# Ultrium™ 7700
# diesel fuel lubricity additive

ashless lubricity improver for ultra-low sulfur diesel fuels

## product information

Ultrium 7700 is a viscous amber liquid polymer derived from synthetic olefins

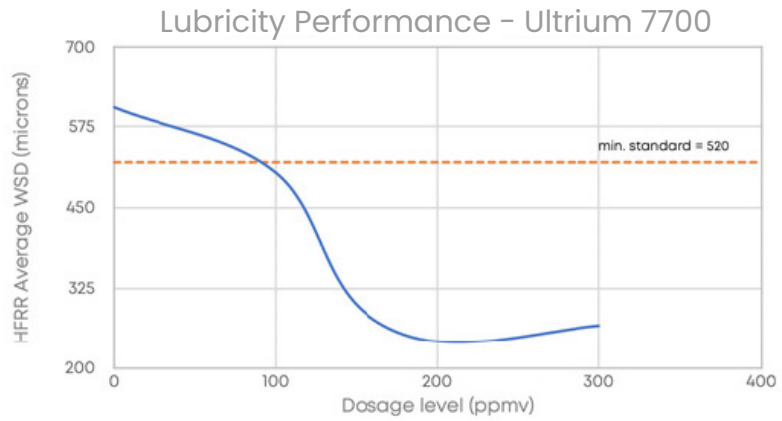
## application background

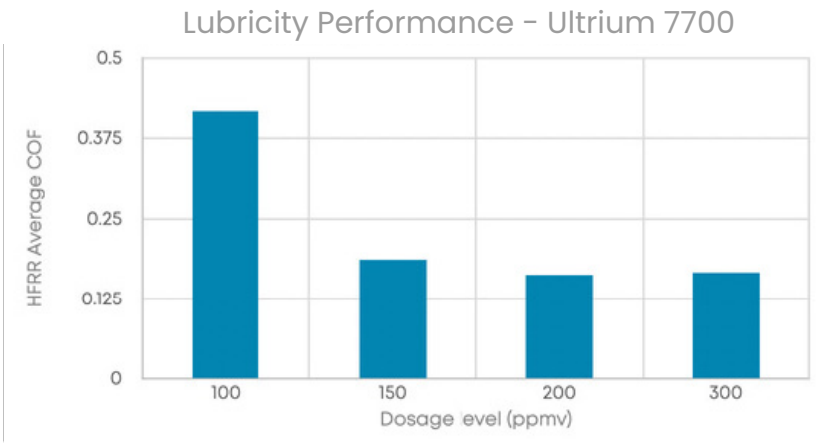
Ultrium 7700 is an ashless polymeric ester technology providing friction reducing properties in diesel fuel applications. Sulfur levels in diesel fuel have a direct impact on the vehicle emissions and on the overall performance of advanced exhaust treatment systems in vehicles.

Lubricity modifiers generate critical separation that effectively prevents asperity contact between dynamic metal surfaces, thereby reducing wear. The level of sulfur in the fuel generally depends on the type and severity of crude processing. Reducing the sulfur level in the hydrocarbon molecule significantly diminishes the inherent lubricity of the fuel. Original equipment manufacturers (OEMs) generally consider low level of sulfur (< 350 ppmv) unacceptable for use in diesel fuel application. Suitably designed diesel lubricity improvers are added to restore critical lubricity in the fuel and help improve friction and wear characteristics of the fuel injection systems.

## performance benefits

- proven high frequency reciprocating rig (HFRR) performance in diesel fuel
- compatible with commonly used fuel additives
- demonstrates strong corrosion protection
- good electrical properties
- low sulfur content (<15 ppm) minimizes impact on ultra-low sulfur diesel (ULSD)

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## typical characteristics

| | |
|---|---|
| Appearance | viscous amber liquid |
| Color (Garner Scale) | 7 |
| Viscosity @ 100 °C (cSt) | 36 |
| Density @ 100 °C (g/cm3) | 0.9524 |
| Specific Gravity @ 25 °C | 1.008 |
| Flash Point, °C (PMCC) | 168 |
| Water Content, ppm | 300 |
| Total Acid Number (mgKOH/g) | 6.1 |
| Sulfur, ppm | 3.9 |

## electrical behavior

| | |
|---|---|
| Specific Conductivity @ 100 °C (nS/m) | 126.7 |
| Breakdown Voltage, 1 mm (kV) | 25.1 |

## no harms test

| | |
|---|---|
| Corrosion (ASTM D665 A, ASTM D130) | ✓ |
| Oxidation Stability (ASTM D2274) | ✓ |
| Cold Temperature (ASTM D2500, ASTM D6371) | ✓ |
| Cetane Number of Diesel Fuel (ASTM D613) | ✓ |
| Water Reaction (ASTM D1094) | ✓ |

## recommended dosage and handling information

- Ultrium 7700 is suitable for use as a stand-alone additive
- Typical treat rates are in the range of 75 - 250 ppmv, depending on the fuel type
- We recommend using HFRR test method CEC F-06-A-96 or similar, to establish the specific treat rate for target application
- Treat rate of Ultrium 7700 will be dependent on the severity and quality of the base fuel in application

| | |
|---|---|
| Pour Point | 15 °C |
| Maximum Handling Temperature | 70 °C |
| Shelf Life | 24 months at ambient temperature |

## learn more about our transportation solutions

Innovative high-quality fuel and lubricant additives which extend the life of engines, fluids, and other key mechanical components offer our customers' advantages over the baseline technologies



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