



Brayco Micronic 889

Coolant Fluid, Hydrolytically Stable

Description

Castrol Brayco™ Micronic 889 is a clear and bright, synthesized hydrocarbon based, heat transfer fluid and dielectric coolant

Application

Brayco Micronic 889 is designed for use in electrical/electronic cooling of ground based and airborne closed loop systems. It offers high specific heat in comparison to other hydrocarbons, esters and silicone fluids. This product also provides the superior oxidative stability, low temperature properties and the hydrolytic stability characteristics typical of polyalphaolefin products. Brayco Micronic 889 has excellent dielectric properties and is harmless to most common metals of construction. It is compatible with (low acrylonitrile) BUNA N compounds and fluoroelastomers such as Viton.

Characteristics

TEST (ASTM)	DESCRIPTION	MIL-PRF-87252C REQUIREMENT	RESULT
D 287	Specific Gravity, 16/16°C (60/60°F), g/ml		0.85
Table 8	Pounds per Gallon		7.1
D 445	Kinematic Viscosity, cSt @ 100°C (212°F) @ 40°C (104°F) @ -40°C (-40°F) @ -54°C (-65°F)	1.65 Minimum 5.1 Minimum 300 Maximum 1300 Maximum	1.7 5.1 250 800
D 92	Flash Point, COC, °C (°F)	150 Minimum	166 (331)
D 92	Fire Point, COC, °C (°F)	160 Minimum	180 (356)
D 1744	Water Content, KFR, ppm Saturation Point, ppm	50 Maximum	32 200
D 664	Total Acid Number (TAN), mgKOH/gm	0.20 Maximum	0.1
D 877	Dielectric Strength, KV	35 Minimum	35
D 1169	Volume Resistivity 25°C (77°F), ohm-cm 135°C (275°F), ohm-cm	1.0 x 10 ¹⁰ Minimum Report	1.5 x 10 ¹⁴ 8.0 x 10 ¹²
Spec/Auto Counter	Solid Particle Contamination Autocount, per 100 ml 5 - 15 microns 16 - 25 microns 26 - 50 microns 51 - 100 microns 100+ microns	10,000 Maximum 1,000 Maximum 150 Maximum 20 Maximum 5 Maximum	2000 128 48 4 0
D 4636	Corrosion and Oxidation Stability 121°C (250°F), 168 hrs Copper Corrosion, ASTM D 130 Copper, weight loss, mg/cm ² Steel, weight loss, mg/cm ² Aluminum, weight loss, mg/cm ² Magnesium, weight loss, mg/cm ² Cadmium, weight loss, mg/cm ²	3A Maximum 0.4 Maximum 0.2 Maximum 0.2 Maximum 0.2 Maximum 0.2 Maximum	2B 0.03 0.04 0.06 0.04 0.07
D 4636	Rubber Swell, Chloroprene (AMS 3217/3) 70°C (158°F), 168 hrs, %	0-10	7.8
D 287	Density, g/ml @ 0°C (32°F) @ 20°C (68°F) @ 40°C (104°F) @ 100°C (212°F) @ 160°C (320°F)		0.811 0.794 0.777 0.723 0.661

Subject to usual manufacturing tolerances.

Typical Physical Characteristics

TEST (ASTM)	DESCRIPTION	RESULT
D 2766	Specific Heat, cal/g, °C	
	@ -18°C (0°F)	0.49
	@ 10°C (50°F)	0.52
	@ 38°C (100°F)	0.54
	@ 93°C (200°F)	0.58
D 1903	Coefficient of Thermal Expansion, per °C	
	0 - 50°C	8.3×10^{-4}
	50 - 100°C	9.2×10^{-4}
	100 - 150°C	10.3×10^{-4}
	150 - 190°C	11.7×10^{-4}
D 2155	Auto Ignition Temperature	324°C (615°F)
D 877	Dielectric Constant, 25°C (77°F), KHz	2.1
	Vapor Pressure, Isotermiscope, mm Hg	
	65.5°C (150°F)	0.3
	93.3°C (200°F)	1.2
	121°C (250°F)	4
	149°C (300°F)	11.5
	177°C (350°F)	32
	204°C (400°F)	73
	232°C (450°F)	148
	260°C (500°F)	300
D 3114	Thermal Conductivity, BTU/hr, Ft ² (°F/Ft)	
	0°C (0°F)	0.085
	10°C (50°F)	0.083
	24°C (75°F)	0.082
	38°C (100°F)	0.082
	93°C (200°F)	0.078
	149°C (300°F)	0.075
	204°C (400°F)	0.072
	260°C (500°F)	0.069
Spec	Viscosity Index	112
Sdec	Pour Point, °C (°F)	< -65 (< -85)

Additional Information

Temperature Range Brayco Micronic 889 is designed to operate over the temperature range of -54°C to 135°C (-65°F to 275°F) Specification Brayco Micronic 889 is qualified to and meets the requirements of MIL-PRF-87252C. This fluid is identified by NATO Code Number S-1748.

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