



## PRODUCT DATA SHEET

### AD-BLUE®

**Hi-Tec Ad-Blue®** is an aqueous urea solution used with the Selective Catalytic Reduction technology (SCR) of heavy-duty diesel vehicles to reduce emissions of oxides of nitrogen (NOx) from the exhaust system.

#### **PRODUCT DESCRIPTION**

**Hi-Tec Ad-Blue®** is a non-toxic aqueous 32.5% urea solution used to chemically reduce NOx emissions from heavy-duty diesel powered vehicles. It is not a dangerous good, nor harmful to the environment, and is classified in the minimum-risk category of transportable fluids. **Hi-Tec Ad-Blue®** can simply be washed off with water should it be spilled on an operator's hand.

**Hi-Tec Ad-Blue®** is neither a fuel, nor a fuel additive and needs to be used in a dedicated tank on the heavy-duty vehicle. It is replenished in a similar way to refueling diesel (about 4-5% by volume of diesel consumption for ADR 80/01 and about 5-6% for ADR 80/02).

There are different vehicle emission standards around the world, setting specific emission limits for the four main pollutants: Oxides of Nitrogen (NOx), Particulate Matter (PM), Carbon Monoxide (CO), and Hydrocarbons (HC). The use of SCR and **Hi-Tec Ad-Blue®** technology addresses the NOx component of these standards, and commenced with the introduction of Euro IV.

Standard	Implementation	NOx (g/kWh)	PM (g/kWh)
Euro 0	1990	14.4	1.1
Euro III	2001	5	0.1
Euro IV	2005	3.5	0.02
Euro V	2008	2.0	0.02
Euro VI	2013	0.4	0.01
US 2010	2010	0.27	

In Australia and New Zealand, the emission standards follow those of Europe with a few years delay. Euro IV was phased in from 2007 and Euro V in from 2010.

SCR is a proven technology and one which will be relied on in the future. Almost all heavy-duty vehicle manufacturers have decided to use this technology to meet the emission legislations.

The main components of the SCR system are the SCR catalyst, the injection unit, the tank and the dosing control unit. The harmful NOx molecules in the exhaust are chemically converted to harmless elemental nitrogen and water. **Hi-Tec Ad-Blue®** is injected into the exhaust pipe, in front of the SCR catalyst, downstream of the engine. Heated in the exhaust, it decomposes into ammonia and CO<sub>2</sub>. When the NOx reacts inside the catalyst with the ammonia, the harmful NOx molecules in the exhaust are converted to harmless nitrogen and water.

SCR systems are sensitive to potential chemical impurities in the urea solution. **Hi-Tec Ad-Blue®** is made from high purity urea (produced synthetically from ammonia and carbon dioxide) and high purity water. **Hi-Tec Ad-Blue®** is made according to the ISO 22241 and DIN 70070 quality standards and CEFIC regulations.

SCR is the most cost effective solution to meet NOx emission standards, as competitive technologies offer less beneficial fuel efficiency and higher CO<sub>2</sub> emissions.





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**RECOMMENDED FOR:** Volvo, Scania, DAF, Iveco, Mercedes Benz, AllRig, Alliance

<u>Property</u>	<u>Limits</u>		<u>Units</u>
	Minimum	Maximum	
Urea Content	31.8	33.2	% by weight
Density at 20°C	1.0870	1.0930	g/cm <sup>3</sup>
Refracting Index at 20°C	1.3814	1.3843	
Alkalinity as NH <sub>3</sub>		0.2	%
Biuret		0.3	%
Aldehyde		5	mg/kg
Insolubles		20	mg/kg
Phosphate (PO <sub>4</sub> )		0.5	mg/kg
Calcium, Potassium (each)		0.5	mg/kg
Iron, Sodium (each)		0.5	mg/kg
Copper, Nickel (each)		0.2	mg/kg
Zinc, Chromium (each)		0.2	mg/kg

**Available in:** Bulk, 200 Litres, and 15 Litres

"Hi-Tec Oil Traders Pty Ltd (Hi-Tec Oils) has endeavoured to ensure that all information, representations and specifications contained in this product data sheet are accurate at the time of publication. This general information should be used in conjunction with appropriate inquiries by users of the product including consultation with the vehicle or equipment manufacturers published information.

It is the responsibility of users of the product to use the product safely. Users should consult the safety data sheets for each product at [www.hi-tecoils.com.au](http://www.hi-tecoils.com.au). Hi-Tec Oils takes no responsibility for injury or damage if the product is used in an inappropriate or unsafe manner.

Our product warranty and product quality statement can be viewed at [www.hi-tecoils.com.au](http://www.hi-tecoils.com.au)"

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