EcoLine® All Purpose Lubricant

FEATURES

• USDA certified biobased product
• Contains 93% biobased content
• USDA BioPreferred™ designated Corrosion Preventative and Multipurpose Lubricant for Federal preferred purchasing
• Environmentally friendly and biodegradable
• Replaces hazardous mineral oil
• Extends life of machinery parts by reducing friction and wear
• Contains unique Vapor phase Corrosion Inhibitor (VpCI®) which prevents corrosion on uncoated and difficult-to-reach areas in casting and stamping
• Provides multimeatal protection
• Cleans and lubricates
• Loosens frozen and rusted parts
• Non-flammable and non-toxic
• Can be used as an excellent mold release
• Contains an extra pressure additive for extra wear protection

TYPICAL APPLICATIONS

• In-plant machining
• Bar and chain oil
• Flange lubricant
• Biodegradable and preservative oil for machinery
• Locks and hinges
• Nuts and bolts
• Office machinery
• Penetrating oil/lubricant

METALS PROTECTED

• Carbon steel
• Galvanized steel
• Stainless steel
• Aluminum and alloys

PRODUCT DESCRIPTION

EcoLine® All Purpose Lubricant is designed for industrial, shop, and home use. It contains a friction modifier and extreme pressure additive. It is safe for use on all metals and most plastics. EcoLine® All Purpose Lubricant is perfect for both indoor and outdoor applications.

EcoLine® products are based on soybean derivatives and soybean methyl esters. Methyl esters are used in this revolutionary, low-impact technology as solvents. These soya-based products provide excellent lubricity and biodegradability. EcoLine® products are environmentally friendly and leave behind a high-performance VpCI® corrosion protecting layer.

Ecoline® All Purpose Lubricant has been certified as a USDA certified biobased product and has been awarded USDA BioPreferred™ designation.

(www.bioprrefered.gov)
**TYPICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear to slightly hazy amber liquid</td>
</tr>
<tr>
<td>Corrosion Resistance</td>
<td>Up to 24 months</td>
</tr>
<tr>
<td>Non-volatile Content</td>
<td>95-100%</td>
</tr>
<tr>
<td>Density</td>
<td>7.4-7.6 lb/gal (0.89-0.91 kg/l)</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>12.54 centistokes (mm²/s) (at 40°C)</td>
</tr>
<tr>
<td>Layer thickness</td>
<td>0.008 mm (0.30 mil)</td>
</tr>
</tbody>
</table>

4 Ball EP Test

<table>
<thead>
<tr>
<th>Test</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASTM D-2596</td>
<td>2000 N (10 s)</td>
</tr>
<tr>
<td>ASTM D-2266</td>
<td>Mean scar diameter 0.51 mm (392 N/1h)</td>
</tr>
</tbody>
</table>

**TEST RESULTS**

**ASTM D 4172 (4 Ball Wear Test)**

- **Average Wear Scar Diameter**: 10 mils (0.25 mm)

**ASTM D 2670 (Falex Pin and Vee Block Wear Test)**

<table>
<thead>
<tr>
<th>Conditions</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Run in/5 min.</td>
<td>350 lb (159 kg)</td>
</tr>
<tr>
<td>Gage load/15 min.</td>
<td>900 lb (408 kg)</td>
</tr>
</tbody>
</table>

**Results**: Total Teeth Wear: 2

**FOREIGN USE ONLY**

**KEEP OUT OF REACH OF CHILDREN**

**KEEP CONTAINER TIGHTLY CLOSED**

**NOT FOR INTERNAL CONSUMPTION**

**CONSULT SAFETY DATA SHEET FOR MORE INFORMATION**

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**Distributed by:**

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