



Product Data

Castrol Braycote[®] Micronic 1613

Perfluoroether, Sub-Micronic Grease
Low Volatility, Wide Temperature

Description

Braycote Micronic 1613 is a smooth, off-white colored NLGI 2 grease. It uses Castrol Brayco 815Z as the base fluid and is thickened with a special tetrafluoroethylene gelling agent. This grease is nonflammable and is chemically inert. It offers excellent lubricity, thermal stability, low volatility, good shear stability and low acute toxicity. Castrol Fluoroclean[™] X100 and Castrol Fluoroclean[™] HE can be used to remove this lubricant. Refer to the data sheets for information regarding these products.

Application

Braycote Micronic 1613 is designed to lubricate gyros, gears, ball and roller bearings, in the presence of fuels, oxidizers and deep space vacuums and for use as an assembly lubricant for O-rings and elastomers. This product is recommended for use in applications where temperature extremes and high vacuums are routine. Perfluorinated greases, in general, exhibit excellent shelf lives due to their intrinsic inertness.

Characteristics

TEST	DESCRIPTION	RESULT
D 1403	Penetration, 25°C (77°F), mm ⁻¹ Unworked Worked, 60 strokes	281 282
FTM 321	Oil Separation, % wt 30 hrs, 204°C (400°F)	8.2
D 2266	Four Ball Wear Test, mm 1200 rpm, 40 kgf, 75°C (167°F)	1.1
D 2596	Four Ball EP Weld Point, kgf	800
D 1478	Low Temperature Torque, g.cm @ -73°C (-100°F), Starting Running, 10 minutes Running, 1 hr	2950 1844 369
D 2595	Evaporation Loss, % wt 22 hrs @ 204°C (400°F)	0.18
FTM 3005	Solid Particle Contamination Micron Range 25-74 microns 75 microns or larger	108 None
	Pounds per Gallon @ 16°C (60°F) Pounds per Milliliter @ 16°C (60°F)	16.09 1.93
	Outgassing Test Total Mass Loss, 48 hours @ 150°C, ~10 ⁻⁹ torr, % wt	0.3
E 1559	Extrapolated Vapor Pressure, torr, derived from ASTM Vapor Pressure versus Temperature plot. Refer to the attached plot. Samples preconditioned at 150°C for 48 hours. @ 60°C (140°F) @ 100°C (212°F) @ 150°C (302°F)	7 x 10 ⁻¹² 2.5 x 10 ⁻¹⁰ 7 x 10 ⁻⁹
E 595	Vacuum Stability Test, 24 hours, 125°C (257°F), 10 ⁻⁶ torr Total Weight Loss (TWL), % wt Volatile Condensable Material (VCM), % wt	0.20 0.03
Base Oil Characteristics:		
D 287	Specific Gravity, 16/16°C (60/60°F)	1.8531
D 445	Kinematic Viscosity, cSt @ 99°C (210°F)	45

	@ 38°C (100°F) @ -54°C (-65°F)	148 10,855
D 2270	Viscosity Index	350
D 97	Pour Point, °C (°F)	-72 (-100)
Knudsen	Vapor Pressure, torr @ 20°C (68°F) @ 100°C (212°F) @ 200°C (392°F)	4×10^{-13} 2×10^{-9} 2×10^{-6}
	Pounds per Gallon @ 16°C (60°F)	15.43

User advice

Limitations

Braycote Micronic 1613 is compatible with all commonly utilized metals, plastics and elastomers. Braycote Micronic 1613 may be adversely affected by Lewis Acids, such as aluminum chloride, at elevated temperatures. Newly exposed rubbing surfaces of aluminum, titanium or magnesium under certain conditions may react with Braycote Micronic 1613. Such systems should be thoroughly evaluated. Surfaces must be well cleaned of organic rust inhibitors prior to grease application to insure proper lubrication. This product is not recommended for use in applications under high vacuum with loads exceeding 100,000 psi for extended periods of time.

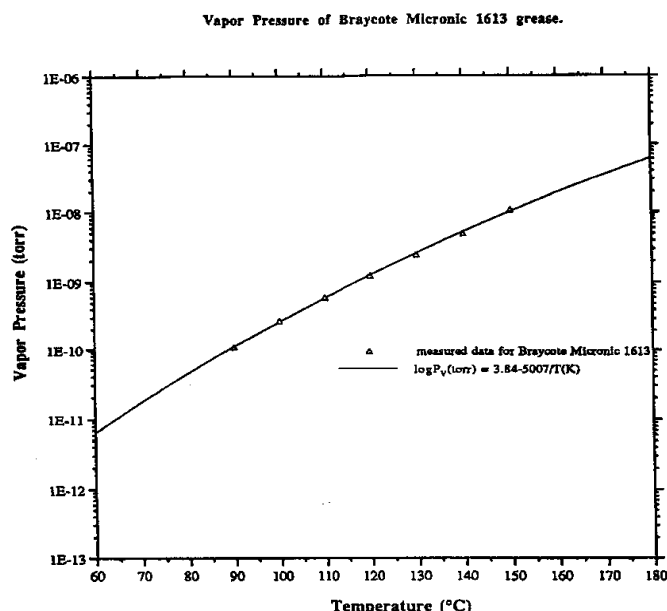
Temperature Range

-72°C to 204°C (-100°F to 400°F)

Packaging

Braycote Micronic 1613 is packaged in 2 ounce (ADVP) syringes or 1 pound jars.

Additional Information



Castrol Braycote 1613
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