. • Decomposes on heating and may produce toxic fumes of carbon monoxide (CO). • May emit acrid smoke. <p>Decomposition may produce toxic fumes of: carbon dioxide (CO₂) nitrogen oxides (NO_x) other pyrolysis products typical of burning organic material.</p> <p>May emit corrosive fumes.</p>
HAZCHEM	Not Applicable

SECTION 6. ACCIDENTAL RELEASE MEASURES

Clear area of all unprotected personnel. If contamination of sewers or waterways has occurred advise local emergency services.

Personal precautions, protective equipment and emergency procedures

See section 8.

Environmental precautions

See section 12.

Methods and material for containment and cleaning up

Minor Spills	<p>Slippery when spilt.</p> <ul style="list-style-type: none"> • Clean up all spills immediately. • Avoid breathing vapours and contact with skin and eyes.
	<ul style="list-style-type: none"> • Control personal contact with the substance, by using protective equipment. • Contain and absorb spill with sand, earth, inert material or vermiculite. • Wipe up. • Place in a suitable, labelled container for waste disposal.
Major Spills	<p>Slippery when spilt. Minor hazard.</p> <ul style="list-style-type: none"> • Clear area of personnel. • Alert Fire Brigade and tell them location and nature of hazard. • Control personal contact with the substance, by using protective equipment as required. • Prevent spillage from entering drains or water ways. • Contain spill with sand, earth or vermiculite. • Collect recoverable product into labelled containers for recycling. • Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal. • Wash area and prevent runoff into drains or waterways. • If contamination of drains or waterways occurs, advise emergency services.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<ul style="list-style-type: none"> Limit all unnecessary personal contact. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. When handling DO NOT eat, drink or smoke. Always wash hands with soap and water after handling. • Keep containers securely sealed when not in use Avoid physical damage to containers. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. DO NOT allow material to contact humans, exposed food or food utensils. DO NOT allow clothing wet with material to stay in contact with skin. DO NOT enter confined spaces until atmosphere has been checked.
Storage requirements	<p>Store between 10 and 30°C</p> <ul style="list-style-type: none"> Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. Observe manufacturer's storage and handling recommendations contained within this SDS

Conditions for safe storage, including any incompatibilities.

Suitable container	<ul style="list-style-type: none"> Polyethylene or polypropylene container. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	<ul style="list-style-type: none"> Avoid reaction with oxidising agents Avoid strong acids, acid chlorides, acid anhydrides and chloroformates. Dry urea ignites or explodes on reaction with ammonium nitrate, chromyl chloride, nitrosyl perchlorate, phosphorus pentachloride

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

☐ Emergency Limits

Ingredient	TEEL - 1	TEEL - 2	TEEL-3
urea	30mg/m3	280 mg/m3	1,700 mg/m3

Occupation Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
urea	E	≤ 0.01 mg/m ³

Material Data

Appropriate engineering controls	Provide adequate ventilation in warehouse or closed storage areas. Ventilation can remove or dilute an air contaminant and general exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection.
Personal protection	
Eye and face protection	<ul style="list-style-type: none"> Safety glasses with side shields; or as required. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
Skin protection	See hand protection below
Hands/feet protection	<ul style="list-style-type: none"> Wear protective gloves, e.g. Neoprene, Butyl or Viton
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> Overalls Eyewash unit

Recommended material(s)

Respiratory protection

Type -P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Colourless clear liquid when free from crystals		
Physical state	Liquid	Relative density (water = 1)	1.09@20 °C
Odour	Odourless	Partition coefficient n-octanol / water	Not available

Odour threshold	Not Available	Auto-ignition temperature (°C)	Not available
pH	Not Available	Decomposition temperature (°C)	100
Melting point / freezing point (°C)	-11.5	Viscosity (cSt)	Not available
Boiling Point (°C)	100	Molecular weight (g/mol)	Not available
Flash Point	Not available	Taste	Not available
Evaporation rate	Not available	Explosive properties	Not available
Flammability	Not Available	Oxidising properties	Not available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not available
Vapour pressure (kPa)	6.4 @ 40 °C	Gas group	Not available
Solubility in water (g/L)	Miscible	pH as a solution (1%)	9.8 – 10.0 (10%)
Vapour density (Air = 1)	Not Available	VOC (g/L)	Not available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	Not normally a hazard due to non-volatile nature of product Inhalation of vapours or mists may cause respiratory irritation.
Ingestion	Ingestion may result in nausea, abdominal irritation, pain and diarrhoea

Skin contact	<p>Irritation and skin reactions are possible with sensitive skin</p> <p>The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic).</p> <p>This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis.</p>
Eye	The liquid may produce eye discomfort causing transient smarting, blinking
Chronic	<p>The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models).</p> <p>Principal routes of exposure are by accidental skin, eye contact and inhalation of vapours.</p> <p>As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in workplace atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.</p> <p>Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.</p>

AdBlue®	Toxicity	Irritation
		Not Available
urea	Toxicity	Irritation
	Dermal (rat) LD50: 8200 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (rat) LD50: 8471 mg/kg ^[2]	Skin (human): 22 mg/3 d (I) – mild
		Skin: no adverse effect observed (not irritating) ^[1]
water	Toxicity	Irritation
	Oral (Rat) LD50; >90000 mg/kg ^[2]	Not Available
Legend	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	

Acute toxicity	✗	Carcinogenicity	✗
Skin irritation/Corrosion	✓	Reproductivity	✗
Serious Eye Damage/Irritation	✓	STOT – Single Exposure	✓
Respiratory or Skin sensitization	✗	STOT – Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

Legend: ✗ Data either not available or does not fill the criteria for classification
 ✓ Data available or does not fill the criteria for classification.

SECTION 12. ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.

Toxicity

AdBlue	End Point	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

Urea	End Point	Test Duration (hr)	Species	Value	Source
	NOEC (ECx)	5040h	Fish	≥1.71 mg/L	2
	LC50	96h	Fish	4.65 – 8.48 mg/l	4
	EC50	48h	Crustacea	3910 mg/l	4

Water	End Point	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

Legend:

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity
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

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
Urea	Low	Low
Water	Low	Low

Bio accumulative potential

Ingredient	Bioaccumulation
Urea	Low (BCF = 10)

Mobility in soil

Ingredient	Mobility
Urea	Low (KOC = 4.191)

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product/Packaging disposal	<ul style="list-style-type: none"> Recycle wherever possible or consult manufacturer for recycling options. Consult State Land Waste Management Authority for disposal. Bury residue in an authorised landfill. Recycle containers if possible or dispose of in an authorised landfill.
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SECTION 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

Transport in bulk according to Annex II of MARPOL and the IBC code: Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
urea	Not Available
water	Not Available

Transport in bulk in accordance with the ICG Code

Product name	Ship Type
urea	Not Available
water	Not Available

SECTION 15. REGULATORY INFORMATION

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

This substance is to be managed using the conditions specified in an applicable Group Standard

HSR Number	Group Standard
HSR002624	N.O.S. Subsidiary Hazard Group Standard 2020

Please refer to Section 8 of the SDS for any applicable tolerable exposure limit or Section 12 for environmental exposure limit.

Urea is found on the following regulatory lists

- New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals
- New Zealand Hazardous Substances and New Organisms (HSNO) Act - Classification of Chemicals - Classification Data

Water is found on the following regulatory lists

- New Zealand Inventory of Chemicals (NZIoC)

Hazardous Substance Location

Subject to the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Hazard Class	Quantities
Not Applicable	Not applicable

Certified Handler

Subject to Part 4 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Class of substance	Quantities
Not Applicable	Not applicable

Refer Group Standards for further information.

Maximum quantities of certain hazardous substances permitted on passenger service vehicles.

Hazard Class	Gas (aggregate water capacity in mL)	Liquid (L)	Solid (kg)	Maximum quantity per package for each classification
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Tracking Requirements.

Not applicable

National Inventory Status

National Inventory	Status
Australia – AIIICS / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (urea; water)
China - IECSC	Yes
Europe – EINEC/ELINC/NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan – TSCA	Yes
Mexico -INSQ	Yes
Vietnam – NCI	Yes
Russia – FBEPH	Yes

Legend

Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16. OTHER INFORMATION

Revision Date	21/08/2023
Initial Date	16/01/2023

SDS Version Summary

Version	Date of Update	Sections Updated
4.0	16/01/2023	All Sections
5.0	21/08/2023	All Sections

Reason(s) for Issue:

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 EcoBlue International 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 EcoBlue representative or EcoBlue International Pty Ltd at the contact details on page 1.

EcoBlue International 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.

Please read all labels carefully before using product.

This SDS is prepared in accordance with the Safe Work Australia Code of Practice *Preparation of safety data sheets for hazardous chemicals. Code of Practice*. July 2020. www.swa.gov.au.

Acronyms

TEEL:	Temporary Emergency Exposure Limit
NOAE:	No Observed Adverse Effect Level
BCF:	BioConcentration Factors
AIIC:	Australian Inventory of Industrial Chemicals
NOHSC:	National Occupational Health and Safety Commission
STOT:	Specific Target Organ Toxicity
DSL:	Domestic Substances List
NDSL:	Non-Domestic Substances List
IECSC:	Inventory of Existing Chemical Substance in China
EINECS:	European Inventory of Existing Commercial chemical Substances
ELINCS:	European List of Notified Chemical Substances
NLP:	No-Longer Polymers
ENCS:	Existing and New Chemical Substances Inventory
KECI:	Korea Existing Chemicals Inventory
NZIoC:	New Zealand Inventory of Chemicals
PICCS:	Philippine Inventory of Chemicals and Chemical Substances
TSCA:	Toxic Substances Control Act
TCSI:	Taiwan Chemical Substance Inventory
INSQ:	Inventario Nacional de Sustancias Químicas
NCI:	National Chemical Inventory
FBEPH:	Russian Register of Potentially Hazardous Chemical and Biological Substances