



## Mobilgard™ 450 NC

### Diesel Engine Oil

#### Product Description

Mobilgard™ 450 NC (No Chlorine) engine oil by ExxonMobil is a non-zinc and non-chlorine lubricant formulated with high-quality basestocks which provide low consumption characteristics, high-temperature oxidation resistance, and thermal stability. These basestocks are combined with specially selected stable additives resulting in an engine oil with well-balanced properties.

The detergent/dispersant qualities of Mobilgard 450 NC increases filter life and engine cleanliness. Its sustained high alkalinity provides excellent corrosion protection when using fuels containing up to 1.5 percent sulfur even though metals such as steel, copper, silver and bronze are present. Mobilgard 450 NC has outstanding lubricating properties and provides the necessary protection against corrosion.

Mobilgard 450 NC exhibits superior quality in reduced wear in piston rings and cylinder liners. It possesses good water separating ability.

#### Features and Benefits

When used as recommended, Mobilgard 450 NC provides the following features and potential benefits:

Features	Advantages and Potential Benefits
High thermal and oxidation stability	Protects against sludge formation in intermittent marine service providing cleaner, smoother running engines
Effective anti-wear and load carrying properties	Protects critical wear surfaces and extends engine life
High TBN and Outstanding TBN Retention	Controls deposits and neutralizes acids produced in the combustion process
Excellent detergency/dispersancy	Controls carbon deposits and varnish formation which can lead to extended oil and filter life
Zinc-free	Protects silver bearings
Excellent water tolerance and separation	Can handle water contamination without additive depletion

#### Applications

Mobilgard 450 NC engine oil has been specifically formulated to meet requirements of heavily loaded diesel engines manufactured by EMD and used in marine applications. It is suitable for other high horsepower marine diesel engines, or higher brake mean effective pressure (BMEP) using distillate fuels with a sulfur content up to 1.5 percent. It will lubricate such engines in drilling rigs and stationary power generation service as well. Mobilgard 450 NC has been approved by EMD and is recommended for diesel engines manufactured by Alco, Detroit Diesel (API CF-2) and Fairbanks Morse.

Mobilgard 450 NC engine oil meets the requirements of an SAE 40 grade marine diesel engine oil and is suitable wherever API CF and/or CF-2 performance is specified. It has quality recognition by EMD, excellent DD6V92 TA test results and is rated an LMOA Generation 4 lubricant.

The absence of chlorine in Mobilgard 450 NC offers easier disposal. Waste-oil disposal costs of chlorine-containing lubricants are expected to escalate in the near future.

#### Typical Properties

SAE Grade	40
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<b>SAE Grade</b>	<b>40</b>
Viscosity, ASTM D 445	
cSt, at 40°C	139
cSt, at 100°C	14.1
Viscosity Index, ASTM D 2270	98
Sulphated Ash, wt%, ASTM D 874	1.6
Total Base #, mg KOH/g, ASTM D2896	13.0
Pour Point, °C, ASTM D 97	-6
Flash Point, °C, ASTM D 92	260
Density @ 15°C kg/l, ASTM D 4052	0.897
Zinc, ppm, max	10
Chlorine, ppm, max	50

## Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application, following the recommendations provided in the Material Safety Data Sheet (MSDS). MSDSs are available upon request through your sales contract office, or via the Internet on <http://www.exxonmobil.com>. This product should not be used for purposes other than its intended use. If disposing of used product, take care to protect the environment.

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Due to continual product research and development, the information contained herein is subject to change without notification. Typical Properties may vary slightly.

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