

# QUINTOLUBRIC® 777-46

## Fire-Resistant Hydraulic Fluid



### APPLICATIONS

QUINTOLUBRIC® 777-46 has been designed to operate in water glycol and oil hydraulic systems and fulfills the requirements set for fire resistant hydraulic fluids of the type HFC-E.

Unlike traditional water glycol fluids that are at least 40% water and have limited lubricating properties, QUINTOLUBRIC® 777-46 contains 20% water. It delivers excellent lubrication as well as fire resistance. As an alternative to mineral oil, QUINTOLUBRIC® 777-46 can be applied in ecologic sensitive areas since the product is biodegradable and has a low water endangering class. QUINTOLUBRIC® 777-46 can be used in any hydraulic system designed for water glycol fluids and in some systems designed for mineral oil hydraulic systems.

QUINTOLUBRIC® 777-46 is used as received. It is recommended for use up to medium system temperatures, not exceeding 70°C, to prevent excessive evaporation of water. Its low pour point and high viscosity index makes it ideal to use at a wide temperature range.

### BENEFITS

- Excellent fire resistance properties
- Excellent lubrication properties
- Low aquatic toxicity
  - Water Endangering Class (WEC) = 1
- Biodegradability >70% according OECD 301-C
- Not irritating to skin or eyes, harmless by inhalation
- Excellent corrosion protection
- Compatible with standard seal materials

### TYPICAL PROPERTIES

PROPERTIES (Test Method)	777-46 (041111)
Appearance	Colorless to Yellow Liquid
Kinematic Viscosity (ASTM D 445) At 0°C At 20°C At 40°C At 100°C	454 mm <sup>2</sup> /s or cSt 124 mm <sup>2</sup> /s or cSt 47.1 mm <sup>2</sup> /s or cSt 7.85 mm <sup>2</sup> /s or cSt
Viscosity Index (ASTM D 2270)	136
Density at 15°C (ASTM D 1298)	1.12 g/cm <sup>3</sup>
Pour Point (ASTM D 97)	< -36°C (< -33°F)
Foam Test (ASTM D 892) at 25°C (Sequence I) at 50°C (Sequence II) at 25°C after 50°C (Sequence III)	180-0 ml-ml 40-0 ml-ml 210-0 ml-ml
Flash Point (ASTM D 92)	None
Fire Point (ASTM D 92)	None
Water Content	23%
pH (ASTM D 70)	8.3
Corrosion Protection CETOP R 48A ASTM D665 A	Pass Pass
Fire Resistance Tests (7th Lux. Report) Heat Release (3.1.3) Wick (3.2.1)	RI 59 Pass
Aging of HFC Fluids (7th Lux. Report:5.3.1)	Pass
Gear Lubrication (FZG) (DIN ISO 14635-1)	>12
Elastometer Compatibility (ISO 6072)	Pass
COD	1450 g O <sub>2</sub> /l

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### COMPATIBILITY

#### Seals, Hoses and Packings

Standard seal materials like EPDM 1, HNBR 1, NBR 1 and NBR 2 are compatible with QUINTOLUBRIC® 777-46, 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® 777-46 gives excellent corrosion protection on steel, copper, zinc, aluminium and brass and combinations of these.

#### Other Fluids

QUINTOLUBRIC® 777-46 is usually compatible with other HFC and HFC-E fluids. However, we recommend that a test program be performed for every major fluid change. QUINTOLUBRIC® 777-46 is not miscible with mineral oils and HFD type fluids.

#### Paints

Paint coatings inside the hydraulic equipment are usually not needed since the QUINTOLUBRIC® 777-46 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.

### FLUID MAINTENANCE

In order to prolong fluid life, the product should be filtered. Extremely high temperatures should also be avoided. It is important that the water content of the product is maintained at the optimal concentration during operation. Quaker recommends a program of regular fluid analysis (no less than two times per year). Fluid analysis services are available directly from Quaker.

### 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 AND HANDLING

If the following criteria are adhered to, the product can be stored for at least twelve months. Recommended long-term storage temperature is 0-40°C. Keep containers/drums tightly closed when not in use, and store the containers/drums in a dry and well-ventilated area.

