



PRODUCT BULLETIN

Compound 8758

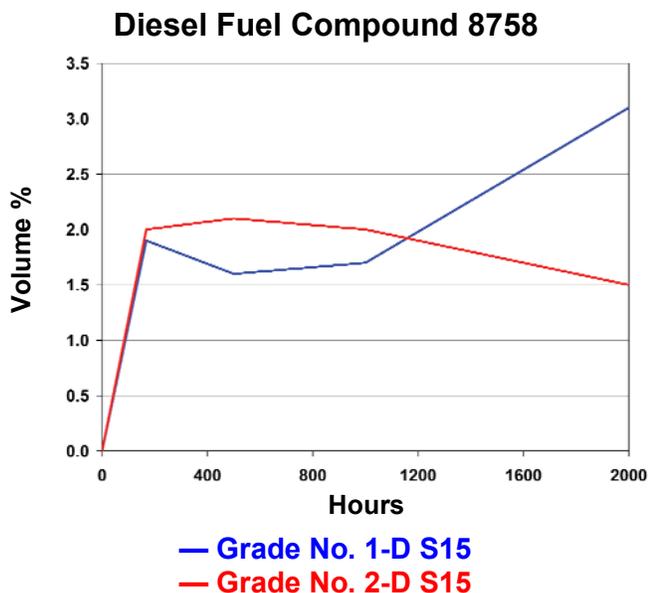
Ultra Low Sulfur Diesel Fuel Compatibility

ULSD Rubber Compatibility

Ultra Low Sulfur Diesel (ULSD) is diesel fuel that has a substantially lower sulfur content. The allowable sulfur content for ULSD is 15ppm. The US and other nations have been moving to ULSD for some time. The change to lower sulfur content is expected to allow the application of newer emissions control technologies that should substantially lower emissions of particulate matter from diesel engines.

The US EPA has mandated that all *highway* diesel fuels sold in the USA since December 1, 2010 must be ULSD. After December 1, 2014, all diesel fuel produced and imported into the US for *highway, non-road, locomotive and marine* use must be ULSD.

While sulfur in diesel fuel contributes to increased emissions, it has the benefit of combining with the nickel content in many metal alloys to form a low melting point eutectic alloy that can increase lubricity. The process for producing ULSD also removes naturally-occurring lubricity agents in diesel fuel. The end result is that ULSD causes degradation and failures to standard engine rubber seals.



Volume Change @175°F

ASTM International adopted the lubricity specification ASTM D975, this specification covers seven grades of diesel fuels. ULSD will run in any engine designed for ASTM D975 diesel fuels. The two most common grades are Grade No. 1-D S15 and Grade No. 2-D S15.

PAI has carried out extensive long term aging at elevated temperatures on a variety of different polymers and compounds in Grade No. 1-D S15 and Grade No. 2-D S15. Based on our analysis of the resulting data, we are confident that compound 8758 will satisfy all the requirements of a rubber seal exposed to ULSD. PAI compound 8758 is a peroxide cured low temperature Fluoroelastomer. The accompanying graph displays volume change data at 2,000 hours for compound 8758 in both fuels.



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