Product Data

# Castrol Brayco® Micronic 889

Dielectric Coolant Heat Transfer Fluid, Hydrolytically Stable

## Description

Castrol Brayco® Micronic 889 is a clear and bright, full synthetic polyalphaolefin based, heat transfer fluid and dielectric coolant.

## Temperature Range

-54°C to 135°C (-65°F to 275°F).

## Uses

Castrol 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 types of hydrocarbons, esters and silicone fluids. This product also provides superior oxidative stability, low temperature properties and the hydrolytic stability characteristic to polyalphaolefin based products. Castrol Brayco® Micronic 889 has excellent dielectric properties and is suitable for use with most common metals of construction. It is compatible with low acrylonitrile ( BUNA N) and fluorocarbon elastomers.

## Packaging

Castrol Brayco® Micronic 889 is available in 55 gallon drums, 5 gallon pails and in 6/1 gallon cases.

## Specification

Castrol 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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## CASTROL BRAYCO® MICRONIC 889
### *TYPICAL PROPERTIES*

| 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) | 1.65 Minimum | 1.7 |
| | @ 40°C (104°F) | 5.0 Minimum | 5.1 |
| | @ -40°C (-40°F) | 300 Maximum | 250 |
| | @ -54°C (-65°F) | 1300 Maximum | 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 | 50 Maximum | 32 |
| | Saturation Point, ppm | | 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 | $1.0 \times 10^{10}$ Minimum | $1.5 \times 10^{14}$ |
| | 135°C (275°F), ohm-cm | Report | $8.0 \times 10^{12}$ |
| Spec/Auto Counter 4.5.3 | Solid Particle Contamination Autocount, per 100 ml | | |
| | 5 - 15 microns | 10,000 Maximum | 2000 |
| | 16 - 25 microns | 1,000 Maximum | 128 |
| | 26 - 50 microns | 150 Maximum | 48 |
| | 51 - 100 microns | 20 Maximum | 4 |
| | 100+ microns | 5 Maximum | 0 |
| D 4636 | Corrosion and Oxidation Stability | | |
| | 121°C (250°F), 168 hrs | | |
| | Copper Corrosion, ASTM D 130 | 3A Maximum | 2B |
| | Copper, weight loss, $mg/cm^2$ | 0.4 Maximum | 0.03 |
| | Steel, weight loss, $mg/cm^2$ | 0.2 Maximum | 0.04 |
| | Aluminum, weight loss, $mg/cm^2$ | 0.2 Maximum | 0.06 |
| | Magnesium, weight loss, $mg/cm^2$ | 0.2 Maximum | 0.04 |
| | Cadmium, weight loss, $mg/cm^2$ | 0.2 Maximum | 0.07 |
| FTM 3603 | 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) | | 0.811 |
| | @ 20°C (68°F) | | 0.794 |
| | @ 40°C (104°F) | | 0.777 |
| | @ 100°C (212°F) | | 0.723 |
| | @ 160°C (320°F) | | 0.661 |

## CASTROL BRAYCO® MICRONIC 889
### *TYPICAL PROPERTIES*

| TEST (ASTM) | DESCRIPTION (ADDITIONAL DATA) | 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 | $8.3 \times 10^{-4}$ |
| | 50 - 100°C | $9.2 \times 10^{-4}$ |
| | 100 - 150°C | $10.3 \times 10^{-4}$ |
| | 150 - 190°C | $11.7 \times 10^{-4}$ |
| D 2155 | Auto Ignition Temperature | 324°C (615°F) |
| | Vapor Pressure, Isotemiscope, mm Hg | |
| | 65.5°C (150°F) | 0.3 |
| | 93.3°C (200°F) | 1.2 |
| | 121°C (250°F) | 4.0 |
| | 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 877 | Dielectric Constant, 25°C (77°F), KHz | 2.1 |
| 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 |
| D 2270 | Viscosity Index | 112 |
| D 97 | Pour Point, °C (°F) | <-65 (<-85) |

Health, safety and environmental information are provided for this product in the Materials Safety Data Sheet. This gives details of potential hazards, precautions and First Aid measures, together with environmental effects and disposal of used products. Castrol will not accept liability if the product is used other than in the manner or with the precautions or for the purpose(s) specified. Before using the product other than directed, please contact Castrol for consultation.


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