

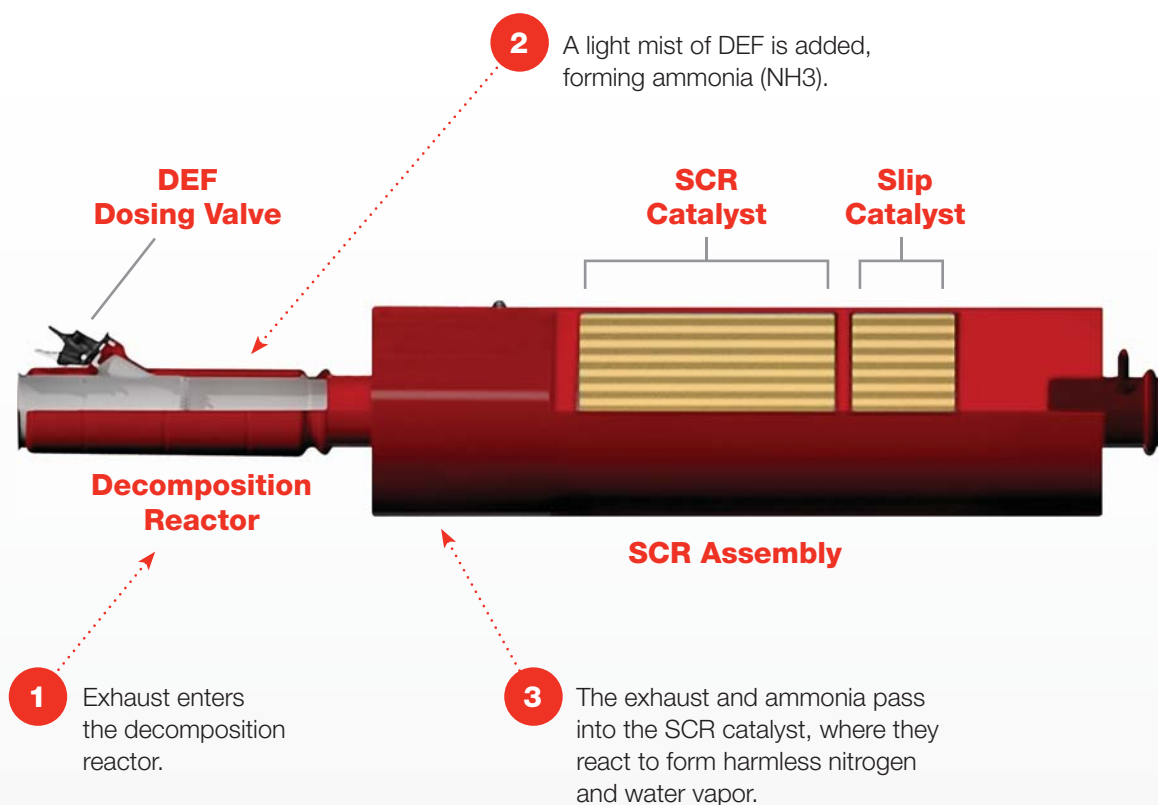


European Emission Regulation: The Right Technology Matters

In support of Euro IV, Euro V (Tier IV) emissions standards, NO_x and particulate matter (PM) will be reduced by 90% from 2004 standards to near zero emissions levels. In order to meet these new standards and the needs of customers, engine manufacturers have been investing in new and innovative technologies. The leading technology being used to achieve the emissions goals is SCR (Selective Catalytic Reduction). This proven aftertreatment technology enables the engine to be fully optimized for performance and fuel economy.

The SCR Aftertreatment System

The SCR aftertreatment system consists of three elements: catalyst, Diesel Exhaust Fluid (DEF) and DEF dosing system.



Fleetguard[®] DEF: Specially Blended for Your SCR System

Diesel Exhaust Fluid, better known as AdBlue[®] in regions outside the United States, is a urea-based chemical reactant designed specifically for use in SCR systems to reduce NOx emissions. The raw materials used to produce DEF include natural gas, coal or other petroleum products. DEF is prepared by combining high purity urea with deionized water to create a 32.5% solution. DEF and similar urea-based products are widely used today for a variety of agricultural and industrial needs.

Fleetguard DEF is API certified and meets ISO22241 specifications for purity and composition, while being:

- Non-toxic and non-polluting
- Non-flammable
- Stable and colorless
- Non-hazardous
- Easy to use – no special handling required



Material Safety Data Sheets (MSDS) are available on cumminsfiltration.com, LT16603.

DEF Storage

To maximize shelf life, ideal storage temperature is below 30° C and above -11° C to prevent freezing; however, higher temperatures have little to no effect on normal shelf life, and frozen DEF can be thawed and used without any concerns. Bulk dispensers (+3785l) have climate control system options. Intermediate Bulk Containers (IBC) do not. Therefore, in cold temperature regions, it is recommended to keep DEF-IBC's in a storage unit. In warm temperature regions it is recommended to store DEF-IBC's in a shaded area.

Vehicle Operation

Each SCR equipped vehicle will carry DEF in a storage tank. Depending on the OEM application, DEF tank size will range in capacity. The storage tank is designed in terms of a 2:1 ratio: a minimum of 2 diesel fill-ups corresponds to 1 DEF fill-up.

Because all vehicles will have a DEF gauge incorporated into the dashboard, the level of DEF in the tank is always visible. Additionally, every vehicle will have a DEF notification system, ensuring the operator has ample notices to replenish the DEF. With 10% DEF left in the tank, the DEF indicator lamp will illuminate. With a 75 litre DEF tank, a typical on-highway truck can travel around 1.000 km on 10% (or 7,5l). Finally, at no time is the vehicle shut down - even if there is no DEF in the tank.

During vehicle operation in cold climates, the SCR system is designed to provide heating for the DEF tank and supply lines. If DEF freezes when the vehicle is shut down, start up and normal operation of the vehicle will not be inhibited. The heating system is designed to quickly return the DEF to liquid form and the operation of the vehicle will not be impacted.



Packaged with Your Needs in Mind

Calculating DEF Usage

DEF use is directly related to fuel consumption. DEF consumption is expected to be approximately 2% of the diesel fuel consumed, dependent on application and vehicle operation. Another way to consider it is, that DEF will be consumed at a 50 to 1 ratio with diesel, which means that for every 190 litres of diesel fuel burned, you will use 3,8 litre of DEF.

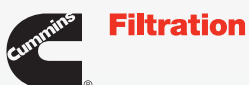
To easily calculate your estimated DEF usage, go to our online DEF Usage Calculator at cumminsfiltration.com/def.

DEF Packaging Options

Fleetguard® DEF products available for OEM First Fill and Aftermarket:

Description		Part Number
3,5 l Container	(1 Gal.)	CC2902
9,5 l Container	(2.5 Gal.)	CC2903
208 l Drum	(55 Gal.)	CC2904
1040 l Disposable Tote	(275 Gal.)	CC2905
1250 l Disposable Tote	(330 Gal.)	CC2906

For more detailed information on Diesel Exhaust Fluid, please refer to the **Fleetguard Technical Information Catalog, LT32599**, or visit our Web site, cumminsfiltration.com/def.



For more information, visit
cumminsfiltration.com

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