

## - Certificate / Product Information -

### RAVENOL BIO-Hydraulikoel HEES 46

Art. 1321105

Hydraulicfluid based on easily biogedradable ester.

#### Description:

**RAVENOL BIO-Hydraulikoel HEES 46** is based on synthetic, easily biodegradable ester and a powerful, environmentally friendly combination of additives which gives the product excellent properties regarding oxidation stability, corrosion, low temperatures as well as EP behaviour.

Compared with products of vegetable triglyceride base, **RAVENOL BIO-Hydraulikoel HEES 46** has much better high temperature oxidation stability.

#### Application Directions:

**RAVENOL BIO-Hydraulikoel HEES 46** is used wherever there is the danger of hydraulic fluid leaking into the ground or waste water. This includes all equipment operating in or near areas of water purification or water protection or near surface water, such as e.g. sewage treatment plants, dredging ships and floating dredges, lock hydraulics and river weirs, pipe and tunnel diving machines, - hydraulic aggregates in forests and on plains, earth moving machines in water collecting areas, forestry machines.

#### Quality Classification:

**RAVENOL BIO-Hydraulikoel HEES 46** is tried and tested for aggregates specifying:

Specifications: Rexroth Bosch Group: RE / RD 90221-01/02.10

Recommendations: VDMA 24568/ISO 15380.

#### Technical Characteristics:

**RAVENOL BIO-Hydraulikoel HEES 46** offers:

- Meets the requirements of the Federal Ministry for consumer protection, alimentation and agriculture regarding good biodegradability and technical specifications. Due to this these products are eligible according to FNR-guide lines.
- On account of the used raw materials, **RAVENOL BIO-Hydraulikoel HEES 46** is classified as water polluting class NWG (not water-polluting) – German classification.

#### Technical Values:

Characteristics	unit	data	test according to	
<b>Colour</b>		yellow-brown	visual	
<b>Density</b> at 20°C	kg/m <sup>3</sup>	920	EN ISO 12 185	
<b>Viscosity</b> at 40°C	mm <sup>2</sup> /s	46,0	DIN 51 562	
	at 100°C	mm <sup>2</sup> /s	9,75	DIN 51 562
<b>Viscosity Index VI</b>		186	ISO 2909	
<b>Pour point</b>	°C	<-30	DIN ISO 3016	
<b>Flash point (COC)</b>	°C	>310	DIN ISO 2592	
<b>Corrosivity to copper</b>		1A	DINEN ISO 2160	
<b>Foam behaviour SEQ I</b>	ml	10/0	ISO 6247	
<b>Foam behaviour SEQ II</b>	ml	5/0	ISO 6247	
<b>Foam behaviour SEQ III</b>	ml	10/0	ISO 6247	
<b>De-emulsifivation Value, 54°C (38 ml)</b>	min.	45	DIN ISO 6614	
<b>Air release characteritics at 50°C max.min.</b>		<1	ISO 9120	
<b>FZG-Test A/8,3/90 Damage loading step</b>		12	DIN 51 354	

All indicated data are approximate values and are subject to the commercial fluctuations.