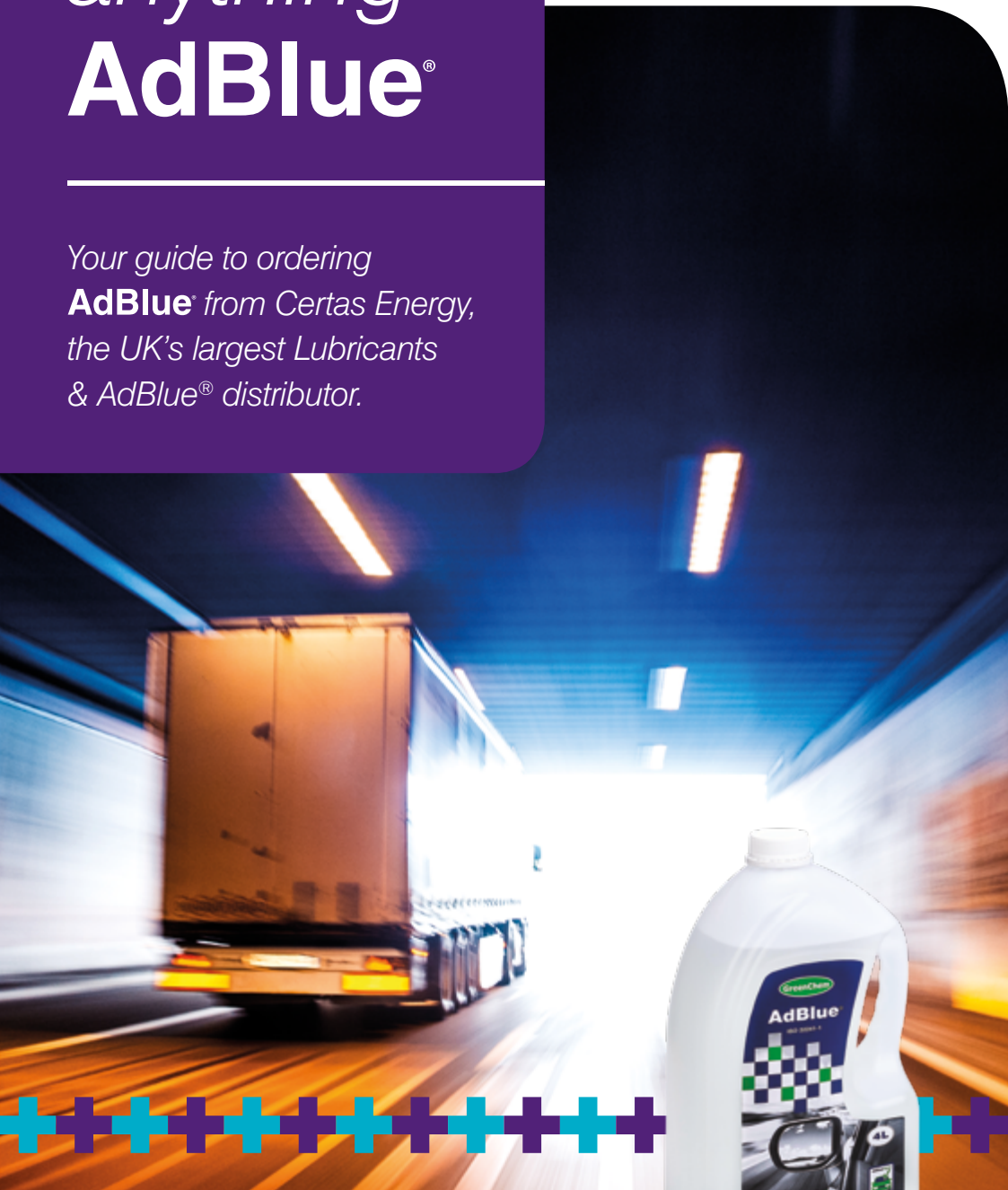
If you add anything **AdBlue®**

certas energy lubricants

Your guide to ordering **AdBlue®** *from Certas Energy, the UK's largest Lubricants & AdBlue® distributor.*



Limit emissions with **AdBlue®**

AdBlue® is used to limit emissions from cars, trucks, buses, vans, boats, excavators and tractors. If you use a modern diesel powered machine fitted with an SCR catalyst, you'll need AdBlue®.

Adding AdBlue® limits harmful nitrogen oxide emissions from diesel engines so they can meet increasingly stringent legislation. AdBlue® works by triggering a chemical reaction with ammonia that converts toxic nitrogen oxide into harmless nitrogen and water vapour.

Want to find out more? Keep on reading.

Add the best **AdBlue®** *with Certas Energy and GreenChem*

As the UK's largest fuels and lubricants provider, Certas Energy is proud to work in partnership with GreenChem to supply AdBlue®.

GreenChem is one of the largest European distributors of AdBlue®. Founded in 2003 in The Netherlands, GreenChem was a pioneer in NOx reduction, expanding rapidly as the market grew and becoming part of Agrofert Holding in 2009.

Today, GreenChem produces AdBlue® at more than 20 production facilities located around Europe and Brazil. This ensures a flexible and reliable means of producing AdBlue® well able to accommodate fluctuations in demand.

In 2016 GreenChem was fulfilling more than 5,000 systems contracts throughout Europe and this number is growing steadily. GreenChem operates a network of offices throughout Europe, maintaining close relationships with resellers and end users.

GreenChem AdBlue® is a premium product and many leading vehicle manufacturers (OEM) choose GreenChem as their sole AdBlue® distributor and supplier. Naturally, all GreenChem AdBlue® products meet ISO 14001:2004 requirements.

Keep on complying with **AdBlue®**

Why is **AdBlue®** *important?*

Vehicles need AdBlue® to reduce NOx output and meet increasingly stringent emission legislation, diesel engines need to run more cleanly. NOx standards have sharpened for transportation vehicles, as well as off-road vehicles and passenger cars.

All commercial vehicle manufacturers must meet the Euro 5 and Euro 6 standards for diesel engine emission. Although Euro 5 emission standards can be met by different technologies, Euro 6 standards require the use of SCR technology and AdBlue® for all transportation vehicles and passenger cars.

If you're a fleet owner, you'll need AdBlue® for your replacement vehicles. Since 2006, most newly built trucks and buses are fitted with an SCR system that uses AdBlue®. Putting new trucks into use automatically requires AdBlue®.

Stage I to IV emissions legislation demands cleaner off-road vehicles with lower NOx output and AdBlue® is the best way to achieve this.

The legislative changes of 2014 also changed the diesel technology in passenger cars. SCR and AdBlue® are now standard features for diesel driven cars, making AdBlue® a part of daily life.

***Note: The engine must not be started without* AdBlue®.**

AdBlue® *and the law*

Is it illegal to run out of AdBlue®?
AdBlue® limits the harmful NOx emissions from your engine. If you exceed the emissions limits when running without AdBlue®, you may be running illegally and that could result in fines, penalties or limited engine performance.

Some engines won't start at all without AdBlue®, so it's wise to have an emergency supply on board.

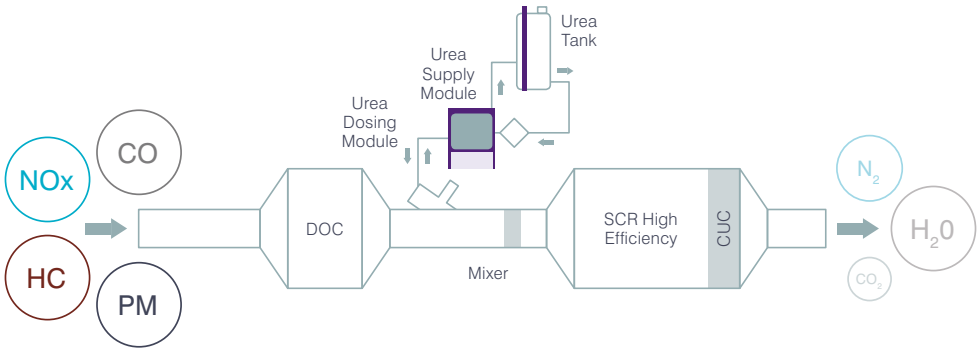
What is **AdBlue®?**

AdBlue® is a highly purified colorless liquid. It contains demineralized water and urea (32.5%). AdBlue® is used with diesel engines and is also known outside of Europe as DEF, ARLA 32 or AUS 32.

The main active component of AdBlue® is ammonia. This is chemically formed by hydrolising automotive urea, which is the main raw material for AdBlue®. Urea is also used in the production of fertilizers and many more applications.

AdBlue® is used with diesel engines using Selective Catalytic Reduction (SCR) to reduce harmful emissions (NOx).

AdBlue® is injected into the catalyst of the SCR system, where it triggers a chemical reaction with the ammonia. This chemical reaction converts the toxic nitrogen oxides (NOx) into nitrogen (N_2) and water vapor (H_2O). Water vapor and nitrogen are naturally occurring gasses that are harmless to the environment.



DOC = Diesel Oxidation Catalyst
SCR = Selective Catalytic Reduction
CUC = Clean-Up Catalyst
PM = Particulate Matter
HC = unburnt Hydrocarbons
NO_2 = Nitrogen Oxides
CO = Carbon Monoxide
N_2 = Nitrogen
CO_2 = Carbon Dioxide
H_20 = Water

Properties of **AdBlue®**

Appearance:	Colourless and clear liquid
Chemical Composition:	$NH_2)_2CO + H_2O$
ISO:	ISO22241: NOx reduction agent AUS 32
Freezes at:	-11°C
Evaporates at:	40°C
Corrosive:	Yes
Crystallization:	Yes
Expiration date:	Best before 18 months after production in a sealed and correctly stored package (after 18 months, quality testing is advised)

Why buy your **AdBlue®** *from us?*

5 reasons that really add up

1. The GreenChem AdBlue® offered by Certas Energy is a high quality product that is ISO 22241-1 compliant
2. Specialist distribution warehouses store AdBlue® at optimal conditions
3. As the largest independent distributor of lubricants and AdBlue® in the UK we can offer delivery within 5 working days and competitive pricing
4. Dispensing equipment available including electric pumps, hand pumps and IBC dispensers
5. Access to technical experts to help answer any queries

How much **AdBlue®** *will I need?*

Estimating quantities

AdBlue® consumption depends on the exact type of operation. A full tank of AdBlue® will last several tanks of diesel. A general 'rule of thumb' for commercial and agricultural vehicles is that AdBlue® consumption equals around 5% of diesel usage.

Estimated usage for trucks:

- The average ratio of AdBlue® to diesel for tucks is 4% to 8%.
- Local distribution: Approximately 500 litres per year
- National distribution: Approximately 1,000 litres per year
- International distribution: Approximately 2,500 litres per year

Estimated usage for passenger cars:

- Mid-class diesel: 1 litre of AdBlue® per 1,000 km
- SUV/MPV class diesel: 1.5 litres of AdBlue® per 1,000 km

Estimated usage for off-road vehicles:

Because of the wide variety of off-road vehicles, it is difficult to pinpoint their exact usage. A large heavy duty tractor can get through 2,500 litres of AdBlue® per year. For off-road vehicles, the 'rule of thumb' ratio for AdBlue® ranges from 5% up to 10% of diesel usage.

Lifespan and expiration date:

Remember that AdBlue® keeps for up to 18 months after production as long as it's sealed in a correctly stored package (after 18 months, quality testing is advised).

Certas Energy sells AdBlue® in the following quantities:

- Jerry cans (10 & 20litres) with integral spout
- Drums (200l)
- IBC (1,000l)
- Bulk
- Pumps for IBC's & barrels available (manual – considerable cost saving, no power available & electric)

AdBlue® *packed products*

Certas Energy sells all the kit you need to store and fill up with AdBlue®.

AdBlue® is available in various pack sizes including 5 litres, 10 litres, 20 litres, 200 litres, 1,000 litres IBCs and Bulk.

Starter Kit (4L)

This starter kit was specifically designed for the passenger car driver. It features an ISO certified spout to prevent spills or leakage.

Drums (200L)

The drum can be used with an AdBlue® approved selfpriming pump or an AdBlue® handpump. The drum was developed for dispensing and storing small amounts of AdBlue®.

Canister

(5L, 10L and 20L)

Our special AdBlue® canisters come in three sizes: 5 litre, 10 litre and 20 litre. The innovative spout features a breathing pipe that helps the product flow out easily, saving you time and effort.

IBC (1,000L)

1000 litres IBCs with the possibility to integrate a manual or electrical pump. To make sure you get the best experience from our IBCs systems, they can be equipped by gravity feed kit, bottom valve, CDS system and breathing system on the top. Combined by a manual or electrical pump, you get a great solution for 1000l of Adblue®4you! One of the main advantage of our IBCs is that you can place it where you really need it.

- Applies to Agriculture, Construction, Transport and Automotive

AdBlue® *equipment*

Rotary and Lever Hand Pump
For those looking for a reliable hand pump system, GreenChem provides the best possible solution to fill AdBlue® from your drums.

A lever type pump also compatible with most drums on the market.

Gravity feed hose kit
Provides a simple and quick means of dispensing AdBlue® from an IBC. Meter hose & basic nozzle. Cam Type connector & female buttress connector.

Pro Electric Pump
For those looking for a reliable electrical pump system, GreenChem provides the best possible solution to fill from your IBCs. The Pro & PRO plus are AdBlue® certified and are self priming, low noise, high efficient pumps.

Pro Electric Pump Plus
For those looking for a reliable electrical pump system, GreenChem provides the best possible solution to fill from your IBCs. The Pro & Pro plus are AdBlue® certified and are self priming, low noise, high efficient pumps. The Pro Plus version is equipped with a flowmetter in the nozzle.

AdBlue®4you Trolley
This trolley was designed for the passenger car's workshops in order to easily fill the AdBlue® tank of the vehicles either on regular servicing or complete fills to estinguish the low level light.It's inovative structure prevents vapour from leaking out and protect the AdBlue® from any external elements.

AdBlue® *equipment*

AdBlue®4you SMART mobile

Designed for various industries this mobile system is available with a capacity of 250 or 450 litres and allows you to simply refill your machine in the field.The design provides you with a quality solution for correctly storing and dispense AdBlue® wherever you need it. This mobile system provides you with a good solution for filling up AdBlue® during a working day on the field. Simply put the system at the back of your truck, drive to your machine, connect the system to a 12V battery and start the pump.

Smart Plus System

The Smart is an above ground storing and dispensing solution. The systems have an integrated dispensing unit.

T Series (6,000 to 15,000L)

The Smart T systems are suitable for storing large quantities of AdBlue® on site. These systems have a separate storage tank that can contain up to 15,000 litres of AdBlue®. The storage tank is connected to a small dispensing unit through piping, which saves precious space at your filling point.

Storage advice

AdBlue® should be stored out of direct sunlight between -6°C and 25°C in a clean and sealed container or dispensing unit.

Environment:

Contact local authorities for further information on storage requirements. You may need a bunded AdBlue® storage tank or an anti-spill container under the IBC or drums.

Suitable containers:

AdBlue® can only be stored in high density Polyethylene, polypropylene or stainless steel containers.

Suitable piping, insulation and sealing:

- Polyisobutylene (synthetic rubber), free of additives (for seals and hoses)
- PFA, PVDF & PTFE (teflon) free of additives (for sheet lining for chemical equipment/ support rings, seals)
- Copolymers of (P)VDF and HFP (viton), free of additives (for the insulation of electrical wires & seals/o-rings)

Do not use corrosive materials like copper, nickel, zinc, base metals or aluminum. You can check the entire list in the ISO 22241 recommendations.

Your questions answered

How do I store AdBlue®?

If you use your own storage system it must be specifically designed for AdBlue®. If you decide to use a homemade system, remember that many materials are not resistant to AdBlue®.

Storing AdBlue® in the wrong equipment can lead to contamination and costly damage to your vehicles. Make sure that you understand and comply with our storage advice from the last section.

How do I fill up with AdBlue®?

You can usually recognise the AdBlue® tank by its blue cap or the AdBlue® label. It is totally separate from the fuel tank although the filling point is often fitted near the diesel cap. In passenger cars, the AdBlue® tank may be in the boot or in the engine bay.

The opening for the AdBlue® tank will be narrower than the opening for the fuel tank. This should prevent users from accidentally putting diesel in the wrong tank since the pump nozzle won't fit.

Is AdBlue® hazardous?

Like all chemicals AdBlue® needs to be handled with care. But other than gloves, it isn't normally necessary to wear protective clothing when dispensing AdBlue®. Any spilled AdBlue® can easily be washed off the skin with water. But AdBlue® can cause stains on clothes or upholstery.

How can I recognise quality AdBlue®?

AdBlue® should always be a colorless clear liquid. If you buy drums or cans, watch out for brand names that sound similar to AdBlue®. You could be dealing with an inferior product.

Make sure that you buy AdBlue® from a VDA licensed partner and look for this text on the container or dispensing system: "AdBlue® according ISO 22241".

Bottom line: look for the GreenChem AdBlue® logo and the green and blue checkerboard pattern to be sure that you top up with top quality.

Does running out of AdBlue® damage the engine?

No, the engine will not be damaged if you run out of AdBlue®. You can continue to the next AdBlue® distribution point or use your emergency supply at the next stop. However, the engine performance could be effected until you fill up.

If I run out of AdBlue® will the engine shut down?

No, the engine will not shut down, but some engines automatically limit engine performance when AdBlue® supplies are depleted.

If your engine is equipped with SCR technology, your vehicle will lose power and reduce its emissions to stay within legal limits. Normal performance will be restored when AdBlue® levels are up again.

Note: Some engines won't start at all if you run out of AdBlue®. Be smart and make sure you have an emergency supply on board or continue to the next distribution point without shutting down your engine.

Keep on adding – safely

A handy guide to handling AdBlue® and dealing with minor incidents.

Personal safety and medical advice

Like all chemicals AdBlue® needs to be handled with care. But other than gloves, it isn't normally necessary to wear protective clothing when dispensing AdBlue®. Follow these tips to stay safe and protect your equipment when handling AdBlue®.

What to do in the case of:

Ingestion
Wash your mouth out with water and drink small amounts of water.

Skin contact
If you spill AdBlue®, on your skin, wash it with soap and water. AdBlue® will dissolve in water. Skin is normally unaffected by AdBlue®.

Inhalation
Inhaling AdBlue® vapour can cause nausea or light-headedness. If you experience the latter, relocate to a place with fresh air and wait for the symptoms to subside.

Eye contact
AdBlue® is not irritant, but may cause discomfort in the case of eye contact. Remove any contact lenses and flush your eyes with plenty of water. Get medical attention if irritation occurs.

Dealing with spills and accidents

What do I do if I accidentally put AdBlue® in my diesel tank?
Do not start your engine! Depending on the amount of AdBlue®, you could damage your engine. You should empty and clean your tank. Make sure you empty the whole tank and discard the mixture. For further instructions on emptying and cleaning your tank, please contact your vehicle supplier.

What do I do if I accidentally put diesel in my AdBlue® tank?
Do not start your engine! Even the slightest drop of diesel will pollute the AdBlue® in your tank. One drop of diesel is quite enough to ruin 20 litres of AdBlue® and running with polluted AdBlue® will disrupt your SCR system. To prevent further damage to your engine, it's best to contact your vehicle manufacturer. You may need to replace certain components in the AdBlue® system.

What do I do if I spill AdBlue®?
AdBlue® isn't dangerous to the environment.
A small AdBlue® spill can be diluted with water.
It's best to mop up the spillage and avoid flushing it down a drain or waterway. In case of a large spill, try to prevent the spillage from entering drains or waterways. Contain the spill with sand, earth or a spill kit and dispose of it properly. Spill kits are available in different sizes and sets.

Can I reuse spilled AdBlue®?
No! Never try to reuse spilled AdBlue®! Spilled AdBlue® will always be contaminated. Using contaminated AdBlue® can cause costly damage to your engine and SCR system, so no matter how large the spill, you cannot reuse any of it.

Note:
The surface on which you spill AdBlue® may become slippery. Make sure that you clean up the spill as quickly as possible to prevent accidents or injury.

certas energy lubricants

Here to help

Did we miss anything?

If you've got any other questions about **AdBlue®** *just give us a call or drop us a line.*

England & Wales: ***0345 609 9002***
Scotland: ***0345 609 9156***
Email: adblue@certasenergy.
Web: certasenergylubricants.com