

### **DEF Facts**

## What is DEF and how should I use it?

DEF is a high purity solution of urea in water (32.5%). It is used to chemically reduce Nox emissions from trucks and buses powered by diesel engines. DEF is contained in a separate tank and sprayed into the exhaust gases. Never fill the diesel fuel tank with DEF.

#### How much DEF will I need?

You will not need to replenish DEF every time you refill with diesel fuel. The DEF consumption will be approximately 3% of your diesel fuel consumption (for every 100 gallons of diesel consumed you would need 3 gallons DEF).

#### Is DEF harmful?

DEF is not harmful neither for humans nor animals. DEF is not explosive. It is non-toxic. If you get it on your skin or clothes, rinse with plenty of water. Eyes: Flush with clean water immediately for at least 15 minutes. Although DEF is a colourless liquid, it is best to avoid spilling on clothing or vehicle upholstery as it may leave a stain.

#### Will DEF burn?

DEF does not burn and will not aid combustion.

## What makes Air<sup>1®</sup> DEF so special?

Air1<sup>®</sup> is DEF by Yara and often the DEF you will get when your new truck is delivered to you. Heavy-duty vehicle manufacturers demand a high level of purity for DEF to honor the warranty they give on their vehicles.

Certified by the API, Yara is a premier producer of DEF, this guarantees that Air1 will be protected from impurities and thus will not harm your vehicle's catalyst. Choosing Air1 brings you reliability and reassurance!





**Is Air1**<sup>®</sup> **DEF available?** Air1 DEF is currently available in bottles, drums, IBCs and Bulk.



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### Tips on how to use DEF

#### Do's:

- Only fill DEF into the DEF tank. Both pistol and outlet are clearly marked.
- Keep your DEF equipment clean, and free from dust or dirt.
- You do not need to wear protective clothing while filling DEF.
- If over heated, DEF containers can be chilled by standing in water.
- DEF freezes at 12°F/-11°C.
- Keep DEF in a cool, dry, well-ventilated area at a constant temperature.
- Frozen DEF can be thawed and used without concerns of product degradation.
- Only use DEF that has been delivered in dedicated, sealed DEF packages.

#### Don'ts:

- X Do not fill DEF into the Diesel tank!
- X Do not fill Diesel into the DEF tank!
- X Avoid getting DEF on your clothes and skin. But if you do, it can easily be removed by using water.
- X If spilled, wash with water, as the surface might get slippery.
- X Do not use DEF when mixed with water or other substances, especially diesel fuel.



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### What is DEF?

Diesel Exhaust Fluid (DEF) is a very pure, aqueous, solution of urea which meets the automotive industry specification defined by ISO 22241. It is a clear liquid similar in appearance to water.

DEF is safe to handle and use; it is not explosive, flammable, toxic, or subject to any hazardous product regulations. The product can be purchased in 2.5 Gallon Cans, 55 gallon Drums, 275 gallon Intermediate Bulk Containers (IBCs) and can also be supplied in bulk by road tanker.

Storage facilities can be tailored to suit customer needs allowing for the usual precautions to prevent spillage into nearby drains and watercourses. DEF has an official shelf life of 12 months if the stipulated storage conditions are observed. However, DEF that has been stored for longer than 12 months may still be perfectly usable and simply needs to be analyzed to check that it still conforms to the DEF specification.





Airl<sup>®</sup> is a unique concept developed by Yara to ensure a secure supply of the high-quality DEF needed in your Selective Catalytic Reduction (SCR) system.

Air1<sup>®</sup> is increasingly available at public filling stations, truckstops, automatic filling stations, home depots, chemical distribution depots and most major truck manufacturers' dealerships.

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### SCR Technology

#### What is SCR?

Selective Catalytic Reduction (SCR) is an innovative technology which leading North American manufacturers of diesel vehicles have jointly adopted after comparing and testing a variety of available technologies aimed at reducing emission levels to the required limits. SCR is the only technology that produces the reduction of exhaust fume emissions required by legislation while allowing optimum engine operation in terms of performance and fuel consumption.

#### How does SCR work?

SCR technology reduces emissions of the NOx gases that are produced inside the engine during combustion. This process requires the correct injected volume of DEF; a non-toxic, high quality, urea solution. DEF is sprayed into the exhaust, where it is subsequently hydrolyzed before the catalytic converter breaks down nitrogen oxide (NOx) into harmless nitrogen (N<sub>2</sub>) and water (H<sub>2</sub>O).



SCR technology is already proven to enable Heavy Diesel Vehicle engines to comply with Euro V legislation which took effect in 2008. Air1 is the most efficient way to take full advantage of SCR technology and to meet EPA emission regulations.

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