



Product Data

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® Brayco® IC X-100 may be used to remove this lubricant. Refer to Brayco IC X-100 product data sheet for more information.

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	mm²/s	45
Kinematic Viscosity @ 38°C / 100°F	ISO 3104 / ASTM D445	mm²/s	148
Kinematic Viscosity @ -40°C / -40°F	ISO 3104 / ASTM D445	mm²/s	6,500
Kinematic Viscosity @ -54°C / -65°F	ISO 3104 / ASTM D445	mm²/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.

Brayco 815 Z

31 Aug 2020

Castrol, the Castrol logo and related marks are trademarks of Castrol Limited, used under licence.

This data sheet and the information it contains is believed to be accurate as of the date of printing. However, no warranty or representation, express or implied, is made as to its accuracy or completeness. Data provided is based on standard tests under laboratory conditions and is given as a guide only. Users are advised to ensure that they refer to the latest version of this data sheet. It is the responsibility of the user to evaluate and use products safely, to assess suitability for the intended application and to comply with all applicable laws and regulations. Material Safety Data Sheets are available for all our products and should be consulted for appropriate information regarding storage, safe handling, and disposal of the product. No responsibility is taken by either BP plc or its subsidiaries for any damage or injury resulting from abnormal use of the material, from any failure to adhere to recommendations, or from hazards inherent in the nature of the material. All products, services and information supplied are provided under our standard conditions of sale. You should consult our local representative if you require any further information.

BP Lubricants USA Inc., 1500 Valley Road, Wayne, NJ 07470
 Telephone: +1-888-CASTROL Product Information: +1-877-641-1600
www.castrol.com/en_us/b2b/home.html