NGEO 2500 MA

Mid-Ash Oil for Natural Gas Engines, Biogas, & Landfill

General Description

NGEO 2500 MA engine oils are specially designed for use in 4-stroke stationary engines that require mid-ash oil. Additionally, this oil is used if increased detergent and TBN characteristics are desirable in biogas and landfill gas engines. NGEO 2500 MA is formulated with select base oils and carefully chosen additives that provide reserve TBN and alkalinity retention to neutralize acidic components that are found in these fuels.

Extended drain intervals have been demonstrated with NGEO 2500 MA, and are best established by used oil analysis. Always note that some engines, whether due to operating conditions, engine design, higher H2S, or contaminants in the specific gas used may limit extended oil drains.

With its unique formulation of base oils and additives NGEO 2500 MA is designed to control carbon deposits, scuffing and wear, and resist oxidation and nitration. It is also very effective in minimizing valve recession and providing longer head and spark plug life.

Expect excellent performance in these applications:

- Turbocharged and naturally aspirated four cycle natural gas engines
- Caterpillar, Waukesha White-Superior, Guascor and Jenbacher engines

Features and Benefits

- **Base Stock**: Blended with high quality, low sulfur, paraffinic base oils for improved thermal and oxidation control. No Bright Stocks are used, which reduces deposits.

- **Oxidation/Nitration control**: Oxidation inhibitors and dispersants control oil thickening maximize oil life and oil drains thus reducing downtime.

- **Deposit Control**: A special patented detergent helps neutralize acids, provides improved TBN retention, and reduces engine and valve deposits that provide extended engine life.

- **Anti-wear Protection**: Protects highly loaded engine parts by reducing piston, ring, and liner wear.

- **Catalyst Compatible**: 2500 MA is formulated to be compatible with engines using catalytic converters for emission control.

- **Field Tested Technology**: Specifically in conventional, biogas and landfill applications.
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Typical Applications
Biogas, landfill, pipelines, gas gathering, crude and gas transmission and power generation.

Typical Customers
Owners/operators of:
- Natural gas, synthetic gas, biogas, landfill gas fueled stationary engines specifying a mid-ash oil.
- Dairies and feed lots using digesters
- Landfill operations.
- Municipalities

Typical Properties

<table>
<thead>
<tr>
<th>Property</th>
<th>NGEO 2500 MA</th>
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<tbody>
<tr>
<td>SAE Grade</td>
<td>40</td>
</tr>
<tr>
<td>API Gravity / lbs./gal.</td>
<td>28.8 / 7.35</td>
</tr>
<tr>
<td>Flash Point, °F</td>
<td>480</td>
</tr>
<tr>
<td>Viscosity cSt @ 40°C</td>
<td>145</td>
</tr>
<tr>
<td>Viscosity cSt @ 100°C</td>
<td>15.7</td>
</tr>
<tr>
<td>Viscosity Index</td>
<td>112</td>
</tr>
<tr>
<td>Pour Point, max, °F / °C</td>
<td>-22 / -30</td>
</tr>
<tr>
<td>Total Base No. (TBN)</td>
<td>10</td>
</tr>
<tr>
<td>Sulfated Ash, %wt</td>
<td>0.95</td>
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<tr>
<td>Phosphorus, ppm Less than</td>
<td>250</td>
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</tbody>
</table>

The typical properties listed reflect the general characteristics of the product, and are not manufacturing specifications. Normal batch-to-batch variations should be expected.

Health & Safety
A complete safety data sheet is available by calling 1-651-355-8438 or visit cenex.com/sds-library.