

Fire Resistant Hydraulic Fluid

TYPE HFD-U

QUINTOLUBRIC 888-46

APPLICATIONS

QUINTOLUBRIC 888-46 has been designed to operate in oil hydraulic systems and fulfils the requirements set for fire resistant hydraulic fluids of the type HFD-U.

Major applications : **Steel industry**
Non-ferrous industry

QUINTOLUBRIC 888-46 is based on synthetic organic esters and contains optimised additive packages. It does not contain water, phosphate ester or chlorinated hydrocarbons. Unlike mineral oil, QUINTOLUBRIC 888-46 provides a very high level of fire resistance. As an alternative to mineral oil, QUINTOLUBRIC 888-46 can be applied in ecological sensitive areas since the product has a low water endangering class and is very good biodegradable. QUINTOLUBRIC 888-46 assures a long fluid life and can be applied in systems that run under severe conditions in combination with little fluid refreshment.

Contact QUAKER for more information on specific applications :
www.quintolubric.com

USAGE

QUINTOLUBRIC 888-46 is used as received. Pre-filtration is not necessary, because the fluid is filtered during production. Its high viscosity index and low pour point make it suitable for use at a wide temperature range. It has good cold start-up properties and offers a high viscosity at increased temperatures. To prolong fluid life the maximum recommended operating temperatures for QUINTOLUBRIC 888-46 are :

- In the reservoir max. 55° C
- In the system max. 70° C

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BENEFITS

- Good fire resistant properties :
Approved by Factory Mutual Approvals as Group 1 fluid
- Excellent lubrication properties
- Long fluid life
- Low aquatic toxicity :
Water Endangering Class (WEC) = 1
- Biodegradability >80% according OECD 301-C
- Not irritating to skin
- Excellent shear stability
- Excellent corrosion protection
- Compatible with standard seal materials
- Cleanliness : max. NAS 1638 class 6 in bulk
 max. NAS 1638 class 7 in containers/drums
- Energy saving because of low density compared to other HFD type fluids

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COMPATIBILITY

Seals, hoses and packings :

Standard seal materials like NBR 1, NBR 2, HNBR 1 and FKM 2 are compatible with QUINTOLUBRIC 888-46, but because of the large number of material types available and variations in their application, specific recommendations should be solicited from the materials manufacturer, or from QUAKEr.

Metals :

QUINTOLUBRIC 888-46 is compatible with iron and steel alloys and most non-ferrous metals and their alloys. QUINTOLUBRIC 888-46 is not compatible with lead and highly leaded alloys. QUINTOLUBRIC 888-46 is limited compatible with cadmium and zinc, and alloys containing a high level of these metals. Components containing a high level of lead, cadmium or zinc should be replaced with a suitable substitute.

Other fluids :

QUINTOLUBRIC 888-46 is usually compatible with other HFD-U fluids and mineral oils. However, we recommend that a test program be performed for every major fluid change over. QUINTOLUBRIC 888-46 is not miscible with water and water based fluids.

Paints :

Paint coatings inside the hydraulic equipment are usually not needed since QUINTOLUBRIC 888-46 provides sufficient corrosion protection. If paint coatings inside the hydraulic equipment are required, please consult the paint manufacturer or QUAKEr for additional information because the product is not compatible with all types of paint.

QUINTOLUBRIC 888-46 is compatible with multiple component epoxy systems.

QUINTOLUBRIC 888-46 is not compatible with zinc based coatings.

FLUID MAINTENANCE

In order to prolong fluid life, the product should be kept free from water and effective filtration should take place. Extremely high temperatures should also be avoided. QUAKEr recommends a program of regular fluid analysis (no less than twice per year). Fluid analysis services are available directly from QUAKEr.

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SAFETY

Please consult the Material Safety Data Sheet (MSDS) for information on measures to be taken to ensure the protection of health and safety at the workplace. MSDS's are available directly from QUAKER.

STORAGE

If the following criteria are adhered to, the product can be stored for at least twelve months :

Maximum recommended long-term storage temperature : 40° C

Minimum recommended long-term storage temperature : 0° C

Keep containers/drums tightly closed when not in use.

Store containers/drums in a dry and well-ventilated area.

QUALITY ASSURANCE

QUAKER assures that the delivered product is produced within manufacturing specifications. A certificate, containing these manufacturing specifications and the results for the delivered material, is available on request.

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TYPICAL PROPERTIES

<i>Property</i>	<i>Method</i>	<i>Typical Value</i>	<i>Unit</i>
Appearance	GTM*2225 GTM*2250	Yellow -Amber Liquid	
Kinematic viscosity at 0° C at 20° C at 40° C at 100° C	ASTM D 445	349 116 49.7 9.7	mm ² /s mm ² /s mm ² /s mm ² /s
Viscosity Index	ASTM D 2270	185	
Shear stability	ASTM D 2603	< 1	%
Density at 15° C	ASTM D 1298	0.919	g/cm ³
Acid number	ASTM D 974	2.0	mg KOH/g
Saponification value	GTM*1200	182	mg KOH/g
Pour point	ASTM D 97	< -20	° C
Foam test at 25° C	ASTM D 892 Sequence I	50-0	ml-ml
Corrosion protection: Steel and non-ferrous metals Steel: distilled water	ISO 4404-2 ASTM D 665A	Pass Pass	
Air release	ASTM D 3427	7	minutes
Water separability	ASTM D 1401	41-39-0 (30)	ml-ml-ml (min.)
Flash point	ASTM D 92	300	° C
Fire point	ASTM D 92	362	° C
Auto Ignition Temperature	DIN 51794	> 400	° C
Fire resistance : Spray Flammability Parameter	FM Approvals	Approved (group 1)	
Vane pump, Vickers 104C (100 hrs at 140 bar)	ASTM D 2882	<5	mg
Gear lubrication (FZG)	DIN 51354-2	>12	load stage
Elastomer compatibility	ISO 6072	Pass	

* GTM = Global Test Method, test descriptions developed inside QUAKER

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