



# Mobilgear SHC™ MT 68

ExxonMobil Marine , Belgium

Marine Thruster Gear Oil

## Product Description

Mobilgear SHC MT 68, a premium performance, fully synthetic marine gear oil is designed to provide optimum equipment protection and oil life even under extreme conditions. Polyalphaolefin (PAO) technology has been selected for its exceptional oxidation resistance and thermal properties, naturally high viscosity index, excellent low temperature fluidity and absence of undesirable compounds that are often found in mineral oils. The high viscosity index and low traction coefficient of this oil combine to provide a potential reduction in power consumption in many gear drives. Mobilgear SHC MT 68 contains an advanced and carefully blended proprietary additive system designed to provide excellent protection against conventional wear modes such as scuffing but also provides a high level of resistance against micropitting fatigue.

Mobilgear SHC MT 68 exceeds the industry requirement for bearing wear protection as measured by the industry standard FAG FE 8 test. Mobilgear SHC MT 68 balanced formulation is able to provide maximum wear and corrosion protection while maintaining compatibility with industry standard gearbox seal materials. In addition, compared to conventional gear oil chemistries, it offers the potential for improved lubrication of gearbox rolling element bearings. Mobilgear SHC MT 68 provides outstanding rust and corrosion protection versus conventional gear oils, including seawater and acidic water protection. It shows no tendency to plug fine filter when wet and have excellent compatibility with ferrous and non-ferrous metals even at elevated temperatures.

Mobilgear SHC MT 68 is recommended for enclosed marine gear drives including steel-on-steel spur, helical, and bevel gears. The product was designed for heavy marine thruster gear applications. It may also be used in gear applications where extreme low and/or high temperatures are encountered and applications where corrosion may be severe. Mobilgear SHC MT 68 enjoys a growing reputation among marine customers and OEMs around the world.

## Features and Benefits

Mobil brand lubricants designated as SHC are recognised and appreciated around the world for innovation and outstanding performance. These molecularly designed synthetic products, pioneered by our research scientists, symbolize the continuing commitment to using advanced technology to provide outstanding products.

A key factor in the development of Mobilgear SHC MT 68 was the close contacts between our scientists and application specialists with key OEMs to ensure that our product offerings will provide exceptional performance with the rapidly evolving marine gear designs and operation. To address the issue of micropitting gear wear, our product formulation scientists designed a proprietary combination of additives which would resist traditional gear wear mechanisms as well as protect against micropitting. Our formulators chose proprietary PAO synthetic base oils to provide exceptional oil life and deposit control and resistance to thermal/oxidative chemical degradation, as well as the balance of the performance features. The wax-free nature of the synthetic base oil also provides low temperature characteristics unmatched by mineral products and is a key benefit for remote, low ambient, applications. Mobilgear SHC MT 68 lubricants offer the following benefits:

Features	Advantages and Potential Benefits
Superb protection from micropitting fatigue wear as well as high resistance to traditional scuffing wear	Extended gear and bearing life in marine enclosed gear drives operating under extreme conditions of load, speed and temperature
Excellent resistance to degradation at high temperature	Extended oil life and drain intervals reduced oil consumption and manpower costs
Low traction PAO base stocks for improved gear efficiency	Reduced energy consumption and lower operating temperatures
High viscosity index base stocks reduce viscosity change with temperature	Ability to operate at both high and low temperatures: especially critical in marine applications
Excellent resistance to rust and corrosion and very good demulsibility	Smooth, trouble-free operation at high temperatures or in water-contaminated applications
No filter plugging, even in presence of water	Less filter changes and reduced maintenance costs
Excellent compatibility with common gearbox materials of construction and with mineral-based gear oils	Easy changeover from mineral products

## Applications

Application Considerations: While the Mobilgear SHC MT 68 is compatible with mineral oil based products mixture may detract from their performance. Consequently it is recommended that before changing a system to Mobilgear SHC MT 68, it should be thoroughly cleaned out and flushed to achieve the maximum performance benefits.

Mobilgear SHC MT 68 is a premium performance, fully synthetic marine gear oil designed to provide optimum equipment protection and oil life even under extreme conditions. They are especially formulated to resist micropitting of modern gearing and can operate in both high and low temperature environments.

The product was designed especially for marine thruster/azimuth gear drives requiring an ISO 68 viscosity gear oil with Extreme Pressure (EP) additive protection. Mobilgear SHC MT 68 has approvals from major marine thruster OEMs such as Brunvoll.

## Specifications and Approvals

This product meets or exceeds the requirements of:
AGMA 9005-E02-EP
DIN 51517-3:2009-06
ISO L-CKD (ISO 12925-1:1996)

## Properties and Specifications

Property	
Grade	ISO 68
Density @ 15.6 C, kg/l, ASTM D4052	0.855
Emulsion, Time to 37 mL Water, 82 C, min, ASTM D1401	10
FE8 wear test, V50 roller wear, mg, DIN 51819-3	2
Flash Point, Cleveland Open Cup, °C, ASTM D92	240
Four-Ball Wear Test, Scar Diameter, 20 kg, 1800 rpm, 1 h, 54 C, mm, ASTM D4172	0.37
FZG 4-Square Load Support, Fail Stage, DIN 51354 (mod)	13+
FZG Micropitting, Fail Stage, Rating, FVA Proc No. 54	10/High
Kinematic Viscosity @ 100 C, mm <sup>2</sup> /s, ASTM D445	10.8
Kinematic Viscosity @ 40 C, mm <sup>2</sup> /s, ASTM D445	68
Pour Point, °C, ASTM D97	-51
Rust Characteristics, Procedure A, ASTM D665	PASS
Timken OK Load, lb, ASTM D2782	65
Viscosity Index, ASTM D2270	149
Foam, Sequence II, Tendency, ml, ASTM D892	0
Foam, Sequence II, Stability, ml, ASTM D892	0

**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.as>

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