



# TECHNICAL DATA

## GB PREMIUM UNIBIO® SE 46

### APPLICATIONS

GB PREMIUM UNIBIO® SE 46 is a mineral-oil-free biodegradable hydraulic fluid and has been developed using specially selected additives and synthetic esters, for use in hydraulic plant and equipment operating under severe mechanical conditions and high operating temperatures. It can be used in a wide variety of fixed and mobile plant applications, such as forestry, water management, inland water ways, dockyards, agriculture, construction, quarrying, refuse collection, landfill, water treatment, road building, railroads and mining.

### PERFORMANCE FEATURES

GB PREMIUM UNIBIO® SE 46 has been formulated to meet the current technical and environmental requirements of today's hydraulic equipment and offers the following features:

- Full biodegradability according to all major standards
- A product which is free of genetically modified ingredients
- Ashless technology
- Good anti-wear performance
- Outstanding oxidation and thermal stability compared to vegetable-oil-based products
- Good corrosion protection
- Superior lubrication and performance at high operating temperatures
- Excellent low temperature flow properties and start up performance down to -36°C
- Low foaming
- Compatibility with mineral oils, their seals and elastomers

### COMPATIBILITY

Ideally, GB PREMIUM UNIBIO® SE 46 should not be contaminated with other oils or water. Whilst contamination with other oils may not affect the equipment, it will reduce the biodegradability and non-toxicity of the oil and should therefore be avoided. On contact with water, the product will commence decomposition, hence it is necessary to ensure that water contamination is kept below 0.1% during storage and operation.

### PERFORMANCE DETAILS

GB PREMIUM UNIBIO® SE 46 may be used where the following specifications are required:

DIN 51524 part 3 HVLP (except oxidation stability D943)	MANNESMANN REXROTH
Dutch VAMIL Regulation	Swedish Standard SS 155434 category BV
ISO 11158 category HV (except oxidation stability D943)	VDMA, HEES SE 46
Denison HF2, HF6	

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## **GB LUBRICANTS**

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Q 06093  
ISO 9001



EMS 72776  
ISO 14001



OHS 88475  
OHSAS 18001

**CHARACTERISTICS**

TEST	UNIT	METHOD	TYPICAL PHYSICAL CHARACTERISTICS
<b>ISO</b>			<b>46</b>
<i>Appearance</i>	-	-	Pale yellow liquid
<i>Density @ 15°C</i>	kg/m <sup>3</sup>	IP 160	920
Kinematic Viscosity @ 40°C	cSt	IP 71	48.0
Kinematic Viscosity @ 100°C	cSt	IP 71	9.50
Viscosity Index	-	IP 226	185
Biodegradability after 21 days	%	CEC L-33-A-93	99.5
Biodegradability	%	OECD 301B	65
FZG Test A/8.3/90	-	IP 334	11
Flash Point COC	°C	IP 36	246
Pour Point	°C	IP 15	-54
Total Acid Number	mg KOH/g	IP 177	0.47
Vickers V104 C, 140 bar, 250 hr weight loss:			
Ring	mg	-	13
Vanes	mg	-	2.9
Baader Oxidation Test, 72hrs @ 110°C. Viscosity increase	%	DIN 51154	<1.5
Rust Test	-	ASTM D665	Pass
Demulsibility @ 54°C	-	ASTM D1401	40-40-0(20)
Algae Toxicity	mg/l	OECD 201	IC <sub>50</sub> >200
Daphnia Toxicity	mg/l	OECD 202	EC <sub>50</sub> >10,000
Air Release @ 50°C	mins	ASTM D3427	<1
Copper Corrosion, 3hrs @ 100°C	-	ASTM D130	1

**STORAGE AND HANDLING**

GB PREMIUM UNIBIO® SE 46 should be stored under cover to avoid water collecting in the rim of upturned barrels.

**HEALTH, SAFETY AND THE ENVIRONMENT**

GB PREMIUM UNIBIO® SE 46 is not classified as hazardous under current UK Health & Safety and Environmental Legislation when used in the application for which it is intended.

For guidance on storage and handling of all lubricants and related products, GB Lubricants recommend the Environment Agency, [www.environment-agency.gov.uk](http://www.environment-agency.gov.uk), as an excellent source of advice.

If you have any queries, please do not hesitate to contact either your local Technical Sales Representative or our Technical Department.

The Company policy is to ensure that a range of products is supplied which complies with the latest specifications and codes within the relevant industry. As part of this development process, we therefore reserve the right to amend formulations and specifications, without prior notice.