

What is required

By EPA mandate, all on-road vehicles in the U.S. equipped with 2007 or newer certified diesel engines are required to use ULSD fuel. From 1993 until recently, the fuel available in the market was low sulfur, containing less than 500 ppm sulfur. Since June 1, 2006, refineries have been required to produce ULSD fuel, which contains less than 15 ppm sulfur. XM-5 Oil Stabilizer is less than 4 ppm so is compatible with the new ultra low sulfur diesel fuel and the new CJ-4 engine oil. On June 1, 2006, Canada also introduced ULSD fuels for 2007-certified engines. And portions of Mexico are moving to ULSD by the end of this year.

Why it is required

Sulfur was reduced in diesel fuel to protect the advanced emissions systems used in 2007 and newer diesel engines. Although ULSD fuel is necessary for these new, high-technology engines to properly operate, engines certified prior to 2007 also can run safely on ULSD fuel.

What it will mean for winter operability

Reducing sulfur content by more than 95% for ULSD fuels creates some problems, both in the new technology engines and in existing diesel engines. In particular, with the winter season approaching, the cold flow performance of ULSD will need to be carefully assessed.

The refining process that removes sulfur affects the fuel's composition, increasing its paraffin content (producing a somewhat waxier fuel). It can be harder to treat ULSD fuel so that it provides good cold flow performance, so it may not be what you are used to. This winter will be the first time that full-scale ULSD will be produced.

Marketers and fuel blenders may find that kerosene, which often has been used to improve the cold weather operability of diesel fuel, isn't as readily available as it used to be. The reason: The kerosene used in a ULSD fuel will also need to be ultra-low in sulfur content. It is also expected to be more expensive to produce. Therefore, it is important for you to evaluate cold flow solutions with your customers, vehicles, and fleets.

A new fuel combination—ULSD and biodiesel blends—also may be found in many markets this winter. Biodiesel fuels have very challenging cold flow properties (both in pour point and in Cold Filter Plugging Point (CFPP) attributes, and when used with ULSD or conventional fuels it can be difficult to achieve desired cold flow