Description

Clarity® Synthetic EA Gear Oils are readily biodegradable high-performance gear oils that meet EPA Vessel General Permit (VGP 2013) requirements for environmentally acceptable lubricants. They are designed to give maximum protection in industrial gear applications on vessels and in environmentally sensitive areas.

Clarity Synthetic EA Gear Oils are formulated with synthetic base stock and an ashless, zinc-free additive system that can provide good oxidation stability, water separability, foam suppression, and protection against wear, rust and corrosion. They are high VI synthetic products which allow for operation over a wide temperature range.

Typical Characteristics

<table>
<thead>
<tr>
<th>MPID</th>
<th>803121</th>
</tr>
</thead>
<tbody>
<tr>
<td>VG 100</td>
<td></td>
</tr>
<tr>
<td>Kinematic Viscosity at 40°C, mm²/s</td>
<td>100</td>
</tr>
<tr>
<td>Kinematic Viscosity at 100°C, mm²/s</td>
<td>18</td>
</tr>
<tr>
<td>Viscosity Index</td>
<td>199</td>
</tr>
<tr>
<td>Flash point, COC, °C</td>
<td>185</td>
</tr>
<tr>
<td>Pour Point, °C</td>
<td>–39</td>
</tr>
<tr>
<td>Copper Corrosion 3hrs/100°C</td>
<td>1B</td>
</tr>
<tr>
<td>Rust test, distilled water</td>
<td>PASS</td>
</tr>
<tr>
<td>Rust test, salt water</td>
<td>PASS</td>
</tr>
<tr>
<td>Water separability at 82°C</td>
<td>&lt;3 ml emulsion at 30 minutes</td>
</tr>
<tr>
<td>Foam Seq I, ml</td>
<td>50/0</td>
</tr>
<tr>
<td>Foam Seq II, ml</td>
<td>50/0</td>
</tr>
<tr>
<td>Foam Seq III, ml</td>
<td>50/0</td>
</tr>
<tr>
<td>FZG, load failure stage</td>
<td>&gt;12</td>
</tr>
<tr>
<td>Timken OK Load, lb</td>
<td>&gt;60</td>
</tr>
</tbody>
</table>

Elastomer Compatibility

- Buna-N (100°C, 168 hrs) Pass
- Viton (150°C, 168 hrs) Pass

Biodegradability, % >60

Aquatic Toxicity

- Fathead minnow, OECD 203, mg/L >1000
- Daphnia magna, OECD 202, mg/L >130
- Algae, OECD 201, mg/L >120

Bioaccumulation NEGATIVE
**Recommended Applications**

These lubricants are readily biodegradable, non-bio accumulative, and minimally toxic. In the event of a spill, the product biodegrades by more than 60% within 28 days, minimizing the impact to the environment. Clarity® Synthetic EA Gear Oil is designed to give maximum protection in marine gear equipment used on vessels and in environmentally sensitive areas.

**Clarity Synthetic EA Gear Oil Is Approved For:**

- Aegir
- AGMA EP 9005-E02
- Berg
- Blohm+Voss
- Cincinnati Milacron P-76
- David Brown S1.53.101
- DIN 51517 (Part 3)
- IHC Merwede
- James Walker
- Kamewa
- Kemel
- Ortlinghaus
- Schottel
- Wärtsilä

Clarity Synthetic EA Gear Oil is miscible with common mineral based gear oils, however, following good practice, in-service oils should be completely drained to avoid any risk of additive incompatibility and ensure that the full performance benefits are achieved. Do not use in high pressure systems near flames, sparks, and hot surfaces. Use only in well ventilated areas. Keep container closed.

**Performance Benefits**

1. **Environmentally Acceptable**

   Meets the requirements of the EPA Vessel General Permit (VGP 2013) for biodegradation, low toxicity and low bioaccumulation.

2. **Premium Performance**

   Ashless formulation helps to provide protection against wear of industrial gears, as well as rust and corrosion protection, water separability, foam inhibition, EP protection and shear stability.

3. **Long Oil Life**

   Good ability of the synthetic base stock to withstand oxidation at high operating temperatures results in maximum service life for the oil relative to vegetable-based readily biodegradable products.

4. **Low Temperature Pumpability**

   Specifically developed with high viscosity index to help ensure good fluidity for low operating temperatures.