

Mobil SHC 600 Series

Synthetic Bearing and Gear Oils

Product Description

Mobil SHC 600 Series lubricants are supreme performance gear and bearing oils designed to provide outstanding service in terms of equipment protection, oil life and problem-free operation. They are formulated from synthesized, wax-free hydrocarbon base fluids. The combination of a naturally high viscosity index and a unique, proprietary, additive system enables these products to provide outstanding performance in extreme service applications at high and low temperatures, well beyond the capabilities of mineral oils. These products are resistant to mechanical shear, even in heavily loaded gear and high shear bearing applications, so that there is virtually no loss of viscosity.

The Mobil SHC 600 Series products have low traction coefficients, which derive from the molecular structure of the base stocks used. This results in low fluid friction in the load zone of non-conforming surfaces such as gears and rolling contact bearings. Low fluid friction lowers operating temperatures and improves gear efficiency, which translates into reduced power consumption. It also results in extended parts life and allows for more economical equipment design. The base oils used in the Mobil SHC 600 Series have outstanding response to antioxidant additives resulting in superior resistance to oxidation and sludging, especially at high temperatures. The additive combination used in these oils also provides exceptional resistance to rusting and corrosion, very good antiwear, demulsibility, foam control and air release properties, as well as multimetal compatibility. The Mobil SHC 600 Series oils are also compatible with the same seal and other construction materials used in equipment normally lubricated with mineral oils.

The leading edge technology on which Mobil SHC 600 Series lubricants has always been based has made these the products of choice for operators of a wide range of equipment, worldwide. While initially recognized as a high temperature problem solver, Mobil SHC 600 Series lubricants are now used in many marine and industrial applications because of the range of benefits they offer.

Features and Benefits

The Mobil SHC brand of lubricants are recognised and appreciated around the world for their innovation and outstanding performance. These molecular designed synthetic products, pioneered by ExxonMobil research scientists, symbolize the continuing commitment to advanced technology to provide outstanding lubricant products. A key factor in the development of Mobil SHC 600 Series were the close contacts between ExxonMobil scientists and application specialists with key OEMs to ensure that this product would provide exceptional performance in continually evolving industrial equipment designs.

ExxonMobil's work with OEMs has helped confirm the results from our own laboratory tests showing the exceptional performance of the Mobil SHC 600 Series lubricants. Not least among the benefits is the potential for significant efficiency improvements versus mineral oil. These benefits are particularly evident in equipment which, by design, cannot avoid low overall efficiency, such as high ratio wormgears.

To combat high thermal exposure of the oil, proprietary base oils were carefully selected for Mobil SHC 600 Series oils to obtain exceptional thermal/oxidative resistance potential. Specific additives which would maximise the benefits of the base oils were chosen to provide exceptional oil life and deposit control and resistance to

thermal/oxidative and chemical degradation, as well as the balance of performance features. The wax-free nature of the base oil also provides low temperature fluidity characteristics unmatched by mineral products and is a key benefit for remote, low ambient temperature applications.

The Mobil SHC 600 Series oils offer the following features and potential benefits:

Features	Advantages and Potential Benefits
Superb high temperature thermal/oxidation resistance	Extends equipment high temperature operating capability Long oil life, reduced need and costs for oil change outs Minimises sludges and deposits for trouble-free operation and long filter life.
High Viscosity Index and absence of wax	Maintains viscosity and film thickness at high temperatures Exceptional low temperature performance, including start-up
Low traction coefficient	Reduces overall friction and can increase efficiency in sliding mechanisms such as gearing, with potential for reduced power consumption and lower steady-state operating temperatures. Minimises effects of micro-slip in rolling contact bearings for longer rolling-element life potential
High load carrying capability	Protects equipment and extends life; minimizes unexpected downtime and extends service periods
Balanced additive combination	Provides excellent performance in terms of rust and corrosion prevention, water separability, foam control, air release performance ensuring problem-free operation and reduced operating costs in a wide range of industrial and marine applications

Applications

Mobil SHC 600 Series lubricants are recommended for use in a wide variety of marine and industrial gear and bearing applications where high or low temperatures are encountered. They are also recommended where operating temperatures or bulk oil temperatures are such that conventional lubricants give unsatisfactory life, or where improved efficiency is needed. They are particularly effective in applications where the maintenance costs of component replacement, system cleaning and lubricant changes are high.

While Mobil SHC 600 Series are compatible with mineral oil based products, admixture may detract from their performance. Consequently it is recommended that before changing a system to one of the Mobil SHC 600 Series, it should be thoroughly cleaned out and flushed to achieve the maximum performance benefits. The Mobil SHC 600 Series oils are compatible with the following seal materials: fluorocarbon, polyacrylate, polyurethane ether, some silicone, ethylene/acrylic, chlorinated polyethylene, polysulfide, and some nitrile rubbers. There is the potential for substantial variations in the elastomers being used today. For best results, consult your equipment supplier, seal manufacturer, or your local Mobil representative to verify compatibility.

Specific applications include:

- Filled for life gearboxes, especially high ratio/ low-efficiency worm gears
- Remotely located gearboxes, where oil change-out is difficult
- Low and high temperature applications

- Severe centrifuge applications, including marine centrifuges

Specifications and Approvals

Typical Properties

Mobil SHC	626	629	630	632	634
ISO Viscosity Grade	68	150	220	320	460
Viscosity, ASTM D 445					
cSt @ 40°C	70	143	216	326	430
cSt @ 100°C	10.9	18.3	25.2	38.6	48.5
Viscosity Index, ASTM D 2270	146	144	152	169	173
Pour Point, °C, ASTM D 97	-48	-45	-42	-39	-42
Flash Point, °C, ASTM D 92	236	228	235	250	262
Specific Gravity, ASTM D 4052, 15°C/15°C	0.86	0.86	0.87	0.87	0.87
Appearance, visual	Orange	Orange	Orange	Orange	Orange
TOST, ASTM D 943, Hours to 2 NN	10,000+	10,000+	10,000+	10,000+	10,000+
RBOT, ASTM D 2272, min.	1750	1750	1750	1750	1750
Rust protection, ASTM D665, Sea Water	Pass	Pass	Pass	Pass	Pass
Water Seperability, ASTM D 1401, Min. to 3 ml emulsion @ 54°C	20	-	-	-	-
Water Seperability, ASTM D 1401, Min. to 3 ml emulsion @ 82°C	-	15	15	25	25
Copper Corrosion, ASTM D130, 24 hrs @ 121°C	1B	1B	1B	1B	1B
Foam Test, ASTM D 892, Seq I,II,III Tendency / Stability, ml/ml	0/0, 0/0, 0/0	0/0, 0/0, 0/0	0/0, 0/0, 0/0	0/0, 0/0, 0/0	0/0, 20/0, 0/0
FZG scuffing test, DIN 51534 (mod), A/16.6/90, Failure Stage	11	13	13+	13+	13+

Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application, following the recommendations provided in the Material Safety Data Sheet (MSDS). MSDSs are available upon request through your sales contract office, or via the Internet on <http://www.exxonmobil.com>. 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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ExxonMobil Lubricants & Specialties

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