ExxonMobil

# Mobilgard™ 540 AC

ExxonMobil Marine , Austria

High Performance Marine Diesel Engine Cylinder Oil

## Product Description

Mobilgard™ 540 AC by ExxonMobil is an MAN ES Category II and WinGD Dual Fuel/LNG validated, premium quality, high-performance two-stroke marine diesel engine cylinder oil designed to effectively lubricate and deliver advanced cleanliness through effective deposit control across wide-ranging fuel and engine conditions.

Through the use of advanced formulation and detergency technologies in conjunction with a low Base Number (BN), Mobilgard 540 AC has demonstrated the ability to deliver advanced cleanliness and wear protection, whilst optimising cylinder oil feed-rates and effectively managing acid neutralisation in a range of engines and fuel applications.

Mobilgard 540 AC has been granted Category II status by MAN Energy Solutions and obtained Dual Fuel/LNG validation from Winterthur Gas & Diesel (WinGD). Its formulation has been designed for optimal lubrication at the elevated peak firing pressures and liner temperatures found in modern marine two-stroke engines. The use of this product, in combination with the Mobil℠ Cylinder Condition Monitoring service, can help operators monitor oil condition in real-time enabling them to optimize cylinder oil feed rates, while maintaining excellent lubrication.

This cylinder oil is applicable for use in:
- all MAN ES two-stroke engines operating on <0.50%S fuels, LNG, ethane, methanol, and LPG.
- all WinGD, Wärtsilä and Sulzer two-stroke engines operating on <1.50 %S fuels, LNG and methanol.

## Features and Benefits

Mobilgard 540 AC combines the use of high-quality, globally consistent base stocks with a superb additive formulation to provide superior detergency capability, which can lead to cleaner engine and exhaust system components.

Mobilgard 540 AC also offers outstanding resistance to oxidation, acid formation and excellent deposit control challenged from increased temperatures and pressures within combustion cylinders, which are particularly prevalent in LNG fuel operation.

Mobilgard™ 540 AC offers a single solution, helping vessel operators optimise their inventory and also gain access to a range of performance benefits.

## Applications

Mobilgard 540 AC is formulated to provide outstanding performance in marine crosshead engines operating on a wide variety of fuel applications, including continuous LNG use.

This exceptional cylinder oil has been approved by MAN ES and WinGD for application to all their two-stroke engines operating on LNG, Methanol, Distillate and Very Low Sulphur Fuel Oil (VLSFOs).

Additionally it has received MAN ES approval for their two-stroke engines operating on ethane.

## Specifications and Approvals

| This product has the following approvals: |
|---|
| WinGD Ltd. Ammonia General Usage for 2-Stroke Dual Fuel Marine Engines |
| Everllence (formerly MAN Energy Solutions) Category II for 2-Stroke Dual-Fuel Marine Engines (LNG, LPG, Methanol, ULSFO, VLSFO) |
| Everllence (formerly MAN Energy Solutions) Category II for 2-Stroke Marine Engines |
| WinGD Ltd. Liquid Fuel General Usage for 2-Stroke Marine Engines according to manufacturer´s latest operating guidelines |
| WinGD Ltd. LNG Validated for 2-Stroke Dual Fuel Marine Engines |
| WinGD Ltd. Methanol General Usage for 2-Stroke Dual Fuel Marine Engines |

## Properties and Specifications

| Property | |
|---|---|
| Grade | SAE 50 |
| Viscosity Index, ASTM D2270 | 99 |
| Total Base Number, mgKOH/g, ASTM D2896 | 40 |
| Kinematic Viscosity @ 100 C, mm2/s, ASTM D445 | 19 |
| Pour Point, °C, ASTM D97 | -30 |
| Flash Point, Pensky-Martens Closed Cup, °C, ASTM D93 | 207 |
| Density @ 15.6 C, kg/m3, ASTM D4052 | 910 |
| Kinematic Viscosity @ 40 C, mm2/s, ASTM D445 | 218 |

## 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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