# **Mobil**<sup>®</sup>

## Mobil Delvac Modern™ 10W-40 Super Defense

Mobil Commercial Vehicle Lube , Cyprus

High Performance Diesel Engine Oil

### Product Description

Mobil Delvac Modern<sup>™</sup> 10W-40 Super Defense is a high performance engine oil with Synthetic Technology that provides excellent lubrication of today's diesel and gasoline engines operating in severe applications to keep engines clean and promote long engine life. As a result, this product is recommended by ExxonMobil for European, Japanese and American engines. Mobil Delvac ModernTM 10W-40 Super Defense is engineered with a blend of advanced technology base stocks and additive system to provide a strong foundation for oxidation resistance, soot handling, and wear control supplemented with excellent piston deposit protection and reduced sludge formation to help provide long engine life. The viscosity and multigrade characteristics provide excellent cold cranking and oil pumpability at low temperatures.

#### Features and Benefits

High output, low emission engines significantly increase demands on engine lubricants. Tighter engine design, use of inter-coolers, and turbochargers increase thermal stresses on the lubricant. Low emission engine technologies such as higher fuel injection pressure and retarded timing require improved oil performance in areas such as oxidation stability, soot dispersancy, and volatility. Mobil Delvac ModernTM 10W-40 Super Defense is formulated from high performance base oils and a superior balanced additive system to provide optimum engine performance in modern diesel and gasoline engines as well as older models. Key benefits include:

Features	Advantages and Potential Benefits
Increased thermal and oxidation stability	Reduced sludge build-up, deposits, and long oil and engine life
Enhanced wear protection	Long component and engine life
Improved corrosion protection	Reduced bearing wear to assist with long drain intervals in modern diesel engines
Advanced piston deposit control	Keeps engines clean with reduced maintenance costs and long engine life
Advanced soot handling to control viscosity increase, sludge build up, and filter pressure	Enhanced engine protection for long engine life
Enhanced low temperature pumpability	Faster start up with reduced wear operating in low temperature climates

#### Applications

Recommended by ExxonMobil for use in:

- Naturally aspirated and turbo-charged diesel powered engines built by European, Japanese, and American manufacturers
- On-highway light and heavy-duty trucking including mixed fleets with gasoline engines and cars
- Off-highway industries including: mining, construction, quarrying, and agriculture

#### Specifications and Approvals

This product has the following approvals:
KAMAZ V-8 Euro-3, Euro-4 and Euro-5 engines
Mack EO-M Plus
Mack EO-N
MB-Approval 228.3
MTU Oil Category 2
RENAULT TRUCKS RLD-2
VOLVO VDS-3
Cummins CES 20077
Cummins CES 20078

This product is recommended for use in applications requiring:
ACEA A2
ACEA B2
APICF
API CF-4
APICG-4
Cummins CES 20071
Cummins CES 20072
Detroit 7SE 270 (4-STROKE CYCLE)
MAN M 3275-1
RENAULT TRUCKS RLD
VOLVO VDS-2

This product meets or exceeds the requirements of:
API CH-4
API CI-4
API SJ
API SL
ACEA E7

This product meets or exceeds the requirements of:	
Caterpillar ECF-2	
Cummins CES 20076	

#### **Properties and Specifications**

Property	
Grade	SAE 10W-40
Viscosity Index, ASTM D2270	154
Pour Point, °C, ASTM D97	-36
Total Base Number, mgKOH/g, ASTM D2896	11.1
Flash Point, Cleveland Open Cup, °C, ASTM D92	210
Ash, Sulfated, mass%, ASTM D874	1.15
Kinematic Viscosity @ 100 C, mm2/s, ASTM D445	14.8
Density @ 15 C, g/ml, ASTM D1298	0.867
Kinematic Viscosity @ 40 C, mm2/s, ASTM D445	100

#### 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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