Guardol ECT® Motor Oil with Liquid Titanium®

Guardol ECT (Emission Compatible Technology) Motor Oil with Liquid Titanium protection additive is a premium quality, part-synthetic API CJ-4 engine oil developed for use in four-stroke cycle diesel engines designed to meet 2007 and later EPA on-highway exhaust emissions standards. It is specially formulated for compatibility with exhaust aftertreatment systems using diesel particulate filters (DPF), diesel oxidation catalysts (DOC) and/or selective catalytic reduction (SCR). It is backward serviceable for use in pre-2007 diesel engines, and may be used in mixed fleets with both diesel and gasoline-fueled vehicles.

Guardol ECT with Liquid Titanium is formulated with a blend of synthetic and high-quality Group II base stocks and a proprietary low-SAPS additive package to provide outstanding engine protection in new and older diesel engines. It is fortified with our exclusive Liquid Titanium® protection additive for enhanced oxidation resistance and protection against wear. This additive enhancement provides increased engine protection from a strongly bonded titanium shield formed on the surface of critical engine parts, which reduces wear and helps extend component life.

Guardol ECT with Liquid Titanium 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. It provides excellent bearing corrosion protection and protects against sludge and varnish formation. The synthetic blend formulation provides enhanced thermal stability at high temperatures and improved low-temperature properties compared with conventional diesel engine oils.

Guardol ECT with Liquid Titanium meets or exceeds the performance requirements of API Service Categories CJ-4 and SN, and is approved under the latest OEM specifications for use in low-emission diesel engines. It is backward serviceable for use where earlier API “C” category engine oils, or the concurrent earlier OEM specifications, are specified. It is formulated for use in diesel engines operating on diesel fuels with sulfur content up to 500 ppm. However, for applications not using Ultra-Low Sulfur Diesel (ULSD), consult the engine manufacturer for recommended service interval.

Premium Synthetic Blend API CJ-4 Diesel Engine Oil; Fortified With Liquid Titanium® Protection Additive

LIQUID TITANIUM PROTECTION ADDITIVE

CONTACT INFORMATION

Phillips66 Lubricants.com

U.S. Customer Service:
1-800-368-7128

Technical Hotline:
1-877-445-9198

International Customer Service:
1-832-765-2500

E-mail address:
lubricants@p66.com

Applications

- On-highway diesel trucks equipped with EGR and exhaust aftertreatment systems to meet 2007/2010 emissions standards
- Older diesel equipment with conventional, non-EGR engines or ACERT engines
- Off-highway construction, earth moving and mining equipment
- Mixed fleets with diesel and gasoline-fueled vehicles

Guardol ECT with Liquid Titanium is licensed or OEM-certified for:

- API Service CJ-4, CI-4 with CI-4 PLUS, CI-4, CH-4, SN
- Cummins CES 20081 (SAE 15W-40)
- Detroit Diesel Power Guard 93K218 (SAE 15W-40)
- Mack EO-O Premium Plus (SAE 15W-40)
- Mercedes-Benz Sheet 228.31 (SAE 15W-40)
- MTU MTL 5044 Type 2.1 (SAE 15W-40)
- Renault VI RLD-3 (SAE 15W-40)
- Volvo VDS-4 (SAE 15W-40)

Guardol ECT with Liquid Titanium meets or exceeds the requirements of:

- ACEA E9-08, E7-08 (SAE 15W-40)
- Caterpillar ECF-3, ECF-2, ECF-1-a
- Chrysler MS-10902 (SAE 15W-40)
- Ford WSS-M2C171-E
- JASO DH-2 (SAE 15W-40)
- Mack EO-M Plus
- Mercedes-Benz Sheet 228.3 (SAE 15W-40)
- Renault VI RLD-3 (SAE 15W-40)
- Diesel engines manufactured by OEMs not listed above, where the OEM specifies API CJ-4 engine oil

Features/Benefits

- Excellent protection for newer low-emission diesel engines and older diesel engines
- Specially formulated to protect exhaust aftertreatment systems
- Exclusive Liquid Titanium® protection additive provides enhanced oxidation resistance and protection against engine wear
- 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 rust and bearing corrosion
- Excellent low-temperature pumpability with soot-laden oil
- 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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Typical Properties

SAE Grade	10W-30	15W-40
Specific Gravity @ 60°F	0.872	0.877
Density, lbs/gal @ 60°F	7.26	7.30
Color, ASTM D1500	L 4.0	4.0
Flash Point (COC), °C (°F)	226 (439)	229 (444)
Pour Point, °C (°F)	-40 (-40)	-40 (-40)
Viscosity, Kinematic		
cSt @ 40°C	80.0	115
cSt @ 100°C	12.2	15.3
Viscosity Index	149	139
Cold Cranking Viscosity, cP	6,300	6,000
@ (°C)	(-25)	(-20)
High-Temp/High-Shear Viscosity, cP @ 150°C	3.6	4.4
Sulfated Ash, ASTM D874, wt %	0.95	0.95
Total Base Number (TBN), ASTM D2896	9.5	9.5
Titanium, wt %	0.010	0.010
Zinc, wt %	0.126	0.126

Health and Safety Information

For recommendations on safe handling and use of this product, please refer to the Material Safety Data Sheet via *http://w3apps.phillips66.com/NetMSDS*.

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