



CITGO® CITGARD® HD Engine Oil

OVERVIEW



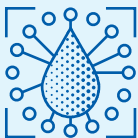
- A heavy duty engine oil designed for both older and newer diesel engines equipped with low-emission technology.
- For equipment owners operating within normal duty cycles and maintaining engine manufacturer recommended oil change intervals.
- Meets the API CK-4 and earlier API Categories.

FEATURES & BENEFITS

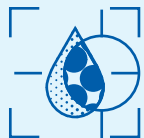


- Clean-engine detergent additive system.
- Soot control protection.
- Additive technology protects against corrosive and other types of wear.
- Protects against viscosity breakdown.
- Improved oxidation protection, versus API CJ-4 engine oils.

APPLICATIONS



- Approved for vehicles requiring:
API Service Categories CK-4, CJ-4, CI-4 Plus, CI-4, or CH-4/SN.
Cummins CES 20086
Detroit Diesel DFS 93K222
Volvo/Mack/Renault VDS-4.5/EOS-4.5/RLD-3
- Recommended for equipment requiring Caterpillar ECF-3, Paccar and Navistar.

PROPERTIES**Typical Properties for CITGO CITGARD HD Engine Oil:**

SAE Grade	15W-40
Material Code	622515001
Gravity, ASTM D4052, °API	29.7
Density, lb/gal	7.31
Flash Point, ASTM D92 (COC), °F (°C)	442 (228)
Viscosity ASTM D445	
cSt at 40°C	117
cSt at 100°C	15.6
Viscosity Index, ASTM D2270	142
HTHS Rate Viscosity at 150°C, ASTM D4683, cP	4.2
CCS Viscosity at -20°C, ASTM D5293, cP	5800
MRV Pumpability at -25°C, ASTM D4684, cP	17,000
MRV Yield Stress at -25°C, ASTM D4684	<35
Pour Point, ASTM D97, °F (°C)	-33 (-36)
Color, ASTM D1500	L4.5
Sulfated Ash, ASTM D874, m%	1.0

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