**ExxonMobil**

## Mobilgard™ 450 NC

ExxonMobil Marine , Netherlands

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 and excellent DD6V92 TA test results.

The absence of chlorine in Mobilgard 450 NC offers easier disposal. Waste-oil disposal costs of chlorine-containing lubricants are generally higher than those without.

Properties and Specifications

| Property | |
|---|---|
| Grade | SAE 40 |
| Ash, Sulfated, mass%, ASTM D874 | 1.6 |
| Chlorine, ppm, ASTM D6443 | 50 |
| Density @ 15 C, g/cm3, ASTM D4052 | 0.897 |
| Flash Point, Cleveland Open Cup, °C, ASTM D92 | 260 |
| Kinematic Viscosity @ 100 C, mm2/s, ASTM D445 | 14.1 |
| Kinematic Viscosity @ 40 C, mm2/s, ASTM D445 | 139 |
| Pour Point, °C, ASTM D97 | -6 |
| Total Base Number, mgKOH/g, ASTM D2896 | 13 |
| Viscosity Index, ASTM D2270 | 98 |
| Zinc, mg/kg, ASTM D5185 | 10 |

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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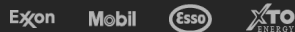
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