BioBlue AdBlue®

Technical Data Sheet

BioBlue AdBlue® is an ISO 22241 compliant AUS32 (32.5% aqueous urea solution) formulated for use in Selective Catalytic Reduction (SCR) emission control systems for diesel engines.

Product Identification

Product Name:
BioBlue AdBlue®

Also known as:
AUS32; Aqueous Urea Solution 32.5%; Diesel Exhaust Fluid (DEF)

Product Description

BioBlue AdBlue® is a high-purity aqueous urea solution containing 32.5% automotive grade urea by mass, specifically formulated for use in Selective Catalytic Reduction (SCR) systems installed on diesel-powered vehicles and equipment.

The product functions as a reductant within SCR emission systems by converting nitrogen oxides (NO_x) present in diesel exhaust gases into elemental nitrogen (N_2) and water vapour (H_2O), thereby supporting compliance with applicable diesel emissions requirements.

BioBlue AdBlue® is manufactured and quality controlled in accordance with applicable ISO 22241 requirements to maintain chemical purity, minimise contamination risk and support SCR system performance. Use of urea solutions containing impurities, incorrect concentration or otherwise deviating from ISO 22241 requirements may adversely affect SCR catalyst performance, dosing system operation, injector performance, vehicle diagnostic systems and emissions compliance.

BioBlue

BioBlue AdBlue®

Product Application

BioBlue AdBlue® is intended for use in diesel-powered equipment fitted with SCR emissions systems including heavy transport vehicles, passenger diesel vehicles, mining equipment, agricultural machinery, construction equipment and stationary diesel generators.

Typical Consumption

Product consumption will vary according to engine type and operating conditions; however, typical AdBlue® consumption is approximately **3–7% of diesel fuel consumption**.

Application Guidance

BioBlue AdBlue® should only be used in systems specifically designed for AdBlue® / DEF operation. Suitability for individual vehicle and equipment applications should be determined with reference to the original equipment manufacturer (OEM) requirements. Product handling and dispensing should utilise dedicated AdBlue® equipment and compatible materials to maintain product integrity.

Physical and Chemical Properties

Property	Specification
Standard Compliance	ISO 22241
Urea concentration limits (ISO 22241-1)	31.8–33.2 %w/w
Product Classification	Non-Hazardous Chemical / Non-Dangerous Goods
Appearance	Clear, colourless liquid with no suspended particles
Odour	Mild ammonia odour
Water Solubility	Complete
Component	**Concentration**
High purity urea (CAS 57-13-6)	31.8–33.2%
Deionised water (CAS 7732-18-5)	Balance
Material Compatibility	
Compatible	Stainless Steel (304, 304L, 316, 316L), Titanium, High-Density Polyethylene (HDPE), Polypropylene (PP), Polytetrafluoroethylene (PTFE), Polyvinylidene Fluoride (PVDF), and Perfluoroalkoxy Alkane (PFA).
Non-Compatible	Carbon steel, zinc-coated carbon steel, mild steel, copper and copper alloys, zinc, aluminium and aluminium alloys, magnesium and magnesium alloys, lead-containing solders, and nickel-coated materials.

Note: Additional chemical safety, composition and compatibility information is available within the BioBlue AdBlue® Safety Data Sheet (SDS).

Product Performance Characteristics

Characteristic	Typical Behaviour
SCR Compatibility	Suitable for use in systems designed for ISO 22241 compliant Diesel Exhaust Fluid (DEF).
Evaporation Behaviour	Water evaporation during improper storage may increase urea concentration and affect conformity with ISO 22241 requirements.
Recommended Storage Temperature	Recommended storage temperature: 5–25°C. Prolonged exposure above 25°C should be avoided. Product shelf life progressively decreases above 30°C.
Thermal Stability	Elevated temperatures may accelerate gradual urea decomposition and ammonia formation. Significant reduction in product shelf life may occur above 35°C and product verification may be required prior to use.
Freezing Point	Approximately −11°C
Freezing and Thawing Behaviour	Freezing and thawing does not permanently affect product performance provided: no contamination occurs; product remains within shelf-life limits; product is fully thawed and homogenised prior to use. Repeated uncontrolled freeze/thaw cycling should be avoided.

BioBlue

BioBlue AdBlue®

Technical Support and Certificates of Analysis (COA) are available upon request.

BioBlue AdBlue®
Sales Support
BioBlue Australia Pty Ltd
180A Cavan Road,
DRY CREEK SA 5094
Australia

1300 211 007
sales@bioblue.com.au

BioBlue AdBlue® Safety Data Sheet (SDS) is available at: www.bioblue.com.au/resources

Storage and Handling

BioBlue AdBlue® should be stored in clean, dedicated systems or containers designed for AdBlue® service and protected from contamination.

Recommended storage conditions:

- Recommended storage temperature: **5–25°C**
- Store in sealed containers or dedicated AdBlue® storage systems designed for appropriate ventilation and contamination control.
- Prevent ingress of dust, fuels, lubricants and foreign matter
- Avoid exposure to direct sunlight/UV
- Avoid prolonged exposure to elevated temperatures

Under typical Australian storage conditions, BioBlue AdBlue® has an expected shelf life of **12 months** from date of manufacture.

Shelf life of AdBlue® is affected by constant ambient storage temperature. Prolonged exposure to elevated temperatures above 25°C may accelerate degradation of the aqueous urea solution through gradual decomposition and water evaporation effects, resulting in changes to product concentration and non-conformance with ISO 22241 requirements. Product begins to crystallize at approximately −11°C. Freezing and thawing do not permanently affect product performance provided product integrity is maintained. Transport storage conditions should be controlled wherever practicable including vehicle insulation systems.

Hazards and Safety

Chemical safety information, hazard identification, first aid measures, handling precautions and emergency response guidance are detailed within the BioBlue AdBlue® Safety Data Sheet (SDS). Users should ensure appropriate safety procedures and risk assessments are implemented prior to handling or use.

AdBlue® Quality Management Standards

BioBlue is licensed by the Verband der Automobilindustrie e.V. (VDA) to use the AdBlue® trademark. BioBlue AdBlue® is manufactured and supplied in accordance with applicable ISO 22241 (ISO 22241-1, ISO 22241-2, ISO 22241-3) requirements relating to product quality, testing and handling. Use of non-compliant Diesel Exhaust Fluid (DEF) may adversely affect SCR system performance and may impact manufacturer warranty conditions where product specifications do not meet OEM requirements.

Information contained within this Technical Data Sheet is based on current technical data and information available at the time of publication and is intended as general guidance regarding the characteristics, handling, storage and use of BioBlue AdBlue®. Users are responsible for determining product suitability for their intended application and for ensuring handling, storage and use are undertaken in accordance with applicable standards, OEM requirements and operating procedures.

BioBlue