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## Mobilgard™ 525

ExxonMobil Marine, United States

Diesel Engine Cylinder Oil

### **Product Description**

Mobilgard™ 525 is a marine diesel engine cylinder oil for crosshead engines running low and ultra low sulphur distillate fuels and meets the requirements of MAN and Wartsila engines. Designed to protect in extreme environments, Mobilgard 525 has an optimum viscosity of 20 cSt at 100°C and low volatility to ensure lubricant distribution and oil film retention and help protect engine parts.

### Applications

- Combats the deposits and scuffing related engine wear associated wth low sulphur fuels
- Excellent thermal and oxidative stability to ensure performance in a variety of engine conditions
- Formulated with detergent technology required to deliver excellent performance with low-sulphur fuel
- Detergency system provides strong control of piston groove deposits which is a critical area for distillate fuel operation
- Marine crosshead engines designed for increased power and fuel efficiency
- Earlier engine designs and engines in slow speed steaming operation

### Specifications and Approvals

This product has the following builder approval
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MAN B&W 2-Stroke Diesel Engines

WARTSILA & Sulzer 2-Stroke Engines <0.5% max. Sulfur Distillate Fuel

## **Properties and Specifications**

Property	
Grade	SAE 50
Flash Point, °C, ASTM D92	286
Kinematic Viscosity @ 100 C, mm2/s, ASTM D445	20
Kinematic Viscosity @ 40 C, mm2/s, ASTM D445	226
Pour Point, °C, ASTM D97	-9
Specific Gravity, 15 C/15 C, ASTM D4052	0.909
Total Base Number, mgKOH/g, ASTM D2896	25
Viscosity Index, ASTM D2270	102

## 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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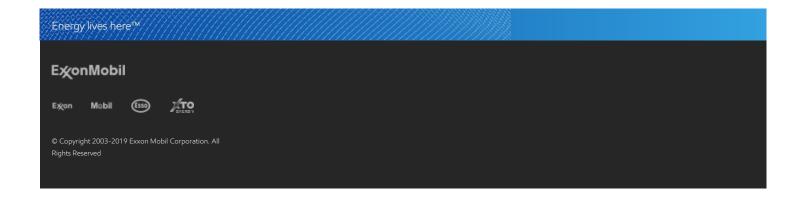
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### 03-2020

## ExxonMobil Marine Limited

Ermyn Way Leatherhead, Surrey United Kingdom KT22 8UX

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Mobilgard 540 Page 1 of 2

## Mobilgard 540

ExxonMobil Marine, United States

Marine Diesel Engine Cylinder Oil

### **Product Description**

Mobilgard ™ 540 by ExxonMobil is a high quality marine diesel engine cylinder oil for slow-speed crosshead engines and is specifically formulated for engines running on 0.50 percent sulphur fuels. Designed to maximise all-round performance through use of a balanced formulation, Mobilgard 540 has a BN level of 40mg/KOH/g to sufficiently neutralise acid formulation whilst also keeping engines clean to minimise maintenance requirements. To ensure optimum lubricant distribution and oil film retention to help protect engine parts, Mobilgard 540 has an optimum viscosity of 20cST at 100C.

#### Features and Benefits

- Combats deposits and scuffing related engine wear issues associated with the usage of 0.50 percent sulphur fuels
- Balanced formulation provides excellent acid neutralisation properties in which cleaner engines can lead to reduced component wear rates
- Excellent thermal and oxidative stability to ensure performance in a wide range of engine operating conditions

### Applications

• Marine crosshead engines

#### Specifications and Approvals

#### This product meets or exceeds the requirements of:

 $MAN\ Energy\ Solutions\ Copenhagen\ (Heritage\ MAN\ B\&W)\ 2-Stroke\ engines\ according\ to\ manufacturer's\ latest\ operating\ guidelines$ 

Winterthur Gas and Diesel Engine (Heritage Wartsila & Sulzer) 2-Stroke engines according to manufacturer's latest operating guidelines

Japan Engine Corporation (Heritage MHI) 2-Stroke engines according to manufacturer's latest operating guidelines

#### **Properties and Specifications**

Property	
Grade	SAE 50
Density @ 15 C, g/ml, ASTM D4052	0.919
Flash Point, Cleveland Open Cup, °C, ASTM D92	248
Pour Point, °C, ASTM D97	-21
Kinematic Viscosity @ 40 C, mm2/s, ASTM D445	216
Kinematic Viscosity @ 100 C, mm2/s, ASTM D445	20
Viscosity Index, ASTM D2270	98
Total Base Number, mgKOH/g, ASTM D2896	40

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### 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

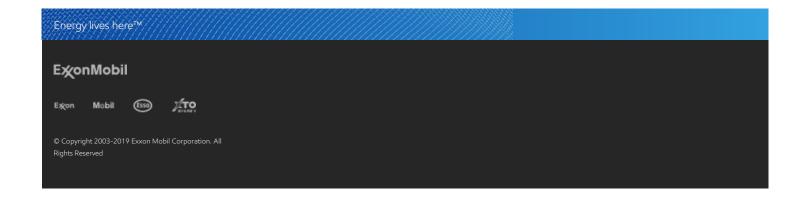
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Mobilgard 570 Page 1 of 2

## Mobilgard 570

ExxonMobil Marine, United States

Diesel Engine Cylinder Oil

#### **Product Description**

Mobilgard 570 by ExxonMobil is a premium quality, high-performance marine diesel engine cylinder oil. The outstanding performance of Mobilgard 570 has been demonstrated at the elevated peak firing pressures and liner temperatures found in modern marine two stroke engines. It has an optimum viscosity of over 20 cSt. at 100°C and low volatility to ensure excellent lubricant distribution and oil film retention. Through the use of a balanced formulation for all-round performance, Mobilgard 570 has demonstrated the ability to minimise cylinder oil feed-rates whilst showcasing excellent cleanliness under sustained operation with fuel Sulphur levels down to 1.5%.

#### Features and Benefits

- Excellent thermal and oxidation stability can lead to reduced deposits and sludge formation.
- Outstanding detergency capability leads to potentially cleaner engine components
- Balanced formulation with low volatility can lead to lower feed rates and reduced cylinder oil consumption.

#### Specifications and Approvals

## This product meets or exceeds the requirements of:

MAN Energy Solutions Copenhagen (Heritage MAN B&W) 2-Stroke engines according to manufacturer's latest operating guidelines

Winterthur Gas and Diesel Engine (Heritage Wartsila & Sulzer) 2-Stroke engines according to manufacturer's latest operating guidelines

### **Properties and Specifications**

Property	MOBILGARD 570
Grade	SAE 50

#### 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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Mobilgard 5100 Page 1 of 2

## Mobilgard 5100

ExxonMobil Marine, United States

Marine Diesel Engine Cylinder Oil

#### **Product Description**

Mobilgard™ 5100 by ExxonMobil is a premium quality, high-performance marine diesel engine cylinder oil. The performance of Mobilgard 5100 has been demonstrated at the elevated peak firing pressures and liner temperatures found in modern marine two stroke engines. Through the use of a balanced formulation, for all-round performance in conjunction with a high Base Number (BN), Mobilgard 5100 has demonstrated the ability to optimise cylinder oil feed-rates whilst mitigating corrosive wear in highly corrosive engines. It has an optimum viscosity of over 20 cSt. at 100°C and low volatility to ensure excellent lubricant distribution and oil film retention.

#### Features and Benefits

- Protection from corrosion in new, more demanding and corrosive engine types during all ranges of operation, including slow steaming.
- Excellent thermal and oxidation stability can lead to reduced deposits and sludge formation.
- Superior detergency capability leads to potentially cleaner engine components.
- Balanced formulation with low volatility can lead to lower feed rates and reduced cylinder oil consumption.

## **Applications**

Marine crosshead engines

### Specifications and Approvals

MAN Energy Solutions Copenhagen (Heritage MAN B&W) 2-Stroke engines according to manufacturer's latest operating guidelines

Japan Engine Corporation (Heritage MHI) 2-Stroke engines according to manufacturer's latest operating guidelines

Winterthur Gas and Diesel Engine (Heritage Wartsila & Sulzer) 2-Stroke engines according to manufacturer's latest operating guidelines

## **Properties and Specifications**

Property	
Grade	SAE 50
Flash Point, Cleveland Open Cup, °C, ASTM D92	253
Kinematic Viscosity @ 100 C, mm2/s, ASTM D445	20
Kinematic Viscosity @ 40 C, mm2/s, ASTM D445	233
Pour Point, °C, ASTM D97	-24
Specific Gravity, 15 C/15 C, ASTM D4052	0.957
Total Base Number, mgKOH/g, ASTM D2896	100

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Property	
Viscosity Index, ASTM D2270	95

## 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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