

# DuPont™ Krytox® GPL 203 Grease

**Severe-service grease for bearings, valves, seals and other applications where heat resistance, low volatility, chemical resistance and a wide temperature range are critical.**

DuPont™ Krytox® oils and greases are based on perfluoropolyether (PFPE) oils. Chemically inert and safe for use around most chemicals and reactive gases, these lubricants are nonflammable and are also safe for use in oxygen service. Krytox® oils and greases are compatible with commonly used materials and do not damage plastics or elastomers, nor cause corrosion to metals.

Krytox® oils and greases are commonly used as lubricants in aerospace, automotive, industrial and semiconductor applications as well as in solving many other routine lubrication problems. In addition, they provide exceptionally long lifetimes in sealed-for-life bearings and they can extend relubrication intervals in bearings that require relubrication.

Krytox® base oil is a clear, colorless, fluorinated synthetic oil; it is a perfluoropolyether (PFPE) but is also called perfluoroalkylether (PFAE) or perfluoropolyalkylether (PFPAE) with the following chemical structure:



The polymer chain is completely saturated and contains only carbon, oxygen, and fluorine. On a weight basis, a typical Krytox® oil contains 21.6% carbon, 9.4% oxygen, and 69.0% fluorine.

## DuPont™ Krytox® GPL 203 Lubricant

Krytox® GPL 203 grease is PTFE<sup>1</sup>-thickened, contains no additives, and can be used on components that come in contact with chemicals. Typical applications include valves, instruments or bearings that come into contact with chemicals including alcohols, ammonia, solvents, steam, acids and bases, and oxygen systems including LOX<sup>2</sup> and GOX<sup>3</sup>. Krytox® GPL 203 grease is commonly used as a lubricant for seals and O-rings and is compatible with most types of seals.

Krytox® oils and greases are silicone-free. They do not contain any VOC<sup>4</sup> materials or chlorine and are not hazardous to the atmosphere or ozone layer. They are biologically and environmentally inert.

<sup>1</sup> PTFE = polytetrafluoroethylene

<sup>2</sup> LOX = liquid oxygen

<sup>3</sup> GOX = gaseous oxygen

<sup>4</sup> VOC = volatile organic compounds

## Typical Properties of DuPont™ Krytox® GPL 203

Anti-Corrosion Additive	NO
Appearance	White, creamy consistency
Estimated Useful Temperature Range, °C (°F)	-60 to 154 (-76 to 310)
Base Oil Viscosity, cSt, 20 °C (68 °F)	82
40 °C (104 °F)	30
100 °C (212 °F)	5
Oil Separation, % in weight after 30 hours, 99 °C (210 °F)	6
Maximum Oil Volatility, % in 22 hr, 66 °C (150 °F)	1
D2595, 121 °C (250 °F)	7
Dropping Point	NA
Standard NLGI Grade	2
Specific Gravity, g/cm <sup>3</sup>	1.97

These values are typical properties and are not specifications.



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The high-temperature stability of fully fluorinated DuPont™ Krytox® lubricants improves bottom-line savings from improved reliability as well as reduced grease usage and manpower through extended relubrication intervals. Excellent film strength reduces wear to reduce maintenance costs. Under high loads, the viscosity increases to provide support and absorb the pressure.

### Typical Applications

Applications for these lubricants are generally of a critical nature. Temperatures in all industries are reaching extremes for conventional lubricants; lubricants are expected to be durable in the most aggressive environments and are now often considered an integral part of the design. Where extreme conditions and extreme performance demands prevail, whether because of durability, warranty, safety, loss of productivity or down time, Krytox® lubricants are the ideal choice in a wide range of industries and applications.

### Preparing the Bearings

New, unlubricated bearings often have rust-preventive oils in them to prevent damage while they are in storage prior to use. Before using new bearings, they should be inspected for damage and cleanliness<sup>5</sup>. When preparing to use Krytox® lubricant,

<sup>5</sup> For guidelines on bearing preparation, ask for literature item no. K-22116-1, "New Bearing Preparation."

greases or preservative oils need to be removed. Failure to do so could result in reduced bearing life. Bearing life tests on uncleaned bearings have shown reduced life in high temperature, high-speed tests where the bearing was filled with a minimum amount of grease. The preservatives coat the metal surface to prevent rusting; therefore, they can also prevent the grease from adhering, causing them to be thrown off by the action of the bearing. The preservatives could also oxidize and harden, and they can create debris which will contaminate the new grease.

### Storage and Shelf Life

Because of the inert, non-oxidizing nature of the ingredients, Krytox® lubricants have an indefinite shelf life if unopened and stored in a clean dry location. Greases might show oil separation after extended storage but mixing the free oil back into the grease will return the grease to its normal useable condition.

## DuPont Performance Lubricants

**Extreme conditions. Extreme performance.**

For more information or for technical assistance, please call **1-800-424-7502** or contact us at **krytox@usa.dupont.com**

For international sales and support contacts, visit us at **www.lubricants.dupont.com**

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