



# Air Shield™

Diesel Exhaust Fluid  
Solution for SCR NOx Reduction Systems

CHEMICALS



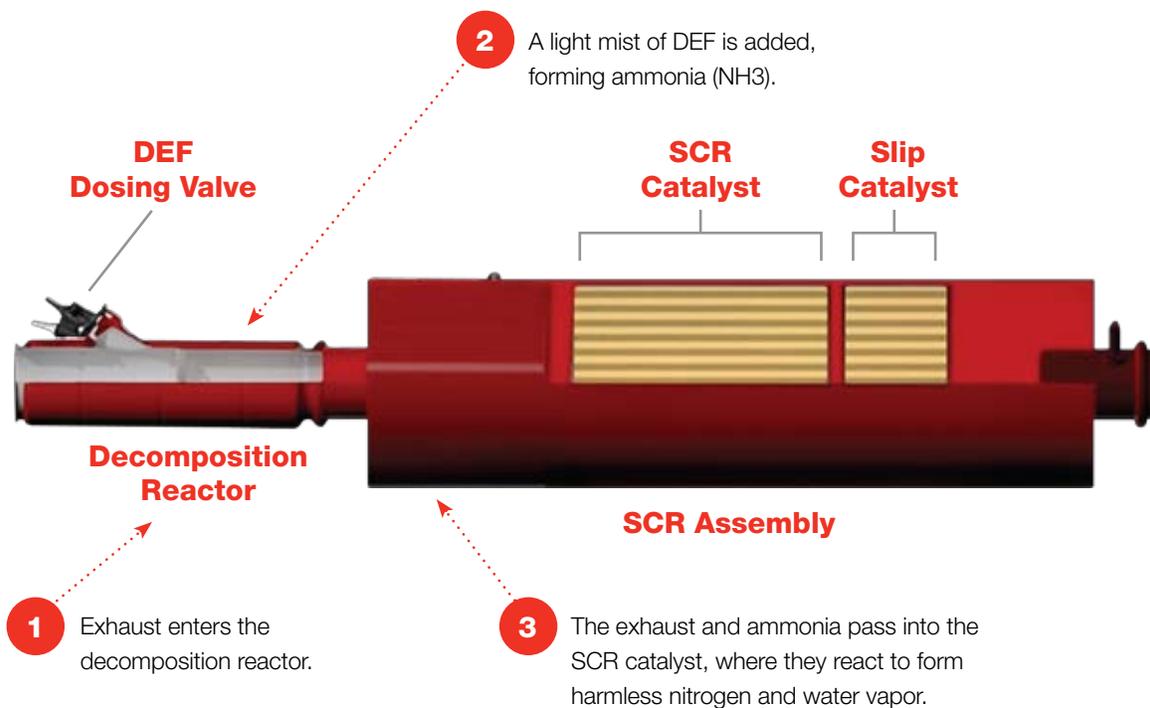


## 2010 Emissions: The Right Technology Matters

In support of EPA 2010 emissions standards, oxides of nitrogen and particulate matter (PM) are 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 invested 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.



### The Cummins/Valvoline Relationship

Cummins and Valvoline signed a technical alliance in 1995 to market heavy-duty lubricants in North America. The partnership has since expanded to include joint ventures and alliances in emerging markets around the world. This worldwide cooperation combines engine, lubricant, filtration and now DEF technology to deliver products and services that reduce total cost of ownership.



# Air Shield™ Diesel Exhaust Fluid Specially Blended for SCR Systems

## **Air Shield DEF**

Compatible with all on- and off-highway SCR systems, Air Shield DEF is API- and AdBlue®-certified. Air Shield enables on-highway diesel engines to meet the EPA's near-zero NOx emission levels required for 2010 and later on-highway diesel engines. The SCR systems work by injecting DEF into the engine exhaust, creating ammonia which then flows through a SCR catalyst and reacts to form harmless nitrogen and water vapor.

## **Dispensing Equipment**

To prevent contamination, clean dispensing equipment made with DEF compatible materials must be used when dispensing Air Shield into the vehicle. Cummins Filtration offers a complete line of DEF compatible dispensing equipment.

## **DEF Storage**

To maximize shelf life, ideal storage temperature is below 86° F (30° C) and above 12° F (-11° C) to prevent freezing; however, frozen DEF can be thawed and used without any concerns. Many bulk dispensers (1,000 gallons +) have integrated 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 in a shaded area and avoid prolonged exposure to temperatures above 90° F.

## **Vehicle Operation**

Each SCR equipped vehicle carries DEF in a storage tank. Depending on the OEM application, DEF tank size will range in capacity. The storage tank is usually designed in terms of a minimum of two to three 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, vehicles have a DEF notification system, ensuring the operator has ample notices to replenish the DEF. With approximately 10% DEF left in the tank, the DEF indicator lamp will first illuminate to alert the driver to low DEF. The lamp will then begin to flash with approximately 5% DEF left in the tank. On-highway vehicles can travel 200 to 300 miles on one gallon of DEF. 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 Air Shield™ Usage

DEF use is directly related to fuel consumption. DEF consumption is expected to be approximately 2-3% of the diesel fuel consumed, dependent on application and vehicle operation. Another way to consider it is that DEF will be consumed approximately at a 50 to 1 ratio with diesel (for every 50 gallons of diesel fuel burned, 1 gallon of DEF). A truck averaging 6 MPG can expect to go approximately 6,000 miles on one 20 gallon tank of DEF.

To easily calculate your estimated DEF usage, go to our online Air Shield Usage Calculator at [cumminsfiltration.com/def](http://cumminsfiltration.com/def).

### Packaging Options

- Convenient packaging including 1 Gal. and 2.5 Gal. containers
- Intermediate bulk containers, including 330 Gal. plastic and 275 Gal. disposable totes and 55 Gal. drums
- Bulk delivery direct from blending facility

### Air Shield™ DEF products available for OEM First Fill and Aftermarket:\*

Description	Part Number
Air Shield 4/1 Gal. DEF (3.78 L)	728770
Air Shield 2/2.5 Gal. DEF (9.45 L)	729566
Air Shield 55 Gal. DEF Drum (208 L)	749714
Air Shield 275 Gal. DEF Disposable Tote (1040 L)	729565
Air Shield 330 Gal. DEF Plastic Tote (1250 L)	728802
Bulk DEF	CC36057

\* Available in North America only

For more detailed information, refer to the **Fleetguard Technical Information Catalog – LT32599** or visit **Fleetschool** at [cumminsfiltration.com](http://cumminsfiltration.com). To find the nearest retailer of Fleetguard products, visit [cumminsfiltration.com/wrl](http://cumminsfiltration.com/wrl).

Connect with us online: [facebook](#) [YouTube](#) [twitter](#)



For more information, visit  
[cumminsfiltration.com](http://cumminsfiltration.com)

LT15618NA - Rev 5  
©2010 Cummins Filtration Inc.  
Printed in USA on Recycled Paper