

Castrol Brayco 815 Z

Wide Temperature Range
Perfluorinated Polyether Lubricating Oil

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 in high vacuum. It exhibits excellent lubricating properties, good dielectric properties, excellent shear stability, and low toxicity. Castrol Fluoroclean™ X100 or Castrol Fluoroclean™ HE can be used to remove this lubricant. Refer to the data sheets for information regarding these products.

Application

Brayco 815Z 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

| TEST METHOD | DESCRIPTION | RESULT |
|-----------------------------|---|---------------------|
| D 287 | Specific Gravity @ 16/16°C (60/60°F) | 1.8531 |
| | Pounds per Gallon @ 16°C (60°F) | 15.43 |
| D 445 | Kinematic Viscosity, cSt | |
| | @ 99°C (210°F) | 45 |
| | @ 38°C (100°F) | 148 |
| | @ -40°C (-40°F) | 6,500 |
| | @ -54°C (-65°F) | 10,855 |
| D 2270 | Viscosity Index | 350 |
| D 97 | Pour Point, °C (°F) | -72 (-100) |
| BOC | Evaporation Loss, % wt 72 hrs, 232°C (450°F) | 0.36 |
| D 664 | Acid Number, mgKOH/g (end point, pH=8.2) | 0.01 |
| Knudsen | Vapor Pressure, torr | |
| | @ 20°C (68°F) | 4×10^{-13} |
| | @ 100°C (212°F) | 2×10^{-9} |
| E 595 NASA SP-R-0022A | Vacuum Stability Test | |
| | Total Weight Loss, % wt | 0.081 |
| | Volatile Condensable Material, % wt | 0.012 |
| FTM 3009 | Solid Particle Contamination | |
| | Number of Particles per 100 mL | |
| | 5 - 15 microns | 163 |
| | 16 - 25 microns | 42 |
| | 26 - 50 microns | 16 |
| 51 - 100 microns | 4 | |
| | + 100 microns | Nil |

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.

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 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.

Packaging

Brayco 815Z is packaged in 2 ounce (AVDP) bottles and in 1 pound jars. A specially prepared "Micronic" grade - ultra filtered - is available on request.

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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.

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