



Hi-Tec Oil Traders Pty Ltd ABN 28 053 837 362

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## PRODUCT DATA SHEET

### FIRE RESISTANT HYDRAULIC FLUID Q888-46

#### Description:

**Hi-Tec Fire Resistant Hydraulic Fluid Q888-46** is designed to replace antiwear, mineral oil-based hydraulic fluids used in applications where fire hazards exist. It can also be used in environmentally sensitive hydraulic applications without compromising the overall hydraulic system operations.

**Hi-Tec Fire Resistant Hydraulic Fluid Q888-46** 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. It offers the lubrication level of premium, anti-wear hydraulic oils, and can be used with hydraulic components from all major manufacturers.

#### Benefits of Hi-Tec Fire Resistant Hydraulic Fluid Q888-46:

- Fire-resistant
- High ignition temperature and low heat release
- Properties that limit the spread of fire
- Excellent shear stability
- Approved by Factory Mutual Approvals
- Non-toxic / non-toxic to aquatic life
- Non-irritating
- Fully biodegradable
- Simple waste treatment

#### Compatibility:

**Metals:** **Hi-Tec Fire Resistant Hydraulic Fluid Q888-46** is compatible with iron and steel alloys and most nonferrous metals and their alloys. It is not compatible with lead, cadmium, zinc, and alloys containing high levels of these metals. Suitable substitutes for these materials are available and should be used.

**Paints and Coatings:** **Hi-Tec Fire Resistant Hydraulic Fluid Q888-46** 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 Hi-Tec representative.

**Fluids:** **Hi-Tec Fire Resistant Hydraulic Fluid Q888-46** is compatible and miscible with nearly all mineral oil and polyol-ester 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 your Hi-Tec representative.



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The following chart contains recommendations regarding the use of **Hi-Tec Fire Resistant Hydraulic Fluid Q888-46** 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.

<u>ISO 1629</u>	<u>DESCRIPTION</u>	<u>STATIC</u>	<u>MILD DYNAMIC</u>	<u>DYNAMIC</u>
NBR	Medium to high nitrile rubber (Buna N, >30% acrylonitrile)	C	C	C
NBR	Low nitrile rubber (Buna N, <30% acrylonitrile)	S	N	N
FPM	Fluoroelastomer (Viton®)	C	C	C
CR	Neoprene	S	S	S
IIR	Butyl rubber	S	N	N
EPDM	Ethylene propylene rubber	N	N	N
AU	Polyurethane	C	C	C
PTFE	Teflon®	C	C	C

*C = Compatible*

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

*N = Not Compatible*

### **Storage:**

If the following criteria are adhered to, **Hi-Tec Fire Resistant Hydraulic Fluid Q888-46** can be stored for at least six months.

Maximum recommended long-term storage temperature : 40°C.

Minimum recommended long-term storage temperature : 0°C.

Keep drums/containers tightly closed when not in use.

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

### **Chemical and Physical Properties:**

<u>PROPERTIES</u>	<u>METHOD</u>	<u>RESULT</u>
Appearance	Visual	Yellow to amber fluid
Kinematic Viscosity	ASTM D 445	
At 0°C		349 cSt
At 20°C		116 cSt
At 40°C		49.7 cSt
At 100°C		9.7 cSt
Viscosity Index	ASTM D 2270	185
Density at 15°C	ASTM D 1298	0.92 g/cm <sup>3</sup>
Acid Number	ASTM D 974	2.0 mg KOH/g





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### Chemical and Physical Properties (Cont):

PROPERTIES	METHOD	RESULT
Pour Point	ASTM D 97	< -20°C (< -4°F)
Foam Test at 25°C	ASTM D 892	Sequence I: 50-0 ml-ml
Corrosion Protection	ISO 4404-2	Pass
	ASTM D 665A	Pass
Flash Point	ASTM D 92	300°C (572°F)
Fire Point	ASTM D 92	350°C (662°F)
Auto Ignition	DIN 51794	>400°C (>752°F)
Temperature		
Air Release	ASTM D 3427	7 min.
Fire Resistance	FM Approvals	Approved
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.)
Specific Heat at 20°C	ASTM D 2766	2.06 kJ/kg °C, 0.49 Btu/lb °F
Coefficient of Thermal Expansion at 20°C		
	ASTM D 1903	6 X 10 <sup>-4</sup> per °C
Vapor Pressure	ASTM 02551	
At 20°C		3.2 X 10 <sup>-6</sup> mmHg
At 66°C		7.5 X 10 <sup>-6</sup> mm Hg
Bulk Modulus at 20°C		
At 210 bar		1.87 X 10 <sup>5</sup> N/cm <sup>2</sup>
At 3,000 psi		266,900 psi
Thermal Conductivity at 19°C	ASTM D 2717	0.167 J/sec/m/°C
Dielectric Breakdown Voltage	ASTM D 877	30 kV

**Available in:** 200 Litres, 20 Litres

"Hi-Tec Oil Traders Pty Ltd (Hi-Tec Oils) has endeavoured to ensure that all information, representations and specifications contained in this product data sheet are accurate at the time of publication. This general information should be used in conjunction with appropriate inquiries by users of the product including consultation with the vehicle or equipment manufacturers published information.

It is the responsibility of users of the product to use the product safely. Users should consult the safety data sheets for each product at [www.hi-tecoils.com.au](http://www.hi-tecoils.com.au). Hi-Tec Oils takes no responsibility for injury or damage if the product is used in an inappropriate or unsafe manner. Our product warranty and product quality statement can be viewed at [www.hi-tecoils.com.au](http://www.hi-tecoils.com.au)"

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