



## El Mar® LA4 EXD GEO

Phillips 66® El Mar LA4 EXD GEO is a premium quality, next-generation, low-ash, dispersant-detergent gas engine oil designed for use in high-output 4-stroke cycle and some 2-stroke cycle natural gas engines operating under severe conditions. It is particularly recommended for use in stoichiometric and lean-burn gas engines fueled by natural gas or LPG, which typically are found on crude oil and gas transmission pipelines, electrical power generators, gas compressors, irrigation water pumps and well drilling rigs.

El Mar LA4 EXD GEO is formulated with high-quality Group II base stocks and the latest, state-of-the art, field-proven additive technology developed to meet the rigorous lubrication demands of modern, fuel-efficient, low-emission gas engines. It provides outstanding resistance to oil oxidation and nitration, and has a well-balanced alkaline reserve (TBN) to neutralize acids over long service intervals. It protects against ring and liner wear, minimizes the formation of 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.

El Mar LA4 EXD GEO has demonstrated the capability to extend oil service intervals without compromising engine performance or component life. The use of high-quality, low-volatility base stocks helps reduce oil consumption, minimize exhaust system deposits and reduce the amount of make-up oil needed, thereby resulting in lower operating costs.

### Applications

- Turbocharged, lean-burn and naturally aspirated 4-stroke cycle and some 2-stroke cycle natural gas engines where the manufacturer specifies a low-ash gas engine oil meeting API CF or API CD performance requirements
- Some gas engines burning landfill gas containing minimal levels of hydrogen sulfide

El Mar LA4 EXD GEO is recommended for use in natural gas engines manufactured by:

- Caterpillar
- Climax
- Colt-Fairbanks Morse
- Cooper Bessemer
- Dresser Rand (Category I, II, III)
- GE Jenbacher
- Minneapolis-Moline

**Premium, Next-  
Generation,  
Low-Ash Natural  
Gas Engine Oil**

**KEEPING THE  
WORLD  
RUNNING  
SMOOTHLY.**





- Nordberg
- Superior
- Wartsila
- Waukesha
- Worthington

## Features/Benefits

- Proven extended-drain capability for reduced maintenance costs and maximum productivity
- Field-proven performance in providing outstanding engine cleanliness
- High dispersancy protects against sludge and varnish formation
- Outstanding resistance to oil oxidation and nitration
- Enhanced protection against piston scuffing and ring and liner wear
- Excellent protection against rust and corrosion
- Low-ash formulation 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

## EI Mar® LA4 EXD GEO

Typical Properties			
SAE Grade	30	40	15W-40
Specific Gravity @ 60°F	0.877	0.880	0.871
Density, lbs/gal @ 60°F	7.30	7.33	7.25
Color, ASTM D1500	4.5	5.0	4.5
Flash Point (COC), °C (°F)	254 (489)	274 (525)	230 (446)
Pour Point, °C (°F)	-36 (-33)	-36 (-33)	-39 (-38)
Viscosity, Kinematic			
cSt @ 40°C	89.4	128	112
cSt @ 100°C	11.0	13.9	14.9
Viscosity Index	109	106	138
Cold Cranking Viscosity, cP @ (°C)	---	---	6000 (-20)
Sulfated Ash, ASTM D874, wt %	0.50	0.50	0.50
Total Base Number (TBN), ASTM D2896	5.5	5.5	5.5
Phosphorus, wt %	0.028	0.028	0.028
Zinc, wt %	0.033	0.033	0.033

## 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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