

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

Non-Road Diesel Fuel Standards

EPA fuel standards for locomotive, marine and non-road diesel engines and equipment, such as farm or construction equipment, become effective at dates later than those for highway vehicles. California was an early adopter of the new fuel and engine technologies. In California, 100 percent of the diesel sold – downstream from refineries, up to and including fuel terminals that store diesel fuel – was ULSD fuel by July 15, 2006. And, all diesel fuel offered for sale at retail outlets in California was ULSD effective September 1, 2006.

Who	What	U.S.	California
Refiners & Importers	Import/produce at least 80% ULSD for on highway use	6/1/06	6/1/06
	Import/produce 100% ULSD for on highway use	6/1/10	6/1/10
Downstream from Refiners through Fuel Terminals	Facilities that choose to carry ULSD must meet 15 ppm sulfur specification	9/1/06	7/15/06
	All highway diesel must be ULSD	10/1/10	10/1/10
Retail Outlets	Facilities that choose to carry ULSD must meet 15 ppm sulfur specification	10/15/06	12/1/10
	All highway diesel must be ULSD	9/1/06	9/1/06

Effective Dates for Highway ULSD Fuel

Except in California, compliance dates for Non-Road, Locomotive and Marine fuels in the years indicated are: June 1 for refiners and importers, August 1 downstream from refineries through fuel terminals, October 1 for retail outlets, and December 1 for in-use.

In California, all diesel fuel transitioned to ULSD in 2006. Locomotive and Marine diesel fuels were required to transition to 15 ppm ULSD effective January 1, 2007.

One convenient web site can help answer your questions on the new Ultra Low Sulfur Diesel fuel.

visit [www.clean-diesel.org](http://www.clean-diesel.org)

For more information, including guidelines on using biodiesel-ULSD fuel blends and more, along with links to other informational sites, log on today.

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

## Answers to important questions about cleaner-burning diesel fuel, engines and vehicles.



- EPA requirements for highway diesel fuel were predominantly implemented in 2006.
- Effective June 1, 2006, refiners and importers nationwide are now required to ensure that at least 80 percent of the volume of the highway diesel fuel they produce or import is ULSD-compliant.
- Diesel fuel classified as ULSD is flowing to distribution and marketing points downstream from refineries (i.e., pipelines, distributors, terminals and transporters) and is now available at many retail locations.
- Diesel fuel classified as Low Sulfur Diesel may still be sold at retail locations outside of California until December 1, 2010.
- ULSD fuel might not be available at every service station or truck stop. Diesel retailers may choose to sell Low Sulfur Diesel fuel instead of ULSD fuel until December 2010 when only ULSD fuel will be available for highway use.

## Ultra Low Sulfur Diesel (ULSD) fuel and new engines and vehicles offer significant air quality improvement.

To meet U.S. Environmental Protection Agency (EPA) standards designed to improve air quality, the petroleum industry is producing Ultra Low Sulfur Diesel (ULSD) fuel, a cleaner-burning diesel fuel containing a maximum 15 parts-per-million (ppm) sulfur, replacing most Low Sulfur Diesel fuel which contains up to a maximum of 500 ppm sulfur.

In combination with cleaner-burning diesel engines and vehicles, ULSD fuel helps to improve air quality by significantly reducing emissions. Diesel-powered engines and vehicles for the 2007 and later model year are designed with advanced emissions control systems and to operate only with ULSD fuel.

## ULSD fuel is the primary diesel fuel produced.

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- Diesel fuel classified as Low Sulfur Diesel may still be sold at retail locations outside of California until December 1, 2010.
- ULSD fuel might not be available at every service station or truck stop. Diesel retailers may choose to sell Low Sulfur Diesel fuel instead of ULSD fuel until December 2010 when only ULSD fuel will be available for highway use.

## The new EPA standards require compliance from virtually everyone using diesel fuel and vehicles.

The full transition to ULSD is complex and involves coordination at many levels. 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, 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 contacts for detailed technical and implementation information regarding ULSD, visit [www.clean-diesel.org](http://www.clean-diesel.org).

### Answers to frequently asked questions.

**Q** Where can I purchase ULSD fuel?

**A** Although ULSD fuel is the dominant highway diesel fuel produced, EPA does not require service stations and truck stops to sell ULSD fuel. Therefore, ULSD fuel might not be available at every service station or truck stop. Diesel retailers may choose to sell Low Sulfur Diesel fuel instead of ULSD fuel until December 1, 2010 when only ULSD fuel will be available for highway use. The industries involved in the transition are doing all they can to minimize potential inconveniences during the conversion to the ULSD fuel.

**Q** Is there a list of service stations where ULSD is available?

**A** There is no one, centralized list. Motorists are advised to check with the owners/operators of the service stations in their areas to determine whether they are selling ULSD fuel.

**Q** May I continue to purchase Low Sulfur Diesel fuel if I prefer to use it in my older vehicle?

**A** Owners of 2007 and later model year diesel-powered highway vehicles must refuel only with ULSD fuel.\* Owners of 2006 and earlier model year diesel-powered engines and vehicles may use ULSD or Low Sulfur Diesel fuel during the transition period. Only ULSD fuel will be available for highway use starting on December 1, 2010.

**Q** How do I know which pump is dispensing ULSD fuel?

**A** 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). Similar vehicle instrument panel and fuel inlet/fill cap labeling is mandated for 2007 and later model year engines and vehicles that require ULSD fuel. Consumers are advised to check the pump labels ([http://www.clean-diesel.org/images/diesel\\_pump\\_labels.pdf](http://www.clean-diesel.org/images/diesel_pump_labels.pdf)) and vehicle labels to ensure they are refueling with the proper diesel fuel consistent with their vehicle warranties.

**Q** How does ULSD fuel affect air quality?

**A** ULSD fuel enables the use of cleaner technology diesel engines and vehicles with advanced emissions control devices, resulting in significantly improved air quality. Annual emission reductions will be equivalent to removing the pollution from more than 90 percent of today's trucks and buses, when the current heavy-duty vehicle fleet has been completely replaced in 2030.

**Q** May I continue to blend No. 1 diesel (kerosene) with my diesel fuel to improve cold weather performance?

**A** For regulated parties in the fuel distribution chain (including retailers and fleet operators), only Ultra Low Sulfur Kerosene (No. 1 diesel with no more than 15 ppm sulfur) may be blended with ULSD without downgrading the fuel. Individual vehicle owners may add Low Sulfur (up to 500 ppm sulfur) No. 1 diesel to their vehicle's fuel tank(s), as long as the vehicle does not require ULSD. Regardless of sulfur levels, the blend ratios will remain the same. Refiners are producing Ultra Low Sulfur Kerosene for wintertime blending. Consumers are advised to communicate with their fuel suppliers about acquiring ULSK before winter begins. To winterize ULSD, it

is necessary to add ULSK, cold flow improvers or a combination of both. Market participants at every level will need to continue to ensure that the cold flow improvers that are used are appropriate for the base fuel's characteristics, as the diesel fuel market has routinely done in the past. Like ULSD, Ultra Low Sulfur Kerosene may not be available in all areas. Consumers also are advised to check the pump labels and vehicle labels to ensure they are refueling with the proper diesel fuel consistent with their vehicle warranties and using kerosene with the correct sulfur level when blending. Downloadable pump labels in TIF, JGP and EPS formats are available on [Clean-Diesel.org](http://Clean-Diesel.org).

**Q** Is ULSD fuel more expensive than the current Low Sulfur Diesel fuel?

**A** ULSD fuel costs more to refine and distribute than Low Sulfur Diesel fuel. No one can predict with certainty the price of ULSD fuel at the pump. Many factors affect the consumer price of fuels, including the price of crude oil on the global market, geopolitical, weather, transportation and economic events, as well as supply and demand. Visit the Energy Information Administration web site for more information on fuel prices at: <http://tonto.eia.doe.gov/oog/info/gdu/gasdiesel.asp>.

**Q** How does ULSD fuel affect the power and fuel economy of existing diesel cars, trucks and non-road engines and equipment?

**A** Under typical operating conditions, there should be no noticeable impact on overall power using ULSD fuel.\* Fuel economy may be reduced slightly because the process that removes sulfur also can reduce the energy content of the fuel.\*

**Q** Will ULSD fuel affect the performance of my vehicle?

**A** ULSD fuel is fully compatible with the existing fleet, including 2006 and earlier model year vehicles. In some instances, the introduction of ULSD fuel to older vehicles may affect fuel system components or loosen deposits in fuel tanks. As part of a good maintenance program, owners and operators of existing cars, trucks and buses are encouraged to monitor their diesel-powered vehicles closely for potential fuel system leaks or premature fuel filter plugging during the changeover to ULSD fuel.

**Q** Can Low Sulfur Diesel fuel be burned without operational problems in 2007 model year and later cars and trucks?

**A** Diesel-powered engines for 2007 and later model year vehicles are designed to operate only with ULSD fuel. Improper fuel use will reduce the efficiency and durability of engines, permanently damage advanced emissions control systems, reduce fuel economy and possibly prevent the vehicles from running at all.\* Manufacturer warranties are likely to be voided by improper fuel use. Additionally, burning Low Sulfur Diesel fuel in 2007 and later model year diesel-powered cars, trucks and buses is illegal and punishable with civil penalties.\*

**Q** Do I need to put an additive in my fuel tank to replace the lubricity that was provided by the higher sulfur content?

**A** Like Low Sulfur Diesel fuel, ULSD fuel requires good lubricity and corrosion inhibitors to prevent unacceptable engine wear. As necessary, additives to increase lubricity and to inhibit corrosion are added to ULSD fuel prior to its retail sale. With these additives, ULSD fuel is expected to perform as well as Low Sulfur Diesel fuel.

**Q** What are the penalties for failing to comply with EPA's ULSD fuel standards?

**A** The EPA standards provide strong incentives for suppliers to provide the proper ULSD fuel formulation. Civil penalties of up to \$32,500 per violation per day can be assessed for non-compliance with EPA's ULSD fuel standards, or for misrepresentation of the sulfur level of diesel fuel. For more information about ULSD fuel standards and implementation, visit: <http://www.epa.gov/otaq/diesel.htm#hd2007>.

*\* Exception – Some 2007 model year medium-duty and heavy-duty trucks may be equipped with 2006 engines and emission systems. These vehicles are not required to use ULSD fuel.*