



El Mar® Mid Ash Supreme GEO

Phillips 66® El Mar Mid Ash Supreme GEO is a premium quality, mid-ash, dispersant-detergent gas engine oil designed for use in naturally aspirated and moderately to highly turbocharged 4-stroke cycle natural gas engines. It is particularly recommended for use in natural gas engines and dual-fuel engines burning sour gas or landfill gas.

El Mar Mid Ash Supreme GEO is formulated with field-proven performance additives to provide excellent resistance to oxidation and nitration, protect against piston scuffing and wear, and minimize the formation of sludge and piston deposits for good engine cleanliness. It has a high alkaline reserve (TBN) to protect engines operating under corrosive conditions, such as when burning sour gas, digester gas or landfill gas.

El Mar Mid Ash Supreme GEO is recommended for use in other 4-stroke cycle natural gas engines that require a mid-ash gas engine oil containing 1% (nominal) sulfated ash.

Applications

- 4-stroke cycle gas and dual-fuel engines burning sour gas or landfill gas
- 4-stroke cycle gas engines in wastewater treatment plants fueled by digester gas
- 4-stroke cycle converted irrigation engines running on natural gas or LPG
- Other 4-stroke cycle natural gas engines where the manufacturer specifies a mid-ash gas engine oil

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

- Colt-Fairbanks Morse
- Cooper Superior
- Nordberg
- Waukesha

Premium Mid-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[®] Mid Ash Supreme GEO

| Typical Properties | | | |
|-------------------------------------|-----------|-----------|------------|
| SAE Grade | 30 | 40 | 15W-40 |
| Specific Gravity @ 60°F | 0.886 | 0.894 | 0.875 |
| Density, lbs/gal @ 60°F | 7.38 | 7.45 | 7.29 |
| Color, ASTM D1500 | 8.0 | 8.0 | 8.0 |
| Flash Point (COC), °C (°F) | 216 (421) | 225 (437) | 232 (450) |
| Pour Point, °C (°F) | -33 (-27) | -24 (-11) | -39 (-38) |
| Viscosity, Kinematic | | | |
| cSt @ 40°C | 91.0 | 146 | 102 |
| cSt @ 100°C | 10.9 | 14.4 | 14.1 |
| Viscosity Index | 104 | 96 | 141 |
| Cold Cranking Viscosity, cP @ (°C) | --- | --- | 5800 (-20) |
| Sulfated Ash, ASTM D874, wt % | 1.0 | 1.0 | 1.0 |
| Total Base Number (TBN), ASTM D2896 | 8.2 | 8.2 | 8.2 |
| 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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