Selective Catalytic Reduction (SCR) Catalyst
Converts NOx into harmless nitrogen gas and water vapor.

Diesel Particulate Filter
Collects and oxidizes carbon to remove Particulate Matter (PM) from the exhaust.
**Catalysts for Change**

Global emissions standards are changing and require solutions that are innovative and deliver optimal efficiency for our customers. We understand commercial vehicle after-treatment and engine systems better than anyone.

Cummins Emission Solutions strives to provide the most flexible and most dependable solutions as individual as every piece of equipment and every customer’s needs. That’s what makes us your Catalyst for Change.

Cummins Emission Solutions has developed technology that enables engine and vehicle systems to meet current and upcoming Environmental Protection Agency (EPA) and European (EU) emissions regulations.

**Which Technology is Right For You?**

Depending upon the type of vehicle you purchase, you will be presented with one of two options in terms of emissions reduction technology. Cummins Emission Solutions is an expert in both technologies and makes systems to suit both.

**Diesel Particulate Filters**

Diesel Particulate Filters (DPFs) are a proven and reliable emissions reduction technology with over one million Cummins Emission Solutions DPFs in use since 2004. DPFs are effective at removing over 90% of Particulate Matter (PM). Most on-highway configurations use a combination Diesel Oxidation Catalyst (DOC) and DPF system, using passive and active regeneration to allow more control in oxidizing and cleaning the filter.

DPFs use wall-flow substrates typically made of porous ceramic media that capture exhaust gas and remove PM or soot particles. A typical filter consists of an array of small channels for exhaust gas to flow. Adjacent channels are plugged at opposite ends, forcing the exhaust gas to flow through the porous wall, capturing the soot particles on the surface and inside pores of the media. As soot accumulates in the filter, a regeneration event will provide sufficient heat to oxidize and capture the soot. The remaining ash can be removed during regularly scheduled cleaning events based on the recommendations of the engine manufacturer.

**Particulate Filter**
- Replaces the muffler in the exhaust system with standard inlet and outlet connections.
- The Particulate Filter is fully integrated with and constantly monitored by the Electronic Control Module (ECM).
- Reduces particulate matter emissions by 90%.
- DOC increases passive regeneration for improved fuel economy.
- Passive regeneration is an ongoing chemical process to oxidize carbon during a vehicle’s normal operation. “Self-Cleaning”
- Active regeneration is a process that increases heat to oxidize excess carbon in the DPF.
- Particulate Filter cleaning maintenance interval (ash removal) 200,000-400,000 miles (320,000-640,000 km) or up to 6,000 hours, depending on application.
- During normal operation, no driver interaction required. Operator will be alerted if driver action is needed.

**Diesel Particulate Filter (DPF)**
- Collects and oxidizes carbon to remove Particulate Matter (PM) from the exhaust.
- Increases oxidation of carbon in the DPF.
Selective Catalytic Reduction

Nearly one million Cummins Emission Solutions Selective Catalytic Reduction (SCR) systems and complementary components have been in use worldwide since 2005. Selective Catalytic Reduction is an effective and reliable technology that reduces oxides of nitrogen (NOx) emissions for a broad range of on-highway applications and enables enhanced fuel economy. SCR systems require little to no maintenance with occasional dosing system filter maintenance depending on the application.

SCR systems use a chemical reactant, in this case urea, which is called AdBlue® or sometimes Diesel Exhaust Fluid (DEF). AdBlue® converts to ammonia in the exhaust stream and reacts with NOx over a catalyst to form harmless nitrogen gas and water.

The SCR system produced by Cummins Emission Solutions is comprised of three main elements: SCR catalyst, AdBlue® dosing system and the AdBlue®.

1. Exhaust enters the decomposition reactor.
2. A light mist of AdBlue® is added, forming ammonia (NH3).
3. The exhaust and ammonia pass into the SCR catalyst, where they react to form harmless nitrogen and water vapor.
Fleetguard AdBlue®: Produced For Your SCR System

Cummins Filtration produces Fleetguard AdBlue® for your SCR system. Our close affiliation with Cummins Emission Solutions, the leading manufacturer of SCR systems, means we are well equipped to satisfy your AdBlue® requirements. Our world-class production facility in Melbourne, is the first of its kind in Australia to be accredited by the German Association of the Automotive Industry (VDA) in the processes required to manufacture AdBlue®.

Fleetguard AdBlue® is available in packaged and bulk supply including deliveries of 4,000 to 20,000 litres.

For more information on emissions solutions, please contact your local Cummins Filtration Customer Assistance team on 1800 032 037. Alternatively please visit www.cumminsemissionsolutions.com or www.cumminsfiltration.com