



SHP® Diesel Full Synthetic Engine Oil

Kendall® SHP Diesel Full Synthetic Engine Oil is a premium quality, full-synthetic engine oil developed for use in four-stroke cycle diesel engines operating under extreme temperature conditions. It meets API CJ-4 performance requirements for use in modern low-emission engines designed to meet 2007 on-highway exhaust emission standards, and is backward serviceable for use in older diesel engines where API CI-4 PLUS, CI-4, CH-4 or CG-4 oils are specified. It is specially formulated with advanced low-SAPS (Sulfated Ash, Phosphorus and Sulfur) additive technology to protect exhaust aftertreatment devices such as diesel particulate filters (DPFs) and diesel oxidation catalysts (DOCs). The full-synthetic formulation and SAE 5W-40 viscosity grade provide excellent low-temperature properties for better performance in harsh winter climates.

SHP Diesel Full Synthetic is manufactured with synthetic base stocks and an advanced performance additive package to provide outstanding wear protection, soot control and bearing corrosion protection in both conventional and EGR-equipped diesel engines. It has excellent soot dispersancy to protect against abrasive wear and soot-induced oil thickening, and to ensure good low-temperature pumpability even with highly soot-laden oil. The full-synthetic formulation provides enhanced oxidation resistance and thermal stability at high temperatures and improved low-temperature properties compared with a conventional, non-synthetic formulation.

SHP Diesel Full Synthetic meets or exceeds the performance requirements of API Service Categories CJ-4, CI-4, CH-4, CG-4 and SM. It is approved under the latest OEM specifications from Caterpillar, Cummins, Detroit Diesel, Mack and Volvo for use in their 2007 emissions-compliant engines. It is formulated for use in diesel engines operating on diesel fuels with sulfur content up to 500 ppm. However, for use with non-ULSD (Ultra-Low Sulfur Diesel) fuels with sulfur content greater than 15 ppm, consult the engine manufacturer for recommended service interval.

Applications

- On- and off-highway diesel equipment operating at low ambient temperatures
- On-highway diesel trucks equipped with exhaust aftertreatment devices such as diesel particulate filters and oxidation catalysts

**Premium
Full-Synthetic
API CJ-4 Diesel
Engine Oil For
Low-Emission
Engines**

U.S. Customer
Service:

1-800-368-7128

Technical Hot Line:

1-877-445-9198

International
Customer Service:

1-832-486-3363

1-832-486-3870

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- Diesel engines equipped with exhaust gas recirculation (EGR) or other NOx-reduction technologies
- Older diesel equipment with conventional, non-EGR engines, and without aftertreatment devices
- Off-highway construction, earth moving and mining equipment
- Mixed fleets with diesel and gasoline-fueled vehicles

SHP Diesel Full Synthetic meets or exceeds the requirements of:

- API Service CJ-4, CI-4, CH-4, CG-4, SM
- API CI-4 PLUS
- Caterpillar ECF-3, ECF-2, ECF-1a
- Cummins CES 20081
- Detroit Diesel Power Guard 93K218, Power Guard 93K214, 7SE270 (4-stroke cycle engines)
- Deutz DQC III-05
- International (Navistar) diesel engines
- Mack EO-O Premium Plus
- Renault VI RLD-3
- Volvo VDS-4, VDS-3, VDS-2

Features/Benefits

- Excellent protection for 2007 emissions-compliant engines as well as older diesel engines
- Specially formulated to protect against particulate filter plugging and exhaust catalyst poisoning
- Outstanding soot control for protection against abrasive wear and soot-induced oil thickening
- Outstanding resistance to viscosity and thermal breakdown at high temperatures
- Protects against sludge and varnish formation
- Protects against wear, rust and bearing corrosion
- Excellent low-temperature pumpability for easier starting and less wear during cold starts
- High shear stability
- Good resistance to foaming and aeration

Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.

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SHP® Diesel Full Synthetic Engine Oil**Typical Properties**

SAE Grade	5W-40
Specific Gravity @ 60°F	0.853
Density, lbs/gal @ 60°F	7.10
Color, ASTM D1500	4.0
Flash Point (COC), °C (°F)	240 (464)
Pour Point, °C (°F)	-48 (-54)
Viscosity, Kinematic	
cSt @ 40°C	95.0
cSt @ 100°C	15.1
Viscosity Index	168
Cold-Cranking Viscosity, cP @ -30°C	6,100
High-Temp/High-Shear Viscosity, cP @ 150°C	4.2
Sulfated Ash, ASTM D874, wt %	1.0
Total Base Number (TBN), ASTM D2896	9.3
Zinc, wt %	0.132

Health and Safety Information

For recommendations on safe handling and use of this product, please refer to the Material Safety Data Sheet via <http://w3.conocophillips.com/NetMSDS>.

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