ExxonMobil

MOBILGARD™ 1 HSD 5W-40

ExxonMobil Marine , Luxembourg

Advanced Fully Synthetic High Speed Marine Diesel Engine Oil

Product Description

Mobilgard 1 HSD is an Advanced Fully Synthetic High Speed Marine Diesel Engine Oil, that helps extend engine life while providing long drain capability1 and potential fuel economy² for modern and latest diesel engine technology operating in severe applications.

Mobilgard 1 HSD is a CK-4 API oil recommended for use in a wide range of operating environments found in the marine industry and heavy-duty applications.

The outstanding performance of Mobilgard 1 HSD is the result of extensive cooperative development work of ExxonMobil with major equipment builders and application of the latest lubrication technology.

As a result, this product meets or exceeds the requirements of the latest API and ACEA industry specifications for diesel engine oils, as well as the requirements of many engine manufacturers, including Cummins and Caterpillar.

1 Please refer to the owners' handbook for OEM application requirements and oil drain intervals for your vehicle or equipment.

2 Compared to an SAE 15W-40 engine oil. Actual savings are dependent on vehicle engine type, outside temperature, driving conditions, and your current engine oil viscosity.

Features and Benefits

Mobilgard 1 HSD is an outstanding lubricant solution for modern and latest engine technology equipped with emission after-treatment.

It was developed by ExxonMobil to maintain unsurpassed oxidation stability 3 while also delivering exceptional low temperature fluidity and pumpability for smooth starting in cold conditions. This feature, in combination with the sophisticated additive system, ensures exceptional engine wear performance and supports long engine life.

The low ash formulation protects at the same time all exhaust after-treatment devices incl. turbo charger and EGR to ensure proper long effective operation lifetime to protect the environment and meet the emission regulations.

The advanced engine cleanliness performance prevents deposits and protects the engine for long and efficient engine life.

3 Based on PC-11 industry test data.

Features	Advantages and Potential Benefits
Excellent low temperature pumpability	Reliable engine start and wear protection at low temperatures
Step out wear protection	Reduced engine wear to promote long engine life
Unsurpassed oxidation stability	Control of low temperature sludge build-up and high temperature varnish deposits
Long oil drain intervals and prevention of deposits	Helps towards good operating efficiency and lower overall cost
Superb resistance to corrosion	Protection of critical engine surfaces in humid environments

Applications

Recommended by ExxonMobil for use in:

• Most engine generations up to latest and most sophisticated high performance diesel engines with turbo-charger, direct injection and low emission designs, featuring all types of exhaust after-treatment technology

• On-highway engines operating in both high speed/high load and stop-and-go conditions

• Off-highway engines operating in severe low speed/heavy load conditions

• Most diesel powered equipment from American and European equipment builders

• High performance gasoline engines and mixed fleets

• Refrigeration units.

Specifications and Approvals

This product has the following approvals:
Detroit Detroit Fluids Specification 93K222
Detroit Fluids Specification 93K218
MTU Oil Category 2.1
Cummins CES 20081
Cummins CES 20086

This product meets or exceeds the requirements of:
API CK-4
Caterpillar ECF-3
ACEA E7
JASO DH-2
ACEA E11

Properties and Specifications

Property	
Grade	SAE 5W-40
Hi-Temp Hi-Shear Viscosity @ 150 C 1x10(6) sec(-1), mPa.s, ASTM D4683	3.8
Ash, Sulfated, mass%, ASTM D874	1
Cold-Cranking Simulator, Apparent Viscosity @ -30 C, mPa.s, ASTM D5293	6510
Mini-Rotary Viscometer, Apparent Viscosity, -35 C, mPa.s, ASTM D4684	16800

Property	
Total Base Number, mgKOH/g, ASTM D2896	12
Kinematic Viscosity @ 40 C, mm2/s, ASTM D445	84
Kinematic Viscosity @ 100 C, mm2/s, ASTM D445	13.8
Specific Gravity, 15.6 C/15.6 C, ASTM D4052	0.853
Viscosity Index, ASTM D2270	150
Flash Point, Cleveland Open Cup, °C, ASTM D92	233

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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