

Mobil Glygoyle Series

Polyalkylene Glycol (PAG) Gear, Bearing and Compressor Lubricant

Product Description

Mobil Glygoyle Series lubricants are supreme performance gear, bearing and compressor oils designed to provide outstanding benefits in terms of efficiency, long oil life, and equipment protection. These fully synthetic, polyalkylene glycol (PAG) lubricants were developed for use under operating conditions beyond the capabilities of other synthetic lubricants and mineral oils. Their low pour points ensure excellent low-temperature fluidity. The ISO 150 to 1000 grades are approved for USDA/NSF H-1 food-grade use. The unique formulation is designed to provide:

- Exceptional EP/antiwear protection for critical equipment components
- A high level of micropitting protection for sensitive gear systems
- Protection against rust and corrosion in-service
- Resistance against foam buildup
- Excellent lubricity inherent to this fully synthetic lubricant
- Low traction coefficient resulting in increased energy efficiency and reduced bulk oil/system temperatures
- Outstanding thermal and oxidative stability to reduce sludge formation and deposits

Features and Benefits

The Mobil Glygoyle Series of fully synthetic oils are specifically designed to outperform mineral and PAO synthetic lubricants in gear and hydrocarbon gas compression applications. In worm gears, the unique properties of these oils allows for more torque to be put through the reducer while in many cases lowering the operating oil sump temperature correlating to longer seal, oil, and gearbox life. Features compared to other mineral, synthetic, and PAG lubricants:

General: There are various types of PAG base oils. The inherent properties of these oils can differ depending on the raw materials and processes used in their manufacture. Features that can differ among various PAG oils include their traction coefficient (energy efficiency), thermal conductivity, and solubility with hydrocarbon oils, tendency to attract water, and low temperature properties.

High Efficiency: ExxonMobil researchers have selected PAG base oils which provide high levels of energy efficiency relative to mineral, PAOs, and other PAG oils. This, coupled with an increased thermal conductivity of about 10% over mineral and PAO oils, leads to lower operating temperatures and longer component life.

Wide Temperatures: The Mobil Glygoyle Series has very high VIs ranging from 170 for the ISO 68 to 285 for the ISO 1000. This leads to a wide operating temperature range, beyond that of mineral and PAO lubricants.



Rust Protection: PAG lubricants, which are designed to be immiscible with hydrocarbon oils, tend to absorb water more than mineral or PAO oils. Because of the potential for high water-in-oil levels, care must be taken to prevent the formation of rust on equipment. Mobil Glygoyle Series oils pass major rust tests such as the ASTM D665A and Bethlehem Steel rust test parts A/B, and receives 0,0 ratings in the DIN 51802 Emcor rust test with distilled water. In addition, they show good yellow metal compatibility with a 1B rating in the ASTM D130 test. Mobil Glygoyle Series is not recommended for use in areas where saltwater contamination is expected.

Foam Control: Foam control is important, especially in boxes that are "Sealed for Life". Mobil Glygoyle Series provides excellent results in all three sequences of ASTM D 892 Foam Test.

EP/antiwear: Having the right blend of EP/AW protection is important, especially in worm gears that contain bronze and other yellow metals. The Glygoyle Series of lubricants show excellent EP/antiwear protection with typical results of 12+ in the DIN 51354-2 FZG scuffing test, very low cage and roller wear in the DIN 51819-3 FAG FE8 test, and excellent micropitting protection with a result of >10-high in the FVA 54 micropitting test (ISO 320).

Features	Advantages and Potential Benefits
Superb thermal and oxidative stability and sludge resistance as well as excellent antiwear protection	Provides outstanding gear protection under severe load factor situations
	Increased production because of extended lubricant life, reducing scheduled and unscheduled downtime for routine lubricant changes
	Lower maintenance costs and replacement expenditures
Low coefficients of friction and traction	Improved gear efficiency and lower oil operating temperatures for lower operating (power) costs and longer seal life.
High thermal conductivity	Lowers operating temperatures at the gear mesh and in the bulk oil by improved heat dissipation
High viscosity index, low pour point and absence of wax	Easy start-up because of excellent low-temperature fluidity – especially important for successful operation of remotely located equipment
Very good resistance to corrosion and rusting	Excellent equipment protection, even during downtime, provides long equipment life and smooth start-up, with associated labor and material cost savings
Multipurpose industrial equipment capability	Potential to use less products and reduced inventory costs
Superb thermal and oxidative stability and sludge resistance as well as excellent antiwear protection	Provides outstanding gear protection under severe load factor situations

Applications

As with other polyglycol-based lubricants, Mobil Glygoyle Series lubricants are not miscible with mineral oils and most PAO synthetic oils. Mobil Glygoyle Series must not be used as make-up for systems filled with mineral or PAO synthetic oils, nor should mineral or PAO synthetic oils be used as make-up for systems filled with Mobil Glygoyle products. Mobil Glygoyle Series are hygroscopic and do not separate from water. Due to their inherent high specific gravity, water does not drop to the bottom of reservoirs.

Mobil Glygoyle 460 is specifically designed for the lubrication of worm gears, especially for heavy-duty, severe service applications, both in food-grade and non food-grade applications. Additionally, the product family has also proven to be excellent lubricants for all types of industrial gears and anti-friction bearing applications under severe service conditions. Due to their unique chemical make up, these oils do not typically leave deposits behind upon reaching oxidative or thermal limitations. This, coupled with the fact that they are not miscible with hydrocarbons (reduced viscosity dilution), makes the lower viscosity grades especially effective in hydrocarbon gas compression applications.

The Mobil Glygoyle Series is used for the lubrication of filled for life gearboxes and heavy-duty worm gears, other industrial gearing in a wide variety of applications, lubrication of plain and rolling contact bearings, and most types of compressors.

Specific applications include:

- Filled for life gearboxes, especially high ratio/low-efficiency worm gears
- All worm gear applications such as those used in conveyers, escalators, material handling, press drives, packaging machinery, ski lifts, agitators and mixers.
- Other gear and bearing applications in the cement, metalworking, plastics, food and textile finishing industries.
- Plastic Calendars
- Gas Compression utilizing reciprocation, rotary, screw, and centrifugal type compressors in operating conditions beyond the capabilities of other synthetic lubricants and mineral oils.

Seal and Coating Compatibility

While Mobil Glygoyle Series oils are compatible with many seal and coating materials, there is the potential for substantial variations in the elastomers and coatings being used today. For best results, consult your equipment supplier, seal manufacturer, or your local Mobil representative to verify compatibility.

Seal Compatibility

Recommended	Not Recommended
NBR type (Acrylonitrile-butadiene	ACM (polyacrylates)
77-NBR-902	Hypalon
SRE-NBR-28	Buna S
Buna N	Hycar
HNBR	Natural Black Rubber
FKM (Fluorinated rubber) type	
75-FKM-585	
Viton A	
Kalrez	
EPM (ethylene-propylene copolymer)	
EPDM (ethylene-propylene-diene polymer)	

Seal Compatibility

VMQ (silicone)
 CR (chloroprene or neoprene)
 EPR (chloro-sulfonated-polyethylene)
 "Thiokol" 3060 Polysulfide
 Natural Gum Rubber

Coating Compatibility

Recommended	Not Recommended
Catalyzed Epoxy-Phenolic	Alkyd
Modified Phenolic	Vinyl
P22-8050 Anthrazitbraun	
Nitrile Paints	

Typical Properties

Mobil Glygoyle Series	68	100	150	220	320	460	680	1000
ISO VG grade	68	100	150	220	320	460	680	1000
Viscosity, ASTM D 445								
cSt @ 40°C	68.0	100.0	150.0	220.0	320.0	460.0	680.0	1000.0
cSt @ 100°C	11.8	17.3	26.1	38.1	55.2	77.2	112.4	165.8
Viscosity Index, ASTM D 2270	170	190	210	225	240	250	265	285
Density ASTM D4052	1.079	1.079	1.078	1.077	1.077	1.076	1.076	1.076
Pour Point(oC) ASTM D97	-30	-30	-33	-33	-33	-33	-33	-33
Flash Point ASTM D92	265	265	265	265	265	265	265	260
Rust Test ASTM D665A	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
DIN 51354-2 FZG Scuffing FLS	10	12+	12+	12+	12+	12+	12+	12+
4-Ball Wear (mg) ASTM D4172	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4
Copper Corrosion ASTM D130	1B	1B	1B	1B	1B	1B	1B	1B

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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