



CITGO CITGARD® 600 ENGINE OILS

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**DESCRIPTION:** CITGO CITGARD 600 Engine Oils use superior technology to protect low-emissions engines equipped with exhaust after-treatment systems and other new design features. The high performance formulations are specifically engineered for modern engine designs and operating conditions that impose increased stress on engine oil. These engine oils meet the API CK-4 heavy duty requirements as well as major diesel engine manufacturer performance requirements and are an excellent choice for equipment owners needing longer engine and oil service life.

- PERFORMANCE BENEFITS:**
- Formulated to reduce oil aeration in modern high fuel injection pressure engines
  - Protects against viscosity breakdown resulting from engines designed with high contact timing gears
  - Double the oxidation protection on the Volvo T-13 oxidation test compared to API CJ-4 engine oils
  - Maintains a state-of-the-art wear control barrier in heavily loaded engine components
  - Provides advanced soot control by utilizing a SootArrest™ soot dispersant chemistry
  - Extends diesel particulate filter (DPF) life by maintaining excellent engine cylinder condition
  - SAE 10W-30 grade improves fuel economy and cold cranking lubrication
  - Provides multiple cost saving benefits when combined with CITGO LubeAlert™ oil analysis program

**PERFORMANCE CAPABILITIES:**

Equipment requiring API CK-4, CJ-4, CI-4 PLUS, CI-4, CH-4/SN (SN for 15W-40 grade only)	Caterpillar ECF-3
Volvo/Mack/Renault - VDS-4.5/EOS-4.5/RLD-4	Cummins CES 20086
	Detroit Diesel 93K222

**APPLICATIONS:** Recommended for use in heavy-duty service in commercial trucks, agricultural equipment, construction equipment, stationary engines, and other diesel-fueled engine applications.

**TYPICAL PROPERTIES:**

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SAE Grade	15W-40	10W-30
Material Code	622615001	622613001
Gravity, ASTM D 4052, °API	30.8	31.5
Density, lbs/gal	7.28	7.25
Flash Point, ASTM D 92 (COC), °F (°C)	455 (235)	435 (224)
Viscosity, ASTM D 445, cSt at 40°C	114.9	82
cSt at 100°C	15.7	12.0
Viscosity Index, ASTM D 2270	145	141
HTHS Rate Viscosity at 150°C, ASTM D 4683, cP	4.1	3.5
CCS Viscosity, ASTM D 5293, cP	4,860 at -20°C	6,250 at -25°C
MRV Pumpability, ASTM D 4684, cP	18,800 at -25°C	23,500 at -30°C
MRV Yield Stress, ASTM D 4684	<35 at -25°C	<35 at -30°C
Pour Point, ASTM D 97, °F (°C)	-33 (-36)	-38 (-39)
Color, ASTM D 1500	L4.0	L3.0
Sulfated Ash, ASTM D 874, m%	1.0	1.0
Total Base Number, ASTM D 2896, mg KOH/g	9.2	10

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