An introduction to PANOLIN HLP SYNTH
**All biodegradable oils are not created equal**
PANOLIN HLP SYNTH is a high performance biodegradable hydraulic fluid. 100% saturated synthetic ester base oils combine with carefully selected additives to provide excellent resistance to oxidation, corrosion and wear, without compromising environmental compatibility.

The synthetic saturated ester base oils present in PANOLIN HLP SYNTH guard against gumming and deposits, even at extremely high operating temperatures. The high viscosity index ensures superb levels of protection at both high and low temperatures.

**PANOLIN HLP SYNTH offers the following advantages**
- Dramatically increased service life
- 5,000 hour warranty
- Outstanding high pressure characteristics
- Oxidation resistance – even at high temperatures
- Outstanding protection at low temperatures due to the extremely low pour point (down to – 60°C)
- Wide range of viscosities available (ISO VG 15 to 100)

**Environmental Compatibility** In the case of an accidental spillage PANOLIN HLP SYNTH will be fully decomposed by micro-organisms found in either soil or water, without affecting the environment and leaving practically no deposits.

Due to the extremely long service life achievable with HLP SYNTH, natural resources are preserved and waste oil is minimised.

**Conforming to the following environmental standards**
- ASTM D-6046-98a: PW₁, TW₁, TS₁
- «Der Blaue Engel/The Blue Angel» due to its rapid biodegradability
- Czech Ecolabelling Agency «Ekologicky Setny Vyrobek 15 – 02»
- Japan Environment Association-Eco Mark, Certified Number 01110004
- OECD 301: 70 % [mean value]
- ÖNORM, Part 5
- Swedish Standard SS 15 54 34
- Water hazard classifications (VwVwS): nwg and WGK-1

**Cost effectiveness** Whilst the purchase price is higher than that of traditional hydraulic oils, the extended service life, reduced maintenance and improved reliability that can be achieved with PANOLIN HLP SYNTH ensure that your initial investment is more than repaid.
Applications

PANOLIN HLP SYNTH is suitable for all hydraulic systems including construction, forestry, rail, waterways, and subsea machinery. PANOLIN HLP SYNTH is capable of performing in the harshest of applications where extremes of temperature and loads are experienced.

OEM Approvals

PANOLIN HLP SYNTH is approved by over 150 OEMs, with many offering the option of PANOLIN to be filled in the factory, allowing you to protect your machinery and the environment whilst maintaining your equipment’s warranty.

Lab analysis

ECOLUBE offers a regular oil analysis service to all of our PANOLIN HLP SYNTH customers. In addition to the usual tests (wear metal analysis, water and particle contamination etc.), we also check for foreign oil content – alerting you to any contamination which may compromise the performance or biodegradability of the fluid in your machinery. Trend analysis is used, and we will happily advise on ways to rectify any problems highlighted by the regular laboratory reports.

CARDEV Filtration equipment

Where necessary, ECOLUBE is able to supply CARDEV offline oil filtration systems to combat water and particle contamination.

Visit www.cardev.com for further information.
Case study – BRITISH AIRWAYS London Eye

“We are totally delighted with the oil. To date, the London Eye has run for over 35,000 hours of operation with routine maintenance only. ECOLUBE is always on hand if we need to discuss any issues, and regular oil sampling confirms that all is well.”

Kevin Dyer – Maintenance Manager

Case study – PLASSER & THEURER tamper

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>System capacity</td>
<td>1200 litres</td>
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<tr>
<td>Operating temperature</td>
<td>80° to 85°C</td>
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<td>Hours of work</td>
<td>over 15,000 hours</td>
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<tr>
<td>Availability for work</td>
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<tr>
<td>Reliability at work</td>
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<tr>
<td>Major component replacement</td>
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<tr>
<td>Oil changes</td>
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<tr>
<td>Oil in service</td>
<td>PANOLIN HLP SYNTH 46</td>
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</tbody>
</table>

Other products in the PANOLIN range include

- Biodegradable gear oil
- Biodegradable engine oil
- Biodegradable grease.
- PANOLIN ORCON® – a complete range of food safe lubricants

PANOLIN lubricants are available in the UK and Ireland exclusively from ECOLUBE. For further information on any of the PANOLIN range, please do not hesitate to contact us:

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