

**MTX Plus
API CK-4/SN**



MTX Plus 15W-40 and 10W-30 Diesel Engine Oil API CK-4/SN

Represents the highest level of engine protection and performance specifications for modern diesel engines.

New engine design strategies for some original equipment manufacturers will result in engines operating at higher temperatures and the need for greater oxidation protection. In addition, to protect bearings from wear due to cavitation and in applications where the engine oil serves as a hydraulic fluid, improvements in oil aeration were required. The API CK-4 category of engine oils was developed to meet these requirements.

MTX Plus 15W-40 API CK-4/SN Engine Oil exceeds the requirements of API CK-4 and is specifically designed to protect emission control systems, comply with emission standards, reduce engine wear, and control piston deposits and oil consumption. Fully backward compatible, it provides additional protection benefits to older engines operating on Ultra-Low Diesel (ULSD) or Low Sulfur Diesel (LSD).

MTX Plus handles twice the soot of CI-4 oils and delivers far improved wear protection, deposit and oil consumption control, soot-related viscosity control, prevention of viscosity loss from shearing, used oil low-temperature pumpability, and protection from thermal and oxidative breakdown.

Performance Attribute

Performance Benefit

Patented Soot Dispersancy Technology

Keeps soot particles finely dispersed, resulting in reduced oil thickening and improved abrasive wear prevention. Offers twice the soot handling capability of CI-4 oils.

Heavily Fortified with Detergents

Built in reserve of long lasting detergent power. High TBN provides extra protection against corrosive acids that can damage engine hardware. Controls ring and piston deposits. Supports longer drain intervals and increases service uptime.

Shear-Stable, Viscosity Index Improver

Oil stays in-grade. Protects against viscosity breakdown due to shear.



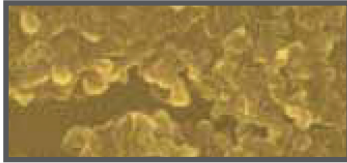
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Patented Soot Dispersants Reduce Wear

Other Oil



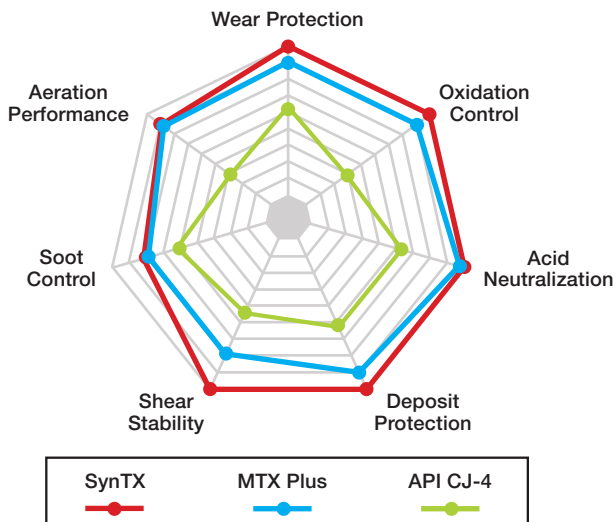
Without soot dispersant additives, soot clumps together, causing oil thickening that can cause reduced lubrication and abrasive wear.

MTX Plus 15W-40



MTX Plus diffuses soot into finer particles, resulting in reduced oil thickening and improved abrasive wear prevention.

Relative Performance Chart



Performance Benefits:

- Protects Emission Control Systems
- Complies with EPA Emission Standards
- Handles Double the Soot of API CI-4 Oils
- Offers Greater Oxidation Protection
- High 10 TBN with Reserve Power
- Exceptional Protection Against Valve Train Wear and Bore Polishing
- Outstanding Protection Against Rust and Corrosion
- Protects Against Viscosity Breakdown
- Reduces Thermal Breakdown
- High Levels of Detergency Keeps Engines Clean
- Ideal for Mixed Fleets

Recommended for:

New diesel engines equipped with exhaust emission control systems, older diesel engines requiring improved protection. This lubricant excels in high demand, heavy-duty diesel applications.

Specifications/Approvals:

Recommended for diesel engines and, where appropriate, gasoline engines requiring any of the following specifications:

- API CK-4, CJ-4, CI-4 PLUS, CI-4, CH-4, CG-4, CF, SN*, SM*, SL* Performance
- Mack EOS-4.5, EO-O Premium Plus '07, EO-N Premium Plus '03, EO-M Plus, EO-M
- Caterpillar ECF-3, ECF-2, ECF-1-a
- Cummins CES 20086, 20081, 20077, 20076
- Detroit Diesel 93K222, 93K218
- MAN 3575
- Mercedes Benz 228.31
- MTU Category 2.1
- Volvo VDS-4.5, VDS-4, VDS-3, VDS-2
- Renault RLD-4
- ACEA E9-2012, E7-04, E4, E2
- MIL-L-2104E
- Allison TES439*
- Ford WSS-M2C171-F1

*15W-40 only

Typical Properties

Property	Method	15W-40	10W-30
Viscosity @ 100°C, cSt	ASTM D-445	15.5	12.2
Viscosity @ 40°C, cSt	ASTM D-445	118.9	82.1
Viscosity Index	ASTM D-2270	137	143
HTHS Viscosity, cP	ASTM D-4683	4.2	3.5
MRV @ -25°C, cP	ASTM D-4684	25,100	
MRV @ -30°C, cP	ASTM D-4684		21,400
CCS Viscosity @ -20°C, cP	ASTM D-5293	6,490	
CCS Viscosity @ -25°C, cP	ASTM D-5293		6,280
Sulfated Ash, wt. %	ASTM D-874	1.0	1.0
Total Base Number	ASTM D-2896	9	10