



Mobilgear™ MS Series

Gear Oils

Product Description

Mobilgear™ MS Series are extra high performance oils designed for the oil-fog or mist-lubrication of machine components such as slideways, bearings, gears, chains etc. They are formulated from high quality, solvent refined base stocks and a unique additive system designed for optimum reclassifying properties. They have a high resistance to oxidation and good extreme pressure and anti-wear properties. The products have enhanced surface wetting capabilities and they reclassify (or agglomerate) readily from a mist to a liquid when the mist is subjected to extreme turbulence or is impinged onto a surface at high velocity. This allows a lubricating film to form on bearings and gears and prevents stray mist from escaping through narrow apertures into the atmosphere.

The four viscosity grades in the Mobilgear MS Series, ranging from ISO VG 32 to 460, allow the machine designer to choose the product most suitable for proper mist lubrication of machine elements. The heavier grades are used on ways, gears, and slow-speed, heavily loaded bearings, while the lower viscosity grades are used in high-speed bearings.

Features and Benefits

The Mobilgear MS Series of products is an important member of the Mobil brand of lubricants and enjoy recognition among equipment operators for their superb performance capabilities in misting applications. Mobilgear MS Series oils were developed specifically for mist applications and have undergone an arduous protocol of testing, including misting performance, in their development.

Mobilgear MS Series offer the following features and potential benefits:

Features	Advantages and Potential Benefits
Superior mist forming and reclassifying properties	Ensures even distribution of lubricant on machine parts with control of stray mist for reliable lubrication and problem-free operation, reduced leakage and lower oil consumption
Excellent EP and anti-wear performance	Prevents machine element wear with resulting savings in maintenance and parts replacement
High quality base oil and additive components	Avoids reclassifier plugging problems which can result in catastrophic bearing and gear failure, with accompanying downtime and replacement costs
Excellent resistance to oxidation	Long product life, reduced product and maintenance costs
Very good rust protection including sea water	Excellent equipment protection

Applications

Mobilgear MS Series oils are designed for use in all oil mist lubrication systems. Such systems work by dispersing very small droplets of oil in smoothly flowing air, distributing the oil mist to the points of application and mechanically condensing the mist, causing the oil to impinge on and wet the surfaces to be lubricated. The higher viscosity Mobilgear MS grades may require thermal misting devices to form proper dispersions when ambient temperatures are moderate or low. Mobilgear MS is suitable for oil / air delivery systems such as airline oilers. Specific applications include:

- Industrial gearing such as cooling tower gearboxes
- Slow-speed, heavily-loaded bearings (higher viscosity grades)
- High-speed bearings (lower viscosity grades)

- Machine tools, ways and screws
- Process pumps, electric motors and blowers
- Steam turbines and electric motors

Typical Properties

Mobilgear MS Series	32	100	320	460
Viscosity, ASTM D 445				
cSt @ 40° C	32	100	320	460
cSt @ 100° C	5.5	11.2	25.0	31.5
Viscosity Index, ASTM D 2270	110	95	100	100
Pour Point, °C, ASTM D 97	-12	-12	-9	-6
Flash Point, °C, ASTM D 92	210	234	230	238
Density @15.6° C, ASTM D 4052, kg/l	0.88	0.89	0.90	0.90
FZG Scuffing, DIN 51534, A/8.3/90, Fail Stage	12+	12+	12+	12+
4-Ball EP test, ASTM D 2783, Weld Load, kg	160	250	250	250
Load Wear Index, kgf	25	48	48	48
4-Ball Wear Test, ASTM D 4172 mod, (20kg/54° C/1800rpm/1 hr), Scar, mm	0.5	0.3	0.3	0.3
Timken OK Load, ASTM D 2782, lb	50	65	65	65
Rust protection, ASTM D 665, Sea Water	Pass	Pass	Pass	Pass

Health and Safety

Based on available information, this product is not expected to produce adverse effects on health when used for the intended application and the recommendations provided in the Material Safety Data Sheet (MSDS) are followed. MSDS's are available upon request through your sales contract office, or via the Internet. 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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Typical Properties are typical of those obtained with normal production tolerance and do not constitute a specification. Variations that do not affect product performance are to be expected during normal manufacture and at different blending locations. The information contained herein is subject to change without notice. All products may not be available locally. For more information, contact your local ExxonMobil contact or visit www.exxonmobil.com. ExxonMobil is comprised of numerous affiliates and subsidiaries, many with names that include Esso, Mobil, or ExxonMobil. Nothing in this document is intended to override or supersede the corporate separateness of local entities. Responsibility for local action and accountability remains with the local ExxonMobil-affiliate entities.

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