



Product Data

Brayco Micronic 815 Z

Wide Temperature Range

Description

Castrol® Brayco® Micronic 815 Z is a clear water white perfluorinated polyether based fluid. It is virtually inert, compatible with rocket propellants and oxidizers, is unaffected by ultraviolet, cosmic radiation, or high vacuums. It has an exceptionally high viscosity index and low volatility, and has little tendency to form deposits. This product is highly recommended for use in applications at low temperature extremes and in high vacuum. It exhibits excellent lubricating properties, good dielectric properties, excellent shear stability, and low toxicity. Castrol® Brayco® IC X-100 can be used to removed this lubricant. Refer to the Brayco IC X-100 product data sheet for more information.

Application

Brayco Micronic 815 Z is essentially insoluble in current fuels and oxidizers, as well as in most organic solvents. This product is intended for use in extreme environments, and has been used successfully in many space missions and in sensitive electronic equipment. It is particularly suited for those applications where extreme vacuums and wide temperature variations are common. Perfluorinated fluids, in general, exhibit excellent shelf lives due to their intrinsic inertness.

Typical Characteristics

Name	Method	Units	Typical
Appearance	CN-TM-007	-	Clear, waterwhite
Specific Gravity @ 16C	ASTM D 287		1.8531
Viscosity, Kinematic 38C / 100F	ASTM D 445	cSt	148
Viscosity, Kinematic 99C / 210F	ASTM D 445	cSt	45
Viscosity, Kinematic - 40C / - 40F	ASTM D 445	cSt	6500
Viscosity, Kinematic - 54C / -65F	ASTM D445	cSt	10855
Viscosity Index	ASTM D 2270		350
Acid Number	ASTM D 664	mg KOH/g	End pt. pH = 8.2
Pour Point	ASTM D 97	mg KOH/gm end pt pH-8.2	0.01
Knudsen	Vapor Pressure @ 20C / 68F	Torr	4X10 ⁻¹³
Knudsen	Vapor Pressure @ 100C / 212F	Torr	2X10 ⁻⁹
Vacuum Stability - Total Mass Loss	SP-R-0022A	%	0.081
Vacuum Stability - Volatile Condensable Material	SP-R-0022A	%	0.012
Particulate Contamination per 100 ml (typical)	FTM 3009	5-15 Microns or larger	50

Name	Method	Units	Typical
		16-25 Microns or larger	10
		26-50 Microns or larger	5
		51-100 Microns or larger	0
		> 100 Microns or larger	0

Additional Information

Temperature Range -72°C to above 204°C (-100°F to 400°F) under normal operating conditions and up to 260°C (500°F) for brief periods. Limitations Brayco Micronic 815 Z is compatible with all commonly utilized materials, plastics, and elastomers. It may be adversely affected by Lewis Acid Catalysts such as aluminum chloride at elevated temperatures. Newly exposed rubbing surfaces of aluminum, magnesium, or titanium alloys may react with this product under certain conditions. Such systems should be thoroughly evaluated. Surfaces must be well cleaned of organic rust inhibitors prior to oil application to ensure proper lubrication. Packaging Brayco Micronic 815Z is packaged in 2 ounce (AVDP) bottles and in 1 pound jars.

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