



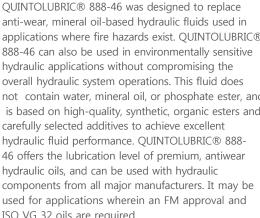
QUINTOLUBRIC® 888-46 FIRE RESISTANT HFD-U HYDRAULIC FLUID

APPLICATION SHEET

BENEFITS

- » Global formulation
- » Excellent shear stability

- » Best-in-class oxidation stability
- » Environmentally friendly



COMPATIBILITY

The chart on the back contains our recommendations regarding the use of QUINTOLUBRIC® 888-46 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.



applications where fire hazards exist. QUINTOLUBRIC® not contain water, mineral oil, or phosphate ester, and is based on high-quality, synthetic, organic esters and ISO VG 32 oils are required.

PROPERTIES

PROPERTIES (TEST METHOD)	TYPICAL VALUES	
Appearance	Yellow to amber fluid	
Kinematic Viscosity (ASTM D 445) At 0°C At 20°C At 40°C At 100°C	320 mm ² /s or cSt 109 mm ² /s or cSt 47.5 mm ² /s or cSt 9.5 mm ² /s or cSt	
Viscosity Index (ASTM D 2270)	190	
Density at 15°C (ASTM D 1298)	0.92 g/cm ³	
Acid Number (ASTM D 974)	2.0 mg KOH/g	
Pour Point (ASTM D 97)	< -30°C (< -22°F)	
Foam Test at 25°C (ASTM D 892) Sequence I	50-0 ml-ml	
Corrosion Protection ISO 4404-2 ASTM D665A/D130	Pass Pass/1a	
Dry TOST (ASTM D943 mod.)	800 hrs	
Flash Point (ASTM D 92)	300°C (572°F)	
Fire Point (ASTM D 92)	360°C (680°F)	
Air Release (ASTM D 3427)	7 min	
Pump Test (ASTM D 2882)	<5 mg wear	
Gear Lubrication (DIN 51354-2)	>12 FZG load stage	
Water Separability (ASTM D 1401)	41-39-0 (30) ml-ml-ml (min.)	

quakerchem.com | quintolubric.com | info@quakerchem.com



QUINTOLUBRIC® 888-46 FIRE RESISTANT HFD-U HYDRAULIC FLUID

APPLICATION SHEET

METALS

QUINTOLUBRIC® 888-46 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. OUINTOLUBRIC® 888-46 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® 888-46 is compatible with multi-component epoxy coatings. It is not compatible with zinc-based coatings. Specific coating and application recommendations can be obtained from coating manufacturers or directly from Quaker.

FLUIDS

QUINTOLUBRIC® 888-46 is compatible and miscible with nearly all mineral oil and polyolester-type hydraulic fluids and with some, but not all, phosphate esters. It is not miscible or compatible with water-containing fluids. For conversion recommendations, please contact Quaker.

ELASTOMERS

ISO 1629	DESCRIPTION	S*	MD*	D*
NBR	Medium to high nitrile rubber (Buna N,>30% acrylonitrile)	С	С	С
FPM	Fluoroelastomer (Viton®)	С	С	С
CR	Neoprene	S	S	S
IIR	Butyl rubber	S	N	N
EPDM	Ethylene propylene rubber	N	N	N
PU	Polyurethane	С	С	С
PTFE	Teflon®	C	С	С

^{**(}S- Static, MD- Mild Dynamic, D- Dynamic)

ENGINEERING DATA

PROPERTIES (TEST METHOD)	TYPICAL VALUES
Specific Heat at 20°C (D2766)	2.06 kJ/kg°C .49 Btu/lb °F
Coefficient of Thermal Expansion at 20°C (D1903)	6 X 10 ⁻⁴ per ⁰ C
Vapor Pressure (02551) At 20°C At 66°C	3.2 X 10 ⁻⁶ mmHg 7.5 X10 ⁻⁶ mm Hg
Bulk Modulus at 20°C At 210 bar At 3,000 psi	1.87 X 10 ⁵ N/cm ² 266,900 psi
Thermal Conductivity at 19°C (D 2717)	0.167 J/sec/m/°C
Dielectric Breakdown Voltage (D877)	30 kV
*acustus anacific CDC are available	

^{*}country specific SDS are available

IGNITION TEST DATA	
Hot Manifold Ignition Temperature (ISO 20823)	>450°C
Auto Ignition Temperature (DIN 51794)	>400°C (>750°F)

BIODEGRADABILITY TEST DATA

OECD-301 c 86.5% biodegradable after 28 days

quakerchem.com | quintolubric.com | info@quakerchem.com

Prior to using this product, consult the Material Safety Data Sheet for instructions regarding safe handling and environmental issues. The information contained herein is based on data available to us and is believed to be accurate. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY USE, OR ANY OTHER WARRANTY IS EXPRESSED OR TO BE IMPLIED, REGARDING THE ACCURACY OF THESE DATA. THE RESULTS TO BE OBTAINED FROM THE USE THEREOF, OR THE HAZARDS CONNECTED WITH THE USE OF THE PRODUCT. Quaker Chemical Corporation assumes no liability for any alleged ineffectiveness of the product or any injury or damage, direct or consequential, resulting from the use of this product unless such injury or damage is solely attributable to negligence on the part of Quaker Chemical Corporation. 014113 04/2013

C = Compatible

S = Satisfactory for short term use, but replacement with a completely compatible elastomer is recommended at the earliest convenience.

N = Not Compatible