# **Mobil**<sup>®</sup>

## Mobil Delvac Modern<sup>™</sup> 20W-50 Super Defense

Mobil Commercial Vehicle Lube, Saudi Arabia

High Performance Diesel Engine Oil

## **Product Description**

Mobil Delvac Modern 20W-50 Super Defense is a high performance diesel engine oil that provides excellent lubrication of today's diesel engines promoting extended engine life. As a result, this product meets or exceeds the specifications of virtually all major European and American engine manufacturers. This high performance has been proven in the field in a wide variety of industries, applications, and mixed fleets.

The chemistry of this product provides excellent performance in both modern, demanding low-emission diesel engines and older diesel engines operating on low or high Sulphur fuel. Mobil Delvac Modern 20W-50 Super Defense combines a blend of high performance base stocks with a progressive additive system to provide superior control of oil thickening due to soot build-up and high temperatures as well as outstanding resistance to oxidation, corrosion, and high temperature deposits.

#### Features and Benefits

High output, low emission diesel engines significantly increase the demands on engine lubricants. Tighter engine designs reduce oil consumption, resulting in less fresh oil make-up to replenish depleted additives. Top piston fire 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. Increased fuel injector pressure and retarded timing improve fuel burn efficiency, but also increase engine temperatures and increase soot loads. Mobil Delvac Modern 20W-50 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. The key benefits include:

Features	Advantages and Potential Benefits
High thermal and oxidation stability	Reduced sludge build-up, deposits and viscosity increase
TBN reserves	Deposit control and acid neutralization
Stay-in-grade shear stability	Wear protection and viscosity control
Advanced detergency/dispersancy	Cleaner engines and longer component life
Improved soot handling	Improved viscosity control and used oil pumpability
Excellent low temperature properties	Start-up wear protection
Component compatibility	Longer gasket and seal life
Meets demanding specifications of key OEMs	One engine oil for mixed fleet operations

#### Applications

Recommended by ExxonMobil for use in:

- Naturally aspirated and turbo-charged diesel powered equipment from leading Japanese, European, and American manufacturers.
- On-highway light and heavy-duty trucking.
- · Off-highway industries including: construction, mining, quarrying, and agriculture.
- Mixed fleet applications.

## Specifications and Approvals

## This product has the following approvals:

DTFR 15B110

API CI-4

## **Properties and Specifications**

Property	
Grade	SAE 20W-50
Flash Point, Cleveland Open Cup, °C, ASTM D92	233
Density @ 15 C, g/ml, ASTM D1298	0.8822
Kinematic Viscosity @ 100 C, mm2/s, ASTM D445	19.1
Kinematic Viscosity @ 40 C, mm2/s, ASTM D445	167.6
Pour Point, °C, ASTM D97	-27
Total Base Number, mgKOH/g, ASTM D2896	11.3
Viscosity Index, ASTM D2270	130
Cold-Cranking Simulator, Apparent Viscosity @ -15 C, mPa.s, ASTM D5293	6244

#### 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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