

# AdBlue® by BASF: the reliable choice



We create chemistry

AdBlue® by BASF helps vehicles  
meet Euro 5 and 6 emissions standards



# AdBlue® by BASF – quality you can rely on

## Good for vehicles – good for the environment

At BASF, we understand the value of AdBlue® – both to our customers and to the environment. That's why we deploy a highly-integrated self-contained production process and stringent quality control to make AdBlue® of the highest quality, every time.

This year we will make a strategic investment in our AdBlue® activities, expanding our capacity for production and storage. This move underlines our long-term commitment to AdBlue®, and demonstrates our proactive approach to meeting our corporate promise – to create chemistry for a sustainable future.

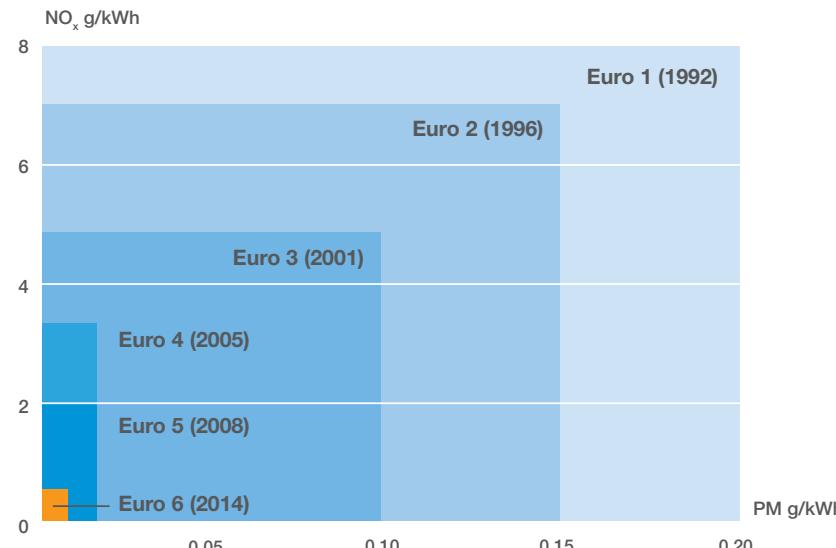


# BASF – your AdBlue® and automotive expert

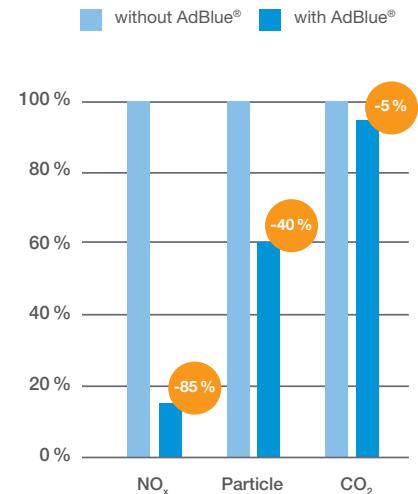
## An extraordinary member of the VDA

BASF is a member of the VDA (German Automotive Industry Association), which owns and licenses the AdBlue® brand. Only officially approved manufacturers can market diesel exhaust fluid (DEF) under the AdBlue® name. This innovative product is synonymous with consistently high quality.

BASF is a global licensee of AdBlue®. We played a key role in the standardization process for ISO 22241 (the AdBlue® standard), and we have been a member of the ISO 22241 committee ever since it was founded. Our knowledge and expertise in AdBlue® is second to none.



## Less emissions with AdBlue®



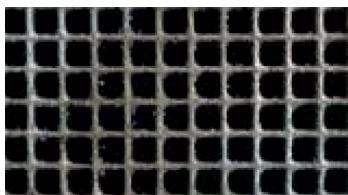
## BASF helps vehicles meet Euro 5 and 6 emissions standards

Since the introduction of Euro 1 in 1992, European emissions directives have become ever more stringent. Older vehicles using lower-grade additives can sometimes struggle to adhere to the latest legislation. At BASF, we are driven by the motivation to help our customers reduce emissions and comply with the latest Euro 5 and 6 standards. To this end, we produce high-grade AdBlue® that, when used in a modern SCR system, can significantly cut NO<sub>x</sub> and fine particle emissions.

# The advantages of AdBlue® by BASF

## ✓ AdBlue® by BASF:

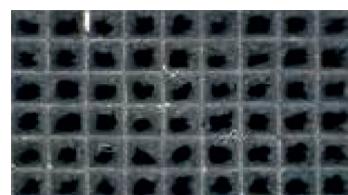
- Reduces maintenance costs
- Extends SCR system lifespan
- Ensures SCR system efficiency
- Improves fuel economy



SCR system after 40,000 km – using AdBlue® by BASF

## ✗ Low-quality aqueous urea solution:

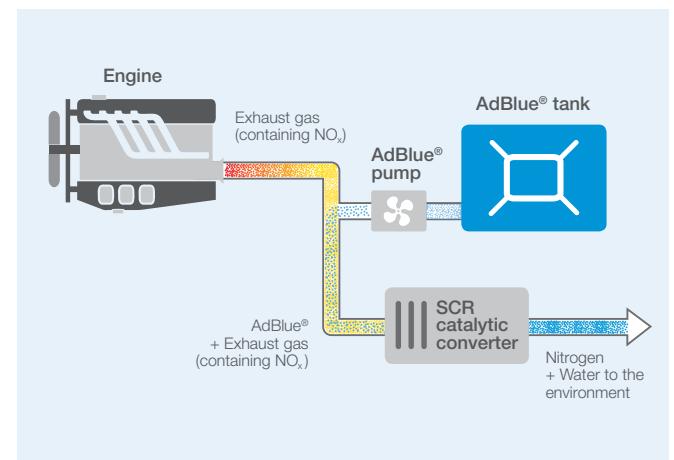
- Reduced SCR system lifespan
- Increased emission of pollutants
- Clogged catalytic converter
- Clogged exhaust and injector



SCR system after 40,000 km – using low-quality aqueous urea solution

## How AdBlue® works in the SCR system

The SCR system injects AdBlue® directly into the exhaust stream. When it enters the catalytic converter, it reacts with nitrous oxides from the combusted diesel – producing non-hazardous, naturally occurring nitrogen and water. Due to its outstanding purity, AdBlue® by BASF neither damages the SCR system nor reduces its lifespan.



# AdBlue® by BASF – a smart choice for vehicles and the environment

## Key benefits of AdBlue® by BASF:

### It protects SCR systems

As the purity of AdBlue® by BASF is closely controlled, it does not damage SCR systems.

### It reduces fuel consumption

AdBlue® by BASF cuts fuel consumption by 5 % – without reducing engine output.

### It reduces exhaust emissions

The amount of NO<sub>x</sub> in exhaust gas can be reduced by 85 – 95 %.

### It is environmentally friendly

AdBlue® by BASF is fully biodegradable and does not pollute water and soil.



### It helps vehicles meet the latest emissions standards

AdBlue® by BASF helps vehicles comply with Euro 4, 5 and 6 standards.



### It has a long shelf life

AdBlue® by BASF has a shelf life of at least 12 months when stored under recommended conditions.



### It is delivered in liquid form

As AdBlue® by BASF is supplied in liquid form, it is easy to store and deploy.





## Packaging to suit all customer requirements

### From 2 to 5,000 liters

BASF manufactures AdBlue® using a self-contained process. As a result, it is less susceptible to spoiling during storage, shipping and filling than AdBlue® made by dissolving urea prills. AdBlue® by BASF can be kept at temperatures of between -11 °C and 25 °C without any reduction in shelf life.

We offer AdBlue® in a range of container sizes, from 2 liter bottles for passenger vehicles, to 5,000 liter dispensing units for medium to large fleets. In short, we have a packaging solution to suit every need.



# For many types of diesel engine

## A broad range of applications

AdBlue® by BASF can be deployed in all diesel engines that feature SCR technology – including those in buses, trucks, ships, cars, stationary and mobile power plants, and mining, construction and agricultural vehicles.



# AdBlue® by BASF – specifications



We create chemistry

Parameter	Requirements acc. to ISO 22241	Test Method
Urea Content	31.8 - 33.2 %	ISO 22241-2 Ann. C
Density at 20 °C	1.087 - 1.093 g/cm	DIN EN ISO 12185
Refracting Index at 20 °C	1.3814 - 1.3843	ISO 22241-2 Ann. C
Alkalinity as NH <sub>3</sub>	≤ 0.2 %	ISO 22241-2 Ann. D
Biuret	≤ 0.3 %	ISO 22241-2 Ann. E
Aldehyde	≤ 5 mg/kg	ISO 22241-2 Ann. F
Insolubles	≤ 20 mg/kg	ISO 22241-2 Ann. G
Phosphate (PO <sub>4</sub> )	≤ 0.5 mg/kg	ISO 22241-2 Ann. H
Calcium	≤ 0.5 mg/kg	ISO 22241-2 Ann. I
Iron	≤ 0.5 mg/kg	ISO 22241-2 Ann. I
Copper	≤ 0.2 mg/kg	ISO 22241-2 Ann. I
Zinc	≤ 0.2 mg/kg	ISO 22241-2 Ann. I
Chromium	≤ 0.2 mg/kg	ISO 22241-2 Ann. I
Nickel	≤ 0.2 mg/kg	ISO 22241-2 Ann. I
Aluminum	≤ 0.5 mg/kg	ISO 22241-2 Ann. I
Magnesium	≤ 0.5 mg/kg	ISO 22241-2 Ann. I
Sodium	≤ 0.5 mg/kg	ISO 22241-2 Ann. I
Potassium	≤ 0.5 mg/kg	ISO 22241-2 Ann. I

AdBlue® by BASF is tested according to the relevant ISO 22241 standards.

For more information, please visit [www.adblue.bASF.com](http://www.adblue.bASF.com) or contact us at [adblue@basf.com](mailto:adblue@basf.com).