

TECHNICAL BULLETIN

Helping Make
Products Better™

PLURASAFE® WGF 46 FR-2 High Performance, Water Glycol, Fire-Resistance Hydraulic Fluid


The Chemical Company

PLURASAFE® WGF 46 FR-2 water glycol fluid is a synthetic, fire-resistant hydraulic fluid formulated to provide superior performance in industrial applications. This product is “morpholine free”.

The fire-resistant properties of PLURASAFE® WGF 46 FR-2 has been certified according to the 7th Luxembourg Report.

PLURASAFE® WGF 46 FR-2 hydraulic fluid is based on a high quality polyalkylene glycol thickener, diethylene glycol, water and selected additives which are combined to give excellent fluid performance.

When properly maintained the life expectancy of PLURASAFE® WGF 46 FR-2 hydraulic fluid compares favorably with other premium water glycol hydraulic fluids.

Corrosion tests indicate this fluid provides excellent corrosion protection of common metals in both liquid and vapor phases. However, systems utilizing solder, tin, lead, zinc, magnesium or cadmium should not use water-glycol fluids since such fluids may be corrosive to these metals.

The PLURASAFE® WGF 46 FR-2 fluid is compatible with all high quality water-glycol hydraulic fluids in any proportion. It is not compatible with other types of hydraulic fluids such as mineral oil, water-oil emulsions, synthetic phosphate ester, or ester-based fluids, and should not be mixed with these products.

Experience indicates nitrile (Buna N) and neoprene seals and packings, normally used for petroleum oils, are satisfactory for use with PLURASAFE® WGF 46 FR-2 fluid. Silicone, butyl and ethylene-propylene are also suitable materials. Do not use asbestos, leather or cork-impregnated materials.

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Typical properties of PLURASAFE® WGF 46 FR-2 Hydraulic Fluid

Properties	Method	Typical Value
Appearance	Visual	Clear to slightly hazy, red liquid
Viscosity, 100°F, SUS	ASTM D 445	214
Viscosity, 40°C, cSt	ISO 3104 ASTM D 445	46
Viscosity Index	Luxembourg 7.3 ASTM D 2270	199
pH @ 25°C	Luxembourg 5.4	9.6
Density @ 15.56°C, g/mL	Luxembourg 7.1 ASTM D 4052	1.09
Residual Alkalinity @ 25°C, mL 0.5 mol/l	Luxembourg 7.2.2 ASTM D 1121	16
Pour Point, °F	ISO 3016 ASTM D 97	-55
Corrosion @ 35°C over 28 days	CETOP RP 48 H	Pass
Foam Formation	AFNOR NFT 60-129 ASTM 892	Pass
Air release @ 50°C, min	DIN 51318 ASTM D 3427	24
Shear Resistance @ 40°C, %	CETOP RP112H	+1
Compatibility with gasket materials	ISO 6072	Pass
Abrasion Protection Properties	Luxembourg 7.14.2	Pass
Vickers Pump Test	ASTM D7043	Pass, < 50 mg

The tests referenced above are taken from the Luxembourg Report Seventh Edition.

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