



El Mar® Low Ash GEO

Phillips 66® El Mar Low Ash GEO is a premium quality, low-ash, dispersant-detergent gas engine oil designed for use in high-output, 4-stroke cycle natural gas engines operating under heavy loads and extreme temperatures. Engines operating in this type of service typically are found on crude oil and gas transmission pipelines, electrical power generators, gas compressors, irrigation water pumps and well drilling rigs.

El Mar Low Ash GEO is formulated with field-proven performance additives to meet the rigorous lubrication demands of modern, fuel-efficient, low-emission gas engines. It provides excellent resistance to oil oxidation and nitration, protects against ring and liner wear, helps minimize engine sludge and piston deposits for outstanding engine cleanliness, and protects against corrosion. It also protects against valve stem deposits and valve recession, resulting in reduced maintenance and extended engine life. The additive package has low phosphorus content to meet the requirements of gas engines equipped with catalysts for exhaust after-treatment.

Applications

- Turbocharged, lean-burn and naturally aspirated 4-stroke cycle natural gas engines where the manufacturer specifies a low-ash gas engine oil meeting API CD performance requirements

El Mar Low Ash GEO is recommended for use in natural gas engines manufactured by:

- Caterpillar
- Climax
- Colt-Fairbanks Morse
- Dresser Rand (Category I, II, III)
- Minneapolis Moline
- Nordberg
- Ruston
- Superior
- Wartsila
- Waukesha
- Worthington

Premium Low-Ash Natural Gas Engine Oil





Features/Benefits

- Field-proven performance in providing outstanding engine cleanliness
- Proven performance in lean-burn engines
- High dispersancy protects against engine sludge and varnish deposits
- Excellent resistance to oil oxidation and nitration
- Protects against scuffing and wear
- Protects against rust and corrosion
- Protects against valve stem deposits and valve recession
- Compatible with emissions system catalysts
- Does not contain any bright stock, which can cause harmful carbon deposits

El Mar[®] Low Ash GEO

Typical Properties			
SAE Grade	30	40	15W-40
Specific Gravity @ 60°F	0.877	0.879	0.873
Density, lbs/gal @ 60°F	7.30	7.32	7.27
Color, ASTM D1500	6.5	7.0	7.0
Flash Point (COC), °C (°F)	254 (489)	275 (527)	240 (464)
Pour Point, °C (°F)	-36 (-33)	-35 (-31)	-39 (-38)
Viscosity, Kinematic			
cSt @ 40°C	94.0	131	108
cSt @ 100°C	10.7	13.7	14.6
Viscosity Index	97	100	139
Cold Cranking Viscosity, cP @ (°C)	---	---	6000 (-20)
Sulfated Ash, ASTM D874, wt %	0.45	0.45	0.45
Total Base Number (TBN), ASTM D2896	4.2	4.2	4.2
Phosphorus, wt %	0.028	0.028	0.028
Zinc, wt %	0.032	0.032	0.032

Health & Safety Information

For recommendations on safe handling and use of this product, please refer to the Safety Data Sheet via <http://www.phillips66.com/EN/products/Pages/MSDS.aspx>.

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Typical properties are average values only and do not constitute a specification. Minor variations that do not affect product performance are to be expected during normal manufacture, and at different blending locations. Product formulations are subject to change without notification.

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