

Technical Data Sheet (TDS)

Shell AdBlue®

Diesel Exhaust Fluid



AdBlue is a diesel exhaust fluid used in vehicles with Selective Catalytic Reduction (SCR) technology to reduce harmful gases being released into the atmosphere. AdBlue is a 32,5% solution of high-purity, synthetically manufactured urea in de-mineralized water. It is a safe-to-use fluid.

Shell AdBlue® is certified according to ISO 22241 (ISO 22241-1, ISO 22241-2, ISO 22241-3). This international standard protects your vehicle from contamination which could cause serious damage. Using a urea solution of incorrect or low quality, that does not follow these standards risks costly repairs. The development of Selective Catalytic Reduction (SCR) technology with the AdBlue injection system significantly reduces emissions, allowing vehicles to comply with Euro 4, 5 and 6 legislation.

1. Clear and odourless liquid classified as non-toxic and safe to handle
2. Freezing point – 11 °C
3. Crystallisation upon drying can cause corrosion and spillages should be cleaned using water
4. Corrosive to iron, copper, bronze, and some aluminium alloys
5. The urea in its content should be suitable for the industry, ie the automotive.

Average consumption of **Shell AdBlue®** in a Euro 6 engine is approximately 4 to 6% of diesel use, so 4 to 6 litres of AdBlue® per 100 litres of fuel burnt.

| Typical Properties Shell AdBlue | | | |
|---------------------------------|--------|--------|--------|
| Test Item | Min | Max | Result |
| Urea Content, %m/m | 31,8 | 33,2 | 32,5 |
| Density @20 °C | 1,087 | 1,093 | 1,09 |
| Refractive index @20 °C | 1,3814 | 1,3843 | 1,3829 |
| Alkalinity as NH3 %m/m | - | 0,2 | <0,01 |
| Biuret, %m/m | - | 0,3 | 0,17 |
| Aldehydes, mg/kg | - | 5 | 0,11 |
| Insolubles, mg/kg | - | 20 | 0,86 |
| Phosphate (PO4), mg/kg | - | 0,5 | <0,1 |
| Calcium, mg/kg | - | 0,5 | <0,01 |
| Iron, mg/kg | - | 0,5 | <0,01 |
| Copper ,mg/kg | - | 0,2 | <0,01 |
| Zinc ,mg/kg | - | 0,2 | <0,01 |
| Chromium, mg/kg | - | 0,2 | <0,01 |
| Nickel, mg/kg | - | 0,2 | <0,01 |
| Aluminium, mg/kg | - | 0,5 | <0,01 |
| Magnesium, mg/kg | - | 0,5 | <0,01 |
| Sodium, mg/kg | - | 0,5 | <0,01 |
| Potassium, mg/kg | - | 0,5 | <0,01 |

**These are typical properties and do not constitute a specification, for specification limits please refer to the product specification.*

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Storage and Handling

- Keep away from temperatures above 25°C in transport and storage conditions to maintain long-term shelf life.
- Keep the temperature between 18-23°C as much as possible during production-stock and transportation.
- Keep the transport storage temperature of urea in the AUS 32 at a storage temperature above -5°C to avoid crystallization. The urea contained in AUS 32 crystallizes at -11.5°C. Note that the volume of AUS 32 solidified by crystallisation is 7% higher than the volume of liquid AUS 32.
- Keep it well to prevent any other product from mixing with the airway.
- Storage of product over 25°C for long periods of time due to ammonia formation and pressure rise, the product is hydrolyzed and its shelf life is reduced.
- All surfaces in direct contact with the AUS 32 must be cleaned in accordance with the AUS32 Cleaning Instructions.
- Make sure that the first-time-out system is applied in storage conditions.
- Protect the AUS 32 directly from sunlight.
- Vehicle carrying the product must have insulation or heating system.

Shelf life of the products according to ISO 22241-1 Table 3 below;

| Av. Temperature | Min. Shelf Life |
|-----------------|-----------------|
| ≤10°C | 36 |
| ≤25°C | 18 |
| ≤35°C | 6 |

Hazards and Safety

As with all chemical products, awareness and control of any potential hazards is of high importance. Please consult the material safety data sheet which is available detailing the hazards associated with this product.

The content of this Technical Data Sheet has been prepared by taking into consideration the relevant international standards and the information contained in specifications of vehicle and equipment manufacturers. This Technical Data Sheet and the statements in content cannot be interpreted as a guarantee commitment in respect of product specifications or usage in any application.

It is the consumer's responsibility to use this product in accordance with its ordinary purpose and comply with the applicable laws and regulations. Kemetyl Kimya San. Tic. Ltd. Şti. shall not be held responsible for any claims or damages arising out of abnormal use, improper usage, use for the wrongful purposes or risks and consequences by the nature of product structure.

This Technical Data Sheet shall be valid on issue date. Right to amend information provided in content of this Technical Data Sheet without prior notice is reserved.