



# Energol HLP

## *Premium Quality Hydraulic Oils*

### Description

**Energol HLP** hydraulic oils are a range of premium quality products based upon BP's proven ashless sulphur-phosphorus additive technology. This unique additive system has many benefits over traditional zinc containing products, especially when the oils operate in moist conditions. It results in improved corrosion prevention, reduced wear and significantly better filtration performance.

### Main Benefits

- Unique ashless additive technology for premium performance.
- Very low rates of wear and therefore extended life for hydraulic components;
- Excellent filterability and no tendency to block fine filters when contaminated with water
- High chemical stability, excellent corrosion inhibition, low foaming and seal compatibility

### Applications and Approvals

**Energol HLP** is primarily for use in hydraulic equipment, but is also suitable for other duties in which lubricants of high oxidation stability and lubrication performance are required.

**Energol HLP** range of oils exceed the requirements of the German DIN 51524 part 2, CETOP RP 47H and American Vickers 1.286.S specifications for anti-wear hydraulic oils and are classified as ISO type HM. The oils have been formulated to minimize oxidation and foaming and to ensure long machinery life by reducing wear to a minimum and preventing corrosion. The oils are compatible with the seal materials used in modern hydraulic systems.



## Typical Characteristics

<b>Energol HLP</b>	Test Method	Units	<b>10</b>	<b>15</b>	<b>22</b>	<b>32</b>	<b>46</b>	<b>68</b>	<b>100</b>	<b>150</b>	<b>220</b>	<b>320</b>
Density @ 15°C	ASTM D1298	kg/l	0.86	0.87	0.88	0.88	0.88	0.88	0.89	0.89	0.89	0.90
Flash Point	ASTM D92	°C	162	174	192	216	225	240	240	267	270	270
Kin Viscosity @ 40°C	ASTM D445	cSt	9.5	15	21	32	46	68	105	160	220	320
Kin Viscosity @ 100°C	ASTM D445	cSt	2.50	3.32	4.19	5.4	6.9	9.0	12	16	20	25
Viscosity Index	ASTM D2270		80	84	104	108	105	105	101	101	101	101
Pour Point	ASTM D97	°C	-45	-33	-30	-30	-30	-30	-24	-24	-24	-24
Neutralization Value	ASTM D664	mgKOH/g	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Air release @ 75°C	ASTM D3427	min										
Corrosion Protection	ASTM D665B		Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass
Copper Corrosion	ASTM D130		1A	1A	1A	1A	1A	1A	1A	1A	1A	1A
Vane-Pump test												
Ring Wear	CETOP RP67H	mg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Vane Wear	IP 281	mg	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
FZG Gear Test	IP 334	Pass	10	10	10	10	10	10	10	10	10	10
A/8.3/90°C		Stage										

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

Packages: Non-returnable 209 litre drum.

## Service Precautions

Follow equipment manufacturers' recommendations on filtration and oil change intervals. Wherever possible, filter oil into systems.

## Storage

All packages should be stored under cover. Where outside storage of drums that would trap rainwater is unavoidable, they should be horizontal to avoid the possible ingress of water and the obliteration 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 environmental information is provided for these products in the Material Safety Data Sheet (MSDS). This gives details of potential hazards, precautions and First Aid measures, together with environmental effects and advice on disposal of used products. MSDSs may be obtained from your local BP office.

The British Petroleum Company p.l.c. or its subsidiaries will not accept liability if the products are used other than in the manner or with the precautions or for the purpose/s specified. Before the products are used other than as directed, advice should be obtained from the local BP office.

