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## Biohyd

### Environmentally friendly hydraulic fluid

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#### Description; Description

BP Biohyd is a biodegradable hydraulic fluid based on rapeseed oil. The product contains selected additives to provide effective oxidation stability, anti-corrosion and anti-wear properties, as well as compatibility with bearing alloys containing lead.

The rapeseed oil base endows BP Biohyd with a very high viscosity index and low temperature flow properties have been obtained through careful refining of the base oil.

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#### Applications; Applications

BP Biohyd is recommended for use in hydraulic equipment, where leakage may pollute natural water and drainage systems. Typical examples are in earth-moving, agricultural and forestry machinery, refuse lorries, rail-cars, presses and wrapping machines.

Because of the special refining process, cold start-up of hydraulic systems at temperatures down to -20 °C is ensured. Maximum operating temperature is +80 °C.

Biodegradability is 97%, as measured by the CEC-L-33-A-93 test. The product is classified in Germany as not toxic to water organisms (Wassergefährdungsklasse 0).

BP Biohyd is not soluble in water, but is miscible with mineral oil based hydraulic fluids.

Approval for use in axial piston pumps in a temperature range of -20 °C to +80 °C has been obtained from Mannesmann Rexroth Hydromatik GmbH. Further approvals have been granted by, amongst others, Mercedes-Benz and Faun.

Oil change intervals must be in accordance with the system manufacturer's instructions, taking into consideration the thermal loading of the oil. Ingress of water must be avoided.

When changing from mineral oil based hydraulic fluid to BP Biohyd, the system should be drained completely and then filled with BP Biohyd; flushing is not necessary.

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#### Main Benefits; Main Benefits

- Inadvertent spills or leakage of BP Biohyd into the environment are less harmful than for conventional oils, due to its relatively fast biodegradability.

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#### Storage; Storage

All packages should be stored under cover. Where outside storage is unavoidable drums should be laid horizontally to avoid the possible ingress of water and the obliteration

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of drum markings. Products should not be stored above 60 °C, exposed to hot sun or freezing conditions.; of drum markings. Products should not be stored above 60 °C, exposed to hot sun or freezing conditions.

**Health, Safety and Environment; Health, Safety and Environment**

Health, safety and environmental information is provided for this product in the Materials Safety Data Sheet. This gives details of potential hazards, precautions and First Aid measures, together with environmental effects and disposal of used products.; Health, safety and environmental information is provided for this product in the Materials Safety Data Sheet. This gives details of potential hazards, precautions and First Aid measures, together with environmental effects and disposal of used products.

BP Lubricants and Special Products Ltd. or its subsidiaries will not accept liability if the product is used other than in the manner or with the precautions or for the purpose/s specified. Before the product is used other than as directed, advice should be obtained from the local BP office.; BP Lubricants and Special Products Ltd. or its subsidiaries will not accept liability if the product is used other than in the manner or with the precautions or for the purpose/s specified. Before the product is used other than as directed, advice should be obtained from the local BP office.

**Typical Characteristics; Typical Characteristics**

	Test Methods; Test Methods	Units; Units	Grade ; Grade :	Grade ; Grade :
Density at 15 °C	ISO 3675, ASTM D1298	Kg/m <sup>3</sup>	32 922	46 921
Kinematic visco at 40 °C 100 °C	ISO 3104, ASTM D445	mm <sup>2</sup> /s	36 8	44 10
Viscosity Index	ISO 2909, ASTM D2270		210	210
Pour Point	ISO 3016, ASTM D97	°C	-33	-33
Flash Point (COC)	ISO 2592, ASTM D92	°C	255	255
Air release at 50 °C	ASTM D3427	min	4	5
Neutralisation number	ASTM D974	mgKOH/g	1.75	1.90
FZG Gear Test : A/8.3/90 °C	IP 334, DIN 51 354	Load Stage Failure	>12	>12
Vickers Pump Test (ring/vanes wear)	ASTM D2882	mg	<120/<30	<120/<30
Compatibility with reference seal material	ISO 6072			
SRE-NBR 17d/100 °C				
Volume change :	DIN 53521	%	+8	+6
Hardness change :	DIN 53505	-	-4	-2
Biodegradability	CEC-L-33-A-93	%	97	97

*The above figures are typical of those obtained with normal production tolerance and do not constitute a specification.; The above figures are typical of those obtained with normal production tolerance and do not constitute a specification.*

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