

# BIOGEAR XP RANGE



## DESCRIPTION

BIOGEAR XP is a range of biodegradable, high performance, extreme pressure (EP) gear oils. These fluids are based on fully saturated esters with a high degree of renewability. The range has been designed for use in all types of enclosed gears and bearings. The use of base oils with an inherently high Viscosity Index (VI) and low pour point makes these products suitable for use over a wide temperature range.



EU Ecolabel : NL/027/018

The BIOGEAR XP range has been awarded the European Ecolabel for lubricants.

It achieves a biodegradability of >60% in the 28-day OECD 301B test, is non-toxic in aquatic environments and meets the US EPA's definition of an Environmentally Acceptable Lubricant (EAL).

*The EU Ecolabel is a label of environmental excellence that is awarded to products and services meeting high environmental standards throughout their life-cycle: from raw material extraction, to production, distribution and disposal.*

## APPLICATIONS

BIOGEAR XP is designed for use in heavily loaded gearboxes operating at wide temperature ranges. It can be used in off-highway equipment, process gear cases and planetary transmissions, especially in sensitive environments where there is potential for fluid loss to occur.

## CERTIFICATION

- DIN 51517 Part 3 (2018)
- ISO 12925-1:2018

## COMPATIBILITY

Miscible with mineral oil and synthetic esters but, in accordance with best practice, it is recommended that the previous oil be fully drained, and the system ideally flushed. Vickers do not recommend the mixing of oils.

Compatible with standard NBR, HNBR and FKM seal elastomers. Compatible with PTFE and PU80 / PU90 polyurethane samples as tested but testing of specific grades of polyurethane is advised.

### BENJ<sup>n</sup> R. VICKERS & SONS LTD.

**Registered Office**  
6 Clarence Road, Leeds,  
LS10 1ND, United Kingdom

**Registered in England**  
Company No. 00130013

**Tel:** +44 (0) 113 386 7654  
**Web:** [www.vickers-oil.com](http://www.vickers-oil.com)  
**Email:** [inbox@vickers-oil.com](mailto:inbox@vickers-oil.com)

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Certified to the ISO 9001  
Quality Standard and the  
ISO 14001 Environmental  
Management Standard



FM 01851 EMS 40717

# BIOGEAR XP RANGE



## FEATURES AND BENEFITS

- Biodegradable Reduced environmental impact in the event of spillage
- Outstanding oxidation stability Less sludge and longer fluid life
- Wide operating temperature range Extends life at temperature extremes
- Excellent thermal stability Less fluid thickening and system failures
- Excellent demulsification Readily separates from water
- Good shear stability Less viscosity loss and fewer fluid changes
- High micropitting resistance Protects gears, even when subject to high loads

## TYPICAL CHARACTERISTICS AND PROPERTIES

BIOGEAR XP RANGE	TEST METHOD	220	320	460
Appearance	Visual	Clear & bright	Clear & bright	Clear & bright
Viscosity at 40°C (cSt)	ASTM D7042	220	320	460
Viscosity at 100°C (cSt)	ASTM D7042	27	36	49
Viscosity Index	ASTM D2270	155	160	165
Pour Point (°C)	ASTM D7346	-36	-42	-36
Flash Point (°C)	ASTM D92	>200	>200	>200
Copper Corrosion 3h @ 100°C	ASTM D130	1a	1a	1a
Ageing 312hr@95°C, KV100 incr. (%)	ISO 4263-4	<6	<6	<6
FZG Scuffing (FLS)	ISO 14635-1	>14	>14	>14
FE8, Bearing Wear (mg)	DIN 51519-3	<30	<30	<30
Micropitting	FVA 54	>LS10, GFT high	>LS10, GFT high	>LS10, GFT high
Density at 15°C (g/cm <sup>3</sup> )	ASTM D4052	0.94	0.95	0.96

Shelf Life

5 years in original sealed containers whilst stored out of direct sunlight

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**Email:** [inbox@vickers-oil.com](mailto:inbox@vickers-oil.com)

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