



## Product Data

# 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.

The material is intended for use as a heat-transfer medium in closed military systems and is capable of functioning as a dielectric coolant fluid over the temperature range of -54° C to 200° C. Dielectric coolant fluid is used to cool military aircraft systems, including radar, aircraft avionics systems, missiles, and navigation systems.

## Typical Characteristics

Name	Method	Units	Result
Specific Gravity @ 16°C	ASTM D287	g/ml	0.85
Viscosity, Kinematic 100C	ASTM D445	mm²/s	1.7
Viscosity, Kinematic 40C	ASTM D445	mm²/s	5.1
Viscosity, Kinematic -40C	ASTM D445	mm²/s	250
Viscosity, Kinematic -54C	ASTM D445	mm²/s	800
Dielectric Strength	ASTM D877	KV	35
Resistivity @ 25°C	ASTM D1169	ohm-cm	1.5X 10 <sup>14</sup>
Resistivity @ 135°C	ASTM D1169	ohm-cm	8.0X10 <sup>12</sup>
Flash Point, COC	ASTM D92	°C/°F	166 / 331
Fire Point, COC	ASTM D92	°C/°F	180 / 356
Auto Ignition Temperature	ASTM D 2155	°C/°F	324 / 615
Acid Number	ASTM D664	mg KOH/g	0.1
Water Content ppm	ASTM D6304	ppm	32
Particle Count automatic, 5-15 micron	FTM 3012	Per 100ml	2000
Particle Count automatic, 15-25 micron	FTM 3012	Per 100ml	128
Particle Count automatic, 25-50 micron	FTM 3012	Per 100ml	48

Name	Method	Units	Result
Particle Count automatic, 50-100 micron	FTM 3012	Per 100ml	4
Particle Count automatic, >100 micron	FTM 3012	Per 100ml	0
Corrosion & Oxidation, 168 hrs @ 121°C, Metal Weight Change (Al)	ASTM D4636	mg/cm2	0.06
Corrosion & Oxidation, 168 hrs @ 121°C, Metal Weight Change (Cd)	ASTM D4636	mg/cm2	0.07
Corrosion & Oxidation, 168 hrs @ 121°C, Metal Weight Change (Cu)	ASTM D4636	mg/cm2	0.03
Corrosion & Oxidation, 168 hrs @ 121°C, Metal Weight Change (Mg)	ASTM D4636	mg/cm2	0.04
Corrosion & Oxidation, 168 hrs @ 121°C, Metal Weight Change (Steel)	ASTM D4636	mg/cm2	0.04
Copper Corrosion	ASTM D 130		2B
Rubber Swell, 168 hrs @ 70°C, (NBR-L, SAE-AMS 3217/2)	ASTM D4289	%	7.8
Specific Heat	ASTM D 2766	cal/g @ -18C / 0 F	0.49
Specific Heat	ASTM D 2766	cal/g @ 10C / 50 F	0.52
Specific Heat	ASTM D 2766	cal/g @ 38 C / 100 F	0.54
Specific Heat	ASTM D 2766	cal/g @ 93 C / 200 F	0.58
Dielectric Constant	ASTM D 877	kHz @ 25 C / 77 F	2.1
Vapor Pressure, Isotemiscopes	ASTM D 877	65.5C / 150F, mm Hg	0.3
Vapor Pressure, Isotemiscopes	ASTM D 877	93.3C / 200F, mm Hg	1.2
Vapor Pressure, Isotemiscopes	ASTM D 877	121C / 250F, mm Hg	4.0
Vapor Pressure, Isotemiscopes	ASTM D 877	149C / 300F, mm Hg	11.5
Vapor Pressure, Isotemiscopes	ASTM D 877	177C / 350F, mm Hg	32
Vapor Pressure, Isotemiscopes	ASTM D 877	204C / 400F, mm Hg	73
Vapor Pressure, Isotemiscopes	ASTM D 877	232C / 450F, mm Hg	148
Vapor Pressure, Isotemiscopes	ASTM D 877	260C / 500F, mm Hg	300
Thermal Conductivity	ASTM D 3114	0C/0F BTU/hr. Ft <sup>2</sup>	0.085
Thermal Conductivity	ASTM D 3114	10C/50F BTU/hr, Ft <sup>2</sup>	0.083
Thermal Conductivity	ASTM D 3114	24C/75F BTU/hr, Ft <sup>2</sup>	0.082

Name	Method	Units	Result
Thermal Conductivity	ASTM D 3114	38C/100F BTU/hr, Ft <sup>2</sup>	0.082
Thermal Conductivity	ASTM D 3114	93C/200F BTU/hr. Ft <sup>2</sup>	0.078
Thermal Conductivity	ASTM D 3114	149C/300F BTU/hr, Ft <sup>2</sup>	0.075
Thermal Conductivity	ASTM D 3114	204C/400F BTU.hr, Ft <sup>2</sup>	0.072
Thermal Conductivity	ASTM D 3114	260C/500F BTU/hr, Ft <sup>2</sup>	0.069

Subject to usual manufacturing tolerances.

## Additional Information

Temperature Range Brayco Micronic 889 is designed to operate over the temperature range of -54°C to 200°C (-65°F to 392°F) Specification Brayco Micronic 889 is qualified to and meets the requirements of MIL-PRF-87252E. This fluid is identified by NATO Code Number S-1748.

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01 Sep 2022

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