TECHNICAL DATA SHEET

QUINTOLUBRIC® 865 46

FIRE-RESISTANT HFD-U HYDRAULIC FLUID

QUINTOLUBRIC® 865 46 does not contain water, mineral oil, or phosphate ester, and is based on high-quality, synthetic, organic esters and carefully selected additives to achieve excellent hydraulic fluid performance. This product offers the lubrication level of premium, antiwear hydraulic oils, and can be used with hydraulic components from all major manufacturers.

Applications

QUINTOLUBRIC® 865 46 was designed to replace anti-wear, mineral oil-based hydraulic fluids used in applications where fire hazards exist.

QUINTOLUBRIC® 865 46 can also be used in environmentally sensitive hydraulic applications without compromising the overall hydraulic system operations.

Engineering Data

PROPERTY	TYPICAL VALUE	UNIT
Specific Heat at 20°C (ASTM D2766)	2.06 (0.49)	kJ/kg °C (Btu/lb °F)
Coefficient of Thermal Expansion at 20°C (ASTM D1903)	6 X 10^{-4}	per °C
Vapor Pressure (ASTM D2551) At 20°C At 66°C	3.2 X 10^{-6} 7.5 X 10^{-6}	mm Hg
Bulk Modulus at 20°C At 210 bar At 3,000 psi	1.87 X 10^{5} 266,900	N/cm^2 psi
Thermal Conductivity at 19°C (ASTM D2717)	0.167	J/sec/m/°C
Dielectric Breakdown Voltage (ASTM D877)	30	kV

*country specific SDS are available

IGNITION TEST DATA		
Hot Manifold Auto Ignition Temperature (ISO 20823)	> 450	°C

BIODEGRADABILITY TEST DATA	
OECD-301 c	>60% biodegradable after 28 days

Benefits

- Excellent shear stability
- Factory Mutual (FM) Approved
- High oxidation stability
- Reduced environmental impact

Properties

PROPERTY	TYPICAL VALUE	UNIT
Appearance / Colour	Yellow to amber fluid	
Kinematic Viscosity (ASTM D445) At 0°C At 20°C At 40°C At 100°C	330 110 47.5 9.4	mm²/s or cSt
Viscosity Index (ASTM D2270)	185	g/cm^3
Density at 15°C (ASTM D1298)	0.92	g/cm^3
Acid Number (ASTM D974)	2.0	mg KOH/g
Pour point (ASTM D97)	-30 (-22)	°C (°F)
Foam Test at 25°C (ASTM D892) Sequence 1	50-0	ml-ml
Corrosion Protection ISO 4404-2 (ASTM D665A/D130)	Pass Pass/1a	
Dry TOST (ASTM D943 mod.)	400	hrs
Fire Point (ASTM D92)	360 (680)	°C (°F)
Air Release (ASTM D3427)	7	min.
Vane Pump Test (ASTM D2882)	< 5	mg wear
Gear Lubrication (DIN 51354-2)	12	FZG load stage
Water Separability (ASTM D1401)	41-39-0 (30)	ml-ml-ml (min.)

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Compatibility

Metals
QUINTOLUBRIC® 865 46 is compatible with iron and steel alloys and most nonferrous metals and their alloys. It is not compatible with lead, cadmium and has limited compatibility with alloys containing high levels of these metals. This product has limited compatibility with hot dipped or electro galvanized surfaces and good compatibility with zinc containing alloys. Suitable substitutes for these materials are available and should be used.

Paints and Coatings
QUINTOLUBRIC® 865 46 is compatible with multicomponent epoxy coatings. It shows limited compatibility with one component (zinc-dust containing) coatings. Specific coating and application recommendations can be obtained from coating manufacturers or directly from Quaker Houghton.

Fluids
QUINTOLUBRIC® 865 46 is compatible and miscible with nearly all mineral oil, phosphate esters and polyolester-type hydraulic fluids. It is not miscible or compatible with water-containing fluids. For conversion recommendations, please contact Quaker Houghton.

Elastomers
The following chart contains our recommendations regarding the use of this product with commonly used elastomers. The elastomer applications listed are “Static,” which refers to trapped nonmoving seals such as O-rings in valve sub-plates and rigid, low pressure hose connections; “Mild-Dynamic,” whose applications include accumulator bladders and hose linings where the hoses are exposed to high pressure and light flexing; and “Dynamic,” which refers to cylinder rod seals, pump shaft seals and constantly flexing hydraulic hose.

Elastomers

ISO 1629	DESCRIPTION	S*	MD*	D*
NBR	Medium to high nitrile rubber (Buna N,>25% acrylonitrile)	C	C	C
FPM	Fluoroelastomer (Viton®)	C	C	C
CR	Neoprene	S	S	S
IIR	Butyl rubber	S	N	N
EPDM	Ethylene propylene rubber	N	N	N
PU	Polyurethane	C	C	C
PTFE	Teflon®	C	C	C

**(S- Static, MD- Mild Dynamic, D- Dynamic)

C = Compatible
S = Satisfactory for short term use, but replacement with a completely compatible elastomer is recommended at the earliest convenience.
N = Not Compatible

Health, Safety and Handling

Please consult the Safety Data Sheet (SDS) for information on storage, safe handling and disposal. The conditions or methods of handling, storage, use and disposal of the product are beyond our reasonable control - we assume no liability for any ineffectiveness of the product or any injury or damage, arising out of or in connection with these conditions.

All reasonable care has been taken to ensure this publication is accurate upon issue. Such information may be affected by changes subsequent to issue. This Technical Data Sheet is to be used solely for this product. Prior to any use, consult the Safety Data Sheet (SDS) for information on hazard risks and product use parameters. All liability and all warranties express or implied are hereby excluded as to product performance results, the accuracy of these data including any warranty of merchantability or fitness for any purpose. 041168

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