TEW
EQUIPMENT SOLUTIONS, INC.



Energy Reduction and Water Processing

FAQ about diesel exhaust fluid (DEF)

Q: What is DEF?

DEF is the emissions “dosing” fluid used in selective catalytic reduction (SCR) systems.

DEF is diesel exhaust fluid, a solution of 32.5% chemically pure urea and 67.5% demineralized or deionized water.

It is a non-regulated, non-hazardous solution and is also called NOx reduction agent AUS32 or AdBlue.

Q: What is urea?

Urea is a compound of nitrogen that turns to ammonia when heated. It is often used in agriculture as fertilizer.

Q: Can agricultural urea be used in a SCR vehicle?

No. Agricultural grade urea often has additives that should not be used in your vehicle.

Q: What does DEF look like?

DEF is a clear, colorless liquid that weighs approximately 9 pounds per gallon, compared to diesel fuel at approximately 7 pounds and gasoline at an average of 6.19 pounds.

Q: What is the life of DEF?

If stored between 10 and 90 degrees, DEF should last a minimum of 1 year. Its shelf life begins to degrade at high temperatures. If maintained at 120 degrees or above, it will slowly form small amounts of ammonia. Check with your supplier for the proper handling of DEF in extreme temperatures.

Q: How do I know if my DEF is pure?

A sample can be sent to a lab for testing. However, many manufacturers (OURS?) have become certified by the American Petroleum Institute, which runs a voluntary program monitoring the quality of DEF. Since DEF is clear and colorless, any disparity should raise a red flag and the product should not be used.

Q: Where can I get DEF?

Major truck stops, gas stations and auto/truck dealerships carry the product in a pre-packaged form and some will offer DEF fill-up and top-off through dispensers. Many users of DEF will install small bulk dispensing systems at their facilities.

Q: How is DEF delivered?

A variety of ways, including small packaged goods or what are commonly called jugs. The most common packages are 1 to 2.5 gallons and are stocked at truck stops and dealerships.

The next level is a 55-gallon drum, which may or may not be refilled. Hand pumps and electric pumps can be fitted to the tops of drums for dispensing at about 4 to 8 gallons per minutes.

Totes are used for storing and transporting DEF in 275 or 330-gallon capacities. Pumps can be mounted on the top or side of the tote for dispensing.

Q: How much DEF will my SCR vehicle use?

Estimates vary from 2% to 3%. As an example, every 100 gallons of diesel fuel burned will also consume 2 to 3 gallons of DEF. Results will vary by vehicle.

Q: How big will the DEF tank be on my vehicle?

Size and position will vary by manufacturer, with tanks beginning at 4 gallons and increasing upwards to 28 gallons for on-road vehicles. Bigger off-road vehicles will consume more.

DEF tanks are made of poly or stainless steel.

Q: Will DEF harm my aluminum tanks?

Although DEF won’t harm many materials, the metal in many storage containers, such as aluminum, will leach into the DEF and contaminate it.

Q: How do I dispose of DEF, if needed?

Check with your local government and environmental agencies on the proper disposal. Although DEF is not a hazardous material, there may be restrictions on disposal.

Q: What is the residue around DEF equipment?

This normal residue is urea that has returned to a solid, concentrated state as the liquid evaporates from the DEF solution. This is common on nozzles.

Q: IS SCR a new technology?

No, it has a proven track record in Europe, where there are more than 650,000 trucks with the technology.

Q: Are DEF and SCR just for cars and trucks?

EPA emissions requirements in 2013 and beyond are prompting off-road diesel engine manufacturers to adopt this same technology early. This is leading to use in locomotives, tractors, mining and boats.

All 2010-model trucks in the U.S. (except for International brand vehicles) need an onboard tank with diesel exhaust fluid (DEF) to comply with new emissions regulations.

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