# Mobil

#### Mobil Delvac MX™ F2 15W-40

Mobil Commercial Vehicle Lube, United States

High Performance Diesel Engine Oil

#### **Product Description**

Mobil Delvac MX<sup>™</sup> F2 15W-40 is a high performance diesel engine oil that helps extend engine life in severe on and off highway applications. The advanced chemistry of these products delivers exceptional performance in both modern, high-output engines including those with Exhaust Gas Recirculation (EGR), as well as older engines operating on either low or high sulfur fuels. As a result, Mobil Delvac MX<sup>™</sup> F2 15W-40 meets or exceeds the API CI-4 PLUS service category.

Mobil Delvac MX<sup>™</sup> F2 15W-40 is recommended by ExxonMobil for use in a wide range of heavy duty applications and operating environments found in the trucking, mining, construction, quarrying, marine and agricultural industries. These products will provide outstanding protection in the most demanding diesel engines of Caterpillar, Cummins, Detroit, Mack, Navistar, Volvo, and others. Mobil Delvac MX<sup>™</sup> F2 15W-40 also meets or exceeds the API SL specification for gasoline engines and mixed fleets.

The outstanding performance reserve of Mobil Delvac MX<sup>TM</sup> F2 15W-40 is the result of extensive cooperative development work with major Original Equipment Manufacturers (OEMs) and advanced additive chemistry with patented Trimer technology. These enhancements assure excellent control of oil thickening due to soot build-up and exposure to higher temperatures and provide outstanding resistance to oxidation, corrosion, wear, and high temperature deposits.

#### Features and Benefits

Modern high output diesel engines including those using EGR technology generate higher levels of soot and run at higher temperatures than older, naturally aspirated engines, which significantly increases the demands on engine lubricants. These engine designs reduce oil consumption, resulting in less fresh oil makeup to replenish depleted additives. Top piston rings are located higher on the piston bringing the oil film closer to the combustion chamber where higher temperatures increase thermal stress on the lubricant. Higher fuel injector pressure and retarded timing improve exhaust emission control, but also increase engine temperatures and increase soot loads, including those engines operating with EGR. The key benefits include:

Features	Advantages and Potential Benefits
Outstanding thermal and oxidation stability	Reduced low temperature sludge build-up and high temperature deposits
Extended TBN reserves	Improved soot handling and extended drain intervals
Stay-in-grade shear stability	Reduced oil consumption and wear protection Maintains viscosity in severe, high temperature service
Excellent low temperature pumpability	Easier engine start-up and reduced wear
Superb resistance to corrosion	Longer life of critical wear surfaces

### **Applications**

Recommended by ExxonMobil for use in:

- · High performance diesel applications including pre-2007 turbo-charged, low emission engines designs, including those featuring EGR technology
- · On highway applications operating in both high speed/high load and short haul pick-up/delivery
- Off highway applications operating in severe low speed/heavy load conditions
- Modern marine high-speed diesel engines, including Caterpillar, Cummins, Volvo, Daihatsu, and Yanmar.
- · High performance gasoline engines and mixed fleet operators

- Diesel-powered equipment from American and Japanese OEMs
- On highway heavy duty trucking and off highway including: construction, mining, quarrying, and agriculture

Speci	fications	s and	Anı	proval

Specifications and Approvals
This product has the following approvals:
MACK EO-M PLUS
MACK EO-N Premium Plus 03
VOLVO VDS-3
Detroit Detroit Fluids Specification 93K214
ZFTE-ML 04C
This product is recommended for use in applications requiring:
API CG-4
API CF
ACEA E5-02
VOLVO VDS-2
MACK EO-M
MAN M 3275-1
CUMMINS CES 20072
CUMMINS CES 20071
Detroit 7SE 270 (4-STROKE CYCLE)
This product meets or exceeds the requirements of:
API CI-4 PLUS
API CI-4
API CH-4
API SL
APISJ
CATERPILLAR ECF-2
Cummins CES 20078
CUMMINS CES 20077

This product meets or exceeds the requirements of:

**CUMMINS CES 20076** 

## Properties and Specifications

Property	
Kinematic Viscosity @ 100 C, mm2/s, ASTM D445	15.6
Kinematic Viscosity @ 40 C, mm2/s, ASTM D445	123
Cold-Cranking Simulator, Apparent Viscosity @ -20 C, mPa.s, ASTM D5293	6000
Mini-Rotary Viscometer, Apparent Viscosity, -25 C, mPa.s, ASTM D4684	29000
Hi-Temp Hi-Shear Viscosity @ 150 C 1x10(6) sec(-1), mPa.s, ASTM D4683	4.3
Viscosity Index, ASTM D2270	133
Ash, Sulfated, mass%, ASTM D874	1.3
Total Base Number, mgKOH/g, ASTM D2896	12
Pour Point, °C, ASTM D97	-30
Flash Point, Cleveland Open Cup, °C, ASTM D92	230
Density @ 15 C, kg/l, ASTM D4052	0.879

# Health and safety

Health and Safety recommendations for this product can be found on the Material Safety Data Sheet (MSDS) @ http://www.msds.exxonmobil.com/psims/psims.aspx

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Typical Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally. For more information, contact your local ExxonMobil contact or visit www.exxonmobil.com

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