

## Castrol Brayco Micronic 881

Hydraulic Fluid, Low Temperature  
Fire Resistant, Synthetic Hydrocarbon Base

### Description

Castrol Brayco® Micronic 881 is a fire resistant, synthetic hydrocarbon base, low temperature ISO viscosity Grade 7, red-colored hydraulic fluid for aircraft, missile, ordnance, and industrial use. It is specifically designed for low temperature applications where low temperature stability is particularly important. This product also provides controlled rubber swell for long seal life, low foaming properties, excellent anti-wear, corrosion protection, and oxidation stability.

### Application

Castrol Brayco® Micronic 881 is designed as a low temperature fire resistant hydraulic fluid for aircraft and missile use, but has use in many industrial applications as well.

### Typical Characteristics

TEST METHOD (ASTM)	DESCRIPTION	MIL-PRF-87257A REQUIREMENT	RESULT
D 445	Kinematic Viscosity, cSt		
	@ 100°C (212°F)	2.0 Minimum	2.21
	@ 40°C (104°F)	6.7 Minimum	7.2
	@ -40°C (-40°F)	550 Maximum	492
	@ -54°C (-65°F)	2500 Maximum	2350
	3 hrs soak @ -54°C (-65°F), cSt	Report	2354
FTM 350	72 hrs soak @ -54°C (-65°F), cSt	Report	2377
	Evaporation, % wt		
	6.5 hrs @ 135°C (275°F)	20 Maximum	15
D 92	Flash Point, COC, °C (°F)	170 (338) Minimum	172 (342)
D 92	Fire Point, COC, °C (°F)	180 (356) Minimum	190 (375)
D 4172	Four-Ball Wear-Test, AWSD, mm		
	1 kg load	0.21 Maximum	0.12
	10 kg load	0.30 Maximum	0.22
	40 kg load	0.65 Maximum	0.56
D 664	Neutralization Number, mgKOH/gm	0.20 Maximum	0.11
D 1744	Water Content, ppm	100 Maximum	46
FTM 3603	Rubber Swell, "L", %	19.0 – 30.0	28
FTM 3465	Low Temperature Stability, 72 hrs @ -54°C (-65°F)	No gelling, sediment, clouding, separation or crystallization	Pass
Spec 4.4.5	High Temperature Stability		
	Viscosity Change @ 40°C (104°F), %	5 Maximum	2.25
	Acid or Base No. Increase	0.1 Maximum	0
	Precipitate or insoluble material	None	None
D 892	Foaming Characteristics		
	Sequence I, Foaming Tendency after 5 min blowing, mL	65 Maximum	25
	Foaming Stability after 10 min, mL	0	0
D 2270	Viscosity Index		115

TEST METHOD (ASTM)	DESCRIPTION	MIL-PRF-87257A REQUIREMENT	RESULT
D 287	API Gravity, degrees	Report	36.3
Table 3	Specific Gravity @ 16/16°C (60/60°F)	0.8503 - 0.8363	0.8433
Table 8	Pounds per Gallon @ 16°C (60°F)	Report	7.022
FTM 3603	Corrosion & Oxidation Stability 168 hrs @ 135°C (275°F) Corrosion, pitting, etching Corrosion Weight Change, mg/cm <sup>2</sup> Copper Steel Aluminum Magnesium Cadmium Oxidation Viscosity Change @ 40°C (104°F), cSt Acid or Base No. Increase No evidence of oil separation, insoluble materials, or gumming	None  +/-0.6 +/- 0.2 +/- 0.2 +/- 0.2 +/-0.2  -10 to +10% 0.20 Maximum  None	None  -0.02 0.01 -0.01 -0.01 0.02  +2 0.0  Pass
D 130	Copper Strip Corrosion	Not greater than 3	2A
Table VII Spec 4.4.6	Solid Particle Contamination Size, Autocount, µm  5 - 15 16 - 25 26 - 50 51 - 100 Over 100 Gravimetric Residue, mg solids Filtration Time, minutes	Maximum number permitted per 100 mL  10,000 1,000 150 20 5  0.3 Maximum 15 Maximum	  2500 248 59 7 0  0.1 7
D 97	Pour Point, °C (°F)	-60 (-76) Maximum	-66 (-85)
Spec 4.4.4	Bulk Modulus (Isothermal Secant)  0 to 6.9 x 10 <sup>4</sup> KpA @ 40°C, KpA 10,000 psi @ 100°F (38°C), psi	  1.379 x 10 <sup>6</sup> Minimum 200,000 Minimum	  Pass Pass
FTM 6052	High Temperature High Pressure Spray Ignition	No burn after ignition source is removed	Pass
Spec	Flame propagation rate, cm/sec	0.5 Maximum	0.26
E 659	Auto-Ignition Temperature, °C (°F)	--	345 (653)
D 445	Low Temperature Viscosity Stability 3 hrs @ -54°C (-65°F), cSt 72 hrs @ -54°C (-65°F), cSt	2500 Maximum 2500 Maximum	2297 2331
Spec 4.4.3	Compatibility	Pass	Pass
D 1500 Spec 4.4.7	Color, ASTM, Basestock Color, Finished Fluid	1.0 Maximum Red Standard	<0.5 Pass

## Additional Information

### Temperature Range

-54°C TO 135°C (-65°F TO 275°F)

### Packaging

Castrol Brayco® Micronic 881 is highly filtered to micronic specifications. It is available in 55 gallon drums and 6/1 gallon cases.

### Specification

Castrol Brayco® Micronic 881 is qualified to MIL-PRF-87257A.

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