Customer benefits

**Reduced maintenance costs**
Highly effective detergent additive system minimizes piston crown land deposits which can lead to damaging bore polishing. High base number minimizes corrosive wear in those areas where medium to high sulphur fuel is still encountered.

**Maximizes engine life**
Proven metallo-organic anti-wear additive system reduces wear in severe service by forming a protective layer on all metal contact surfaces. Wide-range SAE 10W-40 multigrade viscosity ensures reduced friction at start-up and maximum lubricity at high operating temperatures.

**Ultra long oil drain intervals**
Exceptional high temperature stability minimizes degradation that leads to sludge formation and oil thickening, and provides oil service intervals up to the maximum levels recommended for ACEA E4 oils in Euro IV and Euro V compliant engines.

**Low oil consumption**
Highly shear-stable viscosity index improvers prevent oil flow through the piston rings by maintaining oil viscosity in the high temperature ring belt area, while synthetic low volatility base fluids minimize evaporative oil loss.

Applications

- Heavy duty naturally aspirated and turbocharged diesel engines operating internationally with long drain intervals.
- Scania Euro VI emissions diesel engines requiring Scania LDF-3 approved lubricant.
- Backwards compatible and suitable for earlier European heavy duty diesel engines meeting Euro II to Euro V emissions standards.

Product features:

- **Delo® XSD Synthetic SAE 10W-40** is a high performance synthetic heavy duty diesel engine lubricant designed to meet current ACEA requirements and the more challenging OEM specifications, including Scania LDF-3 for latest technology Euro VI engines.

- **Delo® XSD Synthetic SAE 10W-40** is formulated with ISOSYN Technology, using premium quality base stocks, in combination with high performance additive technology designed to deliver reliable cold temperature performance, robust deposit control and long drain performance.
### Typical key properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DELO® XSD SYNTHETIC</strong></td>
<td></td>
</tr>
<tr>
<td><strong>SAE Grade</strong></td>
<td>10W-40</td>
</tr>
<tr>
<td><strong>Product Code</strong></td>
<td>500461</td>
</tr>
<tr>
<td><strong>Base No.</strong></td>
<td></td>
</tr>
<tr>
<td><strong>ASTM D2896, mg KOH/g</strong></td>
<td>15.9</td>
</tr>
<tr>
<td><strong>Sulfated Ash, ASTM D874, m %</strong></td>
<td>1.80</td>
</tr>
<tr>
<td><strong>Viscosity, ASTM D445,</strong></td>
<td></td>
</tr>
<tr>
<td><strong>mm²/s @ 40°C</strong></td>
<td>89.7</td>
</tr>
<tr>
<td><strong>mm²/s @ 100°C</strong></td>
<td>13.6</td>
</tr>
<tr>
<td><strong>Viscosity Index, ASTM D2270</strong></td>
<td>152</td>
</tr>
<tr>
<td><strong>Zinc, ASTM D4951, m %</strong></td>
<td>0.132</td>
</tr>
</tbody>
</table>

### Performance standards
- ACEA E4, E7
- API CF
- MB Approval 228.5
- MAN M3277

### Planned approvals
- Scania LDF-2, LDF-3
- Mack EO-N Premium Plus
- Renault RLD-2
- Volvo VDS-3

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**ENVIRONMENT, HEALTH and SAFETY**

Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal.

To obtain a MSDS for this product, visit: www.CaltexDelo.com.

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This bulletin was prepared in good faith from the best information available at the time of issue. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. It is the responsibility of the user to ensure that the products are used in the applications for which they are intended.

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SERVICE CONSIDERATIONS

European diesel engine manufacturers recommend oil drain intervals of up to 100,000 km where ACEA E4 oils are used in Euro II and Euro III type engines. However, such extended oil drain intervals should only be applied where service conditions match ideal European duty cycles and fuel sulfur levels. In most areas in which Caltex brand products are sold this is unlikely.

The higher fuel consumption, higher fuel sulfur levels and more severe operating conditions (such as dustiness, higher loads, and rougher surfaces) generally encountered in these areas mandate, for all diesel engine oils, reduced service intervals versus those used in more ideal environments. If operators adjust drain intervals to compensate for these service factors, Delo XSD Synthetic SAE 10W-40 can deliver proportionate benefits in terms of lower maintenance and lower engine life cycle costs.

For vehicles fitted with exhaust clean up devices of the diesel particulate trap type, lubricants conforming to low-SAPS (sulfated ash, phosphorus and sulfur) requirements should be employed.

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