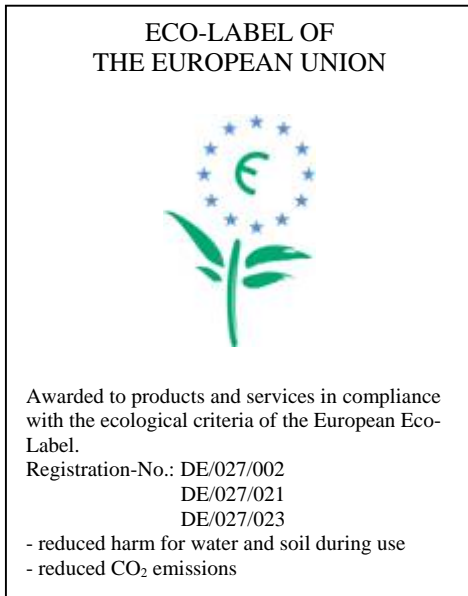


# Product information

No. 338.2



## BIO-Hydraulic oils HEES



**KAJO-BIO-Hydraulic oils HEES** are based on synthetic, easily biodegradable ester and a strong, 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, the hydraulic oils of the HEES-series have much better high temperature oxidation stability.

**KAJO-BIO-Hydraulic oils HEES** comply with all technical minimum requirements according to VDMA 24568/ISO 15380.

On account of the used raw materials, **KAJO-BIO-Hydraulic oils HEES** are classified as water polluting class NWG (not water-polluting) – German classification.

**KAJO-BIO-Hydraulic oils HEES** meet with the requirements of the Federal Ministry for consumer protection, alimentation and agriculture regarding good biodegradability and technical specifications.

**KAJO-BIO-Hydraulic oils HEES 15, 22, 32, 46 and 68** are entitled to carry the environmental label Blauer Engel (blue Angel) according to RAL-UZ 79.

**KAJO-BIO-Hydraulic oil HEES 46, HEES 32 and HEES 68** were awarded with the European Ecolabel (registration-no. DE/027/002 and DE/027/021 and DE/027/023).

### *Practical advantages:*

**KAJO-BIO-Hydraulic oils HEES** are 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

### *Approvals – HEES 22; 32; 46; 68:*

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

# Product information

No. 338.2



## BIO-Hydraulic oils HEES

### Ratings:

Properties	HEES 10	HEES 15*	HEES 22*	HEES 32*	HEES 46*	HEES 68*	Unit	DIN/ISO
Density at 20 °C	870	890	900	910	920	920	kg/m <sup>3</sup>	EN ISO 12 185
Kinem. Viscosity at 0 °C	53	57	112	189	337,7	497	mm <sup>2</sup> /s	DIN 51 562
at 40 °C	10	15	22	32	46	68	mm <sup>2</sup> /s	
at 100 °C	2,74	4,11	5,6	7,1	9,75	12,5	mm <sup>2</sup> /s	
Viscosity index	185	219,5	211	195	186	185		ISO 2909
Pour point	<-30	<-30	<-30	<-30	<-30	<-30	°C	ISO 3016
Flash point	>250	>270	>290	>200	>310	>310	°C	ISO 2592
FZG-Test A/8,3/90	12	12	12	12	12	12	Damage loading step	DIN 51 354
Air release characteristics at 50 °C	<1	<1	<1	<1	<1	<1	min	

Revised: 22.03.2010/B.L./T.

All ratings are average values and are subject to production-related variations.

page 2

D-59609 Anröchte • Boschstr. 13 • phone: ++49 (0)2947 881-0 • fax: ++49 (0)2947 881-50 •  
email: [Schmierstoffe@KAJO.de](mailto:Schmierstoffe@KAJO.de) • Internet: [www.KAJO.de](http://www.KAJO.de)