

Government - Industry - Consumers

# Clean Diesel Fuel Alliance

INFORMATION CENTER



**Ultra Low Sulfur Diesel fuel for use in locomotive, marine, and non-road engines and equipment offers significant air quality improvement.**

EPA standards require a major reduction in the sulfur content of diesel fuel intended for use in locomotive, marine and non-road engines and equipment, including construction, agricultural, industrial and airport equipment.

EPA standards will reduce current sulfur levels from about 3,000 parts per million (ppm) to 15 ppm or less when fully implemented, a reduction greater than 99 percent.

Starting in 2007, fuel sulfur levels in non-road diesel fuel are limited to a maximum of 500 ppm. This includes fuels used in locomotive and marine applications (except marine residual fuel used by very large engines on ocean-going vessels).

In 2010, fuel sulfur levels in most non-road diesel fuel will be reduced to 15 ppm, making it possible for engine manufacturers to use advanced emissions control systems that significantly reduce harmful emissions.

For locomotive and marine fuel, this step will occur in 2012.

### Non-road Diesel Fuel Standards

Who	Covered Fuel	2006	2007	2008	2009	2010	2011	2012	2013	2014
Large Refiners & Importers	Non-road	500+ ppm	500 ppm	500 ppm	500 ppm	15 ppm	15 ppm	15 ppm	15 ppm	15 ppm
Large Refiners & Importers	Locomotive & Marine	500+ ppm	500 ppm	500 ppm	500 ppm	500 ppm	500 ppm	15 ppm	15 ppm	15 ppm
Small Refiners & Other Exceptions	Non-road, Locomotive & Marine	500+ ppm	500+ ppm	500+ ppm	500+ ppm	500 ppm	500 ppm	500 ppm	500 ppm	15 ppm

In California, all diesel fuel has already made the transition to 15 ppm sulfur.

Under typical operating conditions, there should be no noticeable impact on overall power using ULSD fuel. Maximum power-sensitive applications may experience a slight reduction in power. Fuel economy of all applications may be reduced slightly because the process that removes sulfur also can reduce the energy content of the fuel.

The transition to ULSD for highway vehicles began in June 2006. EPA regulations require that at least 80 percent of highway diesel fuel in the United States be ULSD, and by 2010, all highway diesel fuel will be ULSD.

Diesel engines equipped with advanced emission control devices must use ULSD fuel to prevent damage to these new technologies. Exhaust emissions from these engines will decrease by more than 90 percent.

Federal regulations require the labeling of diesel fuel pumps to specify the type of fuel dispensed by each pump (except in California where all diesel fuel must be ULSD).



Government - Industry - Consumers  
**Clean Diesel Fuel Alliance**  
INFORMATION CENTER

**An alliance of government, industry and consumers.**

Many public and private organizations are collaborating through the Clean Diesel Fuel Alliance to facilitate the transition to ULSD fuel. The U.S. Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA), engine, vehicle and component manufacturers, all sectors of the petroleum industry, and fuel consumers, such as truckers, are providing comprehensive information and technical coordination. For a complete list of participating organizations and for detailed technical and implementation information regarding ULSD fuel, visit [www.clean-diesel.org](http://www.clean-diesel.org).

Government - Industry - Consumers  
**Clean Diesel Fuel Alliance**  
INFORMATION CENTER