Mobil

Mobilgard M460

Product Description

Mobilgard M460 by ExxonMobil is a premium, extra high performance 60 TBN engine oil designed for use in the most severe residual-fuelled medium-speed diesel applications found in marine and stationary power industries. This diesel engine oil has been specially formulated to provide outstanding residual fuel compatibility characteristics for excellent engine cleanliness, especially in crankcase, camshaft areas, piston ring belt and undercrown areas. It provides excellent high temperature oxidation and thermal stability, low volatility and corrosion protection.

Features and Benefits

Mobilgard M460 has industry-leading lube/fuel compatibility charateristics. This feature promotes a high level of engine cleanliness with protection against wear. It has excellent TBN retention and resistance to degradation over long operating periods and efficient separability from water.

When used as recommended, Mobilgard M460 diesel engine oil provides the following benefits:

| Features | Advantages and Potential Benefits | |
|---|---|--|
| Excellent compatibility with residual fuel. | Reduced sludge formation and cleaner engines. | |
| Excellent thermal and oxidation stability | Reduced deposits in piston undercrown and ring belt areas | |
| Improved anti-wear properties | Extends the life of critical wear surfaces | |
| Advanced detergency/dispersancy | Clean camshaft and crankcase spaces | |
| Outstanding rust and corrosion properties | Protects wear surfaces from water and acidic corrosion | |
| Low volatility base stocks | Stable lubricant consumption | |
| Excellent TBN reserve and retention | Longer oil life while controlling corrosion and deposits. | |

Applications

Mobilgard M460 is especially recommended for use in the latest medium-speed engines designed with "flame-ring" cylinder liners with low lube oil consumption levels operating on high sulphur residual fuels. It is recommended for use in main propulsion and auxiliary engines on deep-sea vessels; in main propulsion engines on coastal and river ships; and in stationary power plants. This oil is the result of an extensive research and development program, which utilized ExxonMobil's patented RFD (Residual Fuel Detection) Test.

Mobilgard M460 is designed to meet the needs of engines operating on heavy fuel. It is recommended for use in the latest model medium speed diesel engines and is especially beneficial in engines having low crankcase oil consumption. In these engines, oil life and drain intervals have been significantly reduced when using conventional lower TBN lube oils due to severe TBN depletion resulting from very low lube oil consumption. Relatively high alkalinity reserves in this oil provide superior protection in neutralising the acids resulting from the use of high sulphur fuels. These acids promote increased lube oil degradation as well as piston ring, cylinder, and bearing corrosion.

Mobilgard M460 is also recommended for topping-up existing oil charges at marginal TBN values, to raise them to an acceptable value.

Typical Properties

| Mobilgard M460 | | |
|-----------------------|-----|--|
| SAE Grade | 40 | |
| Viscosity, ASTM D 445 | | |
| cSt @ 40°C | 142 | |
| | | |
| ∽St @ 100°C | 11 | |

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|-------------------------------------|----------------|--|
| | 14 | |
| Viscosity Index, ASTM D 2270 | 95 | |
| Sulfated Ash, wt%, ASTM D 874 | 7.8 | |
| Total Base #, mg KOH/g, ASTM D 2896 | 60 | |
| Pour Point, °C, ASTM D 97 | -9 | |
| Flash Point, °C, ASTM D 92 | 231 | |
| Density@15 °C kg/l, ASTM D 4052 | .93 | |

Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contract office, or via the Internet. 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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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 <u>www.exxonmobil.com</u> ExxonMobil is comprised of numerous affiliates and subsidiaries, many with names that include Esso, Mobil, or ExxonMobil. Nothing in this document is intended to override or supersede the corporate separateness of local entities. Responsibility

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