



## Energol TH-HT

Steam turbine oil

### Description; Description

Energol TH-HT is a range of industrial turbine lubricants, formulated from highly refined, mineral base oils and a selection of (ashless) performance additives. The inherent oxidation resistance of these oils is further enhanced through the inclusion of an oxidation inhibitor.

Other additives in the oils ensure good protection against corrosion, suppression of foaming, enhanced water-separation and load-carrying characteristics.

### Applications; Applications

The Energol TH-HT oils are formulated to lubricate and cool the bearings of industrial turbines. They can be used in steam and water turbines. These oils tolerate bulk operating temperatures up to 100 °C and occasional peak temperatures of up to 130 °C.

Energol TH-HT exceeds the performance requirements of the following turbine oil specifications:

- BS 489: 1983
- DIN 51515
- ASTM Draft Specification Type I and II
- CEI/ISO Draft Specification
- General Electric GE-K 32568A & B
- Alsthom Atlantique NBA P50001 (TV)
- Brown Boveri et Cie now ABB HTGD 90117
- ICI Ammonia Synthesis Plant Lubricating Oil Specification

### Main Benefits; Main Benefits

-long term, trouble-free functioning of the lubricating oil, due to its stability, leading in turn to:

-long term, effective protection of the turbine bearings and ancillary equipment, i.e. control system

### 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

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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 :			
			32	46	68	77
Colour	ISO2049/ASTM D1500		L1.5	L1.5	L2.0	2.0
Density at 15 °C	ISO3675/ASTM D1298	kg/m <sup>3</sup>	874	877	881	882
Viscosity KV @ 40 °C	ISO 3104	mm <sup>2</sup> /s	30	46	67	77
100 °C	ASTM D445		5.2	6.8	8.7	9.4
Viscosity Index	ISO2909/ASTM D2270		100	100	99	98
Flash point (COC)	ISO 2592/ASTM D92	°C	216	216	227	240
Pour point	ISO3016/ASTM D97	°C	-12	-12	-12	-12
Neutralisation Value	ASTM D664	mgKOH/g	<0.10	<0.10	<0.10	<0.10
TOST life to Acidity	ISO 4263	h	2000+	2000+	2000+	2000+
2.0 mqKOH/gh	ASTM D943					
Corrosion -rust protection (B)	ISO 7210/ASTM D665		pass	pass	pass	pass
Copper corrosion, 3h/100°C	ISO 2160		1b	1b	1b	1b
Air release at 50 °C	ASTM D130					
Demulsification	ASTM D3427	min	3	4	-	-
Ash	IP 19	s	90	120	120	120
FZG	DIN EN7	%wt	nil	nil	nil	nil
Foam Tendency/Stability	IP 334	load stage failure	7	8	-	-
Sequence I: 25 °C	ASTM D892	ml	0/0	0/0	-	-
Sequence II: 95 °C		ml	20/0	20/0	-	-
Particles	Membrane filter	%wt	below	limit of	detection	
Water content	ISO 3733	%wt	below	limit of	detection	

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

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