



UNITED ECO-MAX

Product Description:

United Eco-Max are Advanced Heavy-Duty CK-4 & FA-4 Diesel Engine Oils that are specially designed to meet new Proposed Category 11 (PC-11) specifications for heavy-duty-vehicle. A new category be split into two separate and distinct subcategories: one that preserves historical heavy-duty oil criteria and one that provides additional fuel efficiency and economy benefits for modern diesel engine technology while maintaining durability. United Eco-Max improve engine performance that are being addressed include oxidation stability, shear stability and aeration.

United Eco-Max not only meets API credentials, but also is also designed to meet the latest original equipment manufacturers (OEMs) performance specifications in appropriate grades and base stocks - including Caterpillar, Cummins, Detroit Diesel, Mack, Renault, Volvo, Mercedes-Benz, MAN, and Ford. United Eco-Max also meets the self-certifying requirements of ACEA E9.

Applications / Benefits:

- ▣ Better protect engines, minimizes oil consumption.
- ▣ Satisfying most diesel engine OEM oil demands.
- ▣ Hydro-treated base, inherent thermal-stability and anti-oxidation property.
- ▣ Particular suitable for the modern diesel engine.
- ▣ Provide better fuel economy, and reduce GHG emissions.

Typical Characteristics:

Test Description	Method	Eco-Max FA10	Eco-Max 10	Eco-Max 15
SAE Viscosity Grade	SAE J 300	10W-30	10W-30	15W-40
API	-	FA-4	CK-4	CK-4/SN
Specific Gravity @ 15 °C	ASTM D 4052	0.879	0.881	0.883
Flash Point, °C	ASTM D 92	220	224	228
Pour Point, °C	ASTM D 97	-27	-27	-24
Kinematic Viscosity, cSt @ 40°C	ASTM D 445	65.8	82.7	111
cSt @ 100°C	ASTM D 445	9.82	11.8	14.7
Viscosity Index	ASTM D 2270	132	135	136
TBN, mgKOH/g	ASTM D 2896	9.8	9.8	9.8
Color	ASTM D 1500	≤ 4.0	≤ 4.0	≤ 4.0
HTHS, cP	ASTM D 5481	3.0	3.6	4.1

Product Data Sheet



United Oil
PERFORMANCE • VALUE • RELIABILITY

Specifications, Approvals & Recommendations:

- API CK-4/SN in SAE 15W40
- API CK-4 & FA-4 in SAE 10W30
- API CJ-4, CI-4+, CI-4, CH-4
- ACEA E9-12, E7-12
- Caterpillar ECF-3
- Cummins 20081, 20086, 20087
- Daimler MB 228.31
- Deutz DQC III-10 LA
- DDC 93K222, DDC 93K223, DDC 93K218
- Ford WSS-W2C171-E, WSS-W2C171-F
- Mack EOS-4.5, EO-O Premium Plus
- MAN M3575, M3275
- MTU CATEGORY 2.1
- Renault RLD-4, RLD-3
- Volvo VDS-4.5, VDS-4

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