VISCOPLEX® 14-520
defoamer for lubricating oils
Leveling the playing field
VISCOPLEX® 14-520
defoamer

Evonik has introduced a new high-performance defoamer for lubricating oil applications.

Based on patented Organo-Modified Siloxane (OMS) technology, VISCOPLEX® 14-520 is tailored to lubricating oil applications.

Optimized to provide excellent foam control, VISCOPLEX® 14-520 has the significant benefit of reduced air entrainment compared to traditional silicone oil defoamers. It provides robust performance across a wide range of lubricant formulations and is offered as a low viscosity and easy-to-handle form.

VISCOPLEX® 14-520 offers superb performance without the negative effects of classic silicone oils.

This is technology developed and patented by Evonik. The Evonik business line of Industrial Specialties continues to directly market defoamers for aqueous lubricant systems and diesel fuels.

Ease of use in blending operations

Good performance requires efficient blending into lubricants to establish the correct and stable droplet size.

VISCOPLEX® 14-520 is an 8% active ingredient (a.i.) dilution in ester solvent, which eliminates pre-dilution procedure at a blend plant (and eases lab bench blending) and provides high flash point to avoid freight restrictions and simplify plant handling.
VISCOPLEX® offers superior performance

VISCOPLEX® 14-520 properties

<table>
<thead>
<tr>
<th>Property</th>
<th>VISCOPLEX® 14-520</th>
</tr>
</thead>
<tbody>
<tr>
<td>Visual appearance</td>
<td>Clear</td>
</tr>
<tr>
<td>Active ingredient (a.i.)</td>
<td>Approx. 8%</td>
</tr>
<tr>
<td>Solvent</td>
<td>Ester</td>
</tr>
<tr>
<td>Silicon content</td>
<td>Approx. 0.9 (w/w)%</td>
</tr>
<tr>
<td>Density, 15°C</td>
<td>Approx. 0.93 g/cm³</td>
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<tr>
<td>Viscosity, 25°C</td>
<td>Approx. 27 mm²/s</td>
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<tr>
<td>Flash Point (ASTM D 3278)</td>
<td>&gt;120°C</td>
</tr>
<tr>
<td>Recommended treat rate, %</td>
<td>200-400 ppm</td>
</tr>
<tr>
<td>Product packaging</td>
<td>175 kg drum</td>
</tr>
</tbody>
</table>

• Excellent foam control
• Do not entrain air like silicone oils
• Effective in multiple lubricant formulations
• Low viscosity, easily-handled liquids
• Easily mixed into blend tank
• Stable retained defoamer performance in final blend
• Can be ordered with other VISCOPLEX® products resulting in single-shipment cost savings
• Lower net treat cost than high treat-rate polyacrylates
• Allows use in oils where accidental contact with surfaces is an issue for subsequent overpainting
Defoaming mechanism in lubricants

A defoamer must be partially insoluble in the system to build droplets of a certain size. The special OMS technology of VISCOPLEX® 14-520 works to efficiently build droplets for effective defoaming and minimal air entrainment. Because VISCOPLEX® defoamer additives are easily pre-diluted and mixed into the blend tank, the defoamer performance stability is retained in the final blend.
Foam control

Tested in a wide range of formulations and different foam related tests, VISCOPLEX® 14-520 has proved to provide robust performance. The OMS technology provides excellent foam inhibition and fast collapse times, even for foam produced under severe conditions. Foam control is typically achieved between 200-400 ppm for VISCOPLEX® 14-520.
Minimized air entrainment

VISCOPLEX® 14-520 does not entrain air like silicone oils. It can economically satisfy both foam control and air release requirements. VISCOPLEX® 14-520 helps meet air release targets critical in hydraulic systems, circulating oils, compressor oils, automotive transmission fluids, etc.

### Air release

<table>
<thead>
<tr>
<th>Time, mins.</th>
<th>0</th>
<th>2</th>
<th>4</th>
<th>6</th>
<th>8</th>
<th>10</th>
<th>12</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dispersed Air, %</td>
<td>2.5</td>
<td>2.2</td>
<td>2.0</td>
<td>1.8</td>
<td>1.6</td>
<td>1.4</td>
<td>1.0</td>
</tr>
</tbody>
</table>

- **VISCOPLEX® 14-520 @ 20 ppm a.i.**
- **Base Fluid**
- **Silicone Oil @ 20 ppm**
About Evonik Oil Additives

Evonik Oil Additives is a leading global supplier of high performance lubricant and refinery chemicals.

Evonik’s broad line of VISCOPLEX® Viscosity Index Improvers (VIIs) and Pour Point Depressants (PPDs), derived from proprietary polyalkyl methacrylate (PAMA) technology, helps formulators meet the challenges of extreme operating conditions. Its refinery chemicals boost process efficiency and optimize solvent extraction processes. Evonik also produces and markets VISCOBASE® synthetic base stocks.

A global sales team and technical experts are backed by state-of-the-art Technology Centers and are committed to provide you with tailor-made solutions to meet the latest industry standards.

Worldwide manufacturing facilities and a global supply chain enable Evonik to provide customized products and services to customers around the world.
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