



Brayco 815 Z

Speciality Perfluorinated fluid

Description

Castrol Brayco™ 815Z 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 under high vacuum. It exhibits excellent lubricating properties, good dielectric properties, excellent shear stability and low toxicity. Castrol Fluoroclean™ X100 or Castrol Fluoroclean™ HE may be used to remove this lubricant.

Application

Brayco 815Z is virtually 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 applications where extreme vacuums and wide temperature variations are common. Perfluorinated fluids, in general, exhibit excellent shelf lives due to their intrinsic inertness.

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.

Additional Information

Limitations:

Brayco 815Z 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.

A specially prepared "Micronic" grade (ultra filtered) is available on request.

Typical Characteristics

Name	Method	Units	Brayco 815 Z
Specific Gravity @ 15°C / 59°F	ASTM D287	-	1.8531
Density of finished oil @ 15°C / 59°F	In-house test	lb/gallon	15.43
Kinematic Viscosity @ 99°C / 210°F	ISO 3104 / ASTM D445	mm ² /s	45
Kinematic Viscosity @ 38°C / 100°F	ISO 3104 / ASTM D445	mm ² /s	148
Kinematic Viscosity @ -40°C / -40°F	ISO 3104 / ASTM D445	mm ² /s	6,500
Kinematic Viscosity @ -54°C / -65°F	ISO 3104 / ASTM D445	mm ² /s	10,855
Viscosity Index	ISO 2909 / ASTM D2270	-	350
Pour Point	ISO 3016 / ASTM D97	°C/°F	-72 / -100
Evaporation Loss (72 hrs @ 232°C / 450°F)	ASTM D972	% wt	0.36
Acid Number	ISO 6619 / ASTM D664	mgKOH/g	0.01
Knudsen Vapour Pressure @ 20°C / 68°F	-	Pa	5.32 x 10 ⁻¹¹
Knudsen Vapour Pressure @ 100°C / 212°F	-	Pa	2.66 x 10 ⁻⁷
Vacuum Stability	ASTM E595 / NASA SP-R-0022A	Total Weight Loss (% wt) / Volatiles (%wt)	0.081 / 0.012
Particle contamination per 100 ml (5 - 15 microns)	FTM 3009	no. of particles	163
Particle contamination per 100 ml (16 - 25 microns)	FTM 3009	no. of particles	42
Particle contamination per 100 ml (26 - 50 microns)	FTM 3009	no. of particles	16
Particle contamination per 100 ml (51 - 100 microns)	FTM 3009	no. of particles	4
Particle contamination per 100 ml (100+ microns)	FTM 3009	no. of particles	Nil

Subject to usual manufacturing tolerances.

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Castrol Industrial, Technology Centre, Whitchurch Hill, Pangbourne, Reading, RG8 7QR, United Kingdom

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