Krytox™ LVP
Performance Lubricants

High-Vacuum Grease Performs Dependably—No Matter What Conditions Your System Operates Under

Product Information

Low pressures. Extremely high or low temperatures. Hostile environments. Whatever special needs your system might have, Krytox™ low vapor pressure (LVP) high-vacuum grease works—safely, reliably, and cost-effectively.

Krytox™ LVP high-vacuum grease performs over extremes of temperature and pressure that hydrocarbon, silicone, and chlorofluorocarbon greases can't match. From –15–300 °C (0–570 °F), at vapor pressures as low as 10–13 mmHg, and in even the most chemically severe environments, Krytox™ LVP grease gives dependable, proven performance.

Additionally, Krytox™ LVP high-vacuum grease is nonflammable, insoluble, and chemically inert. It is also an excellent lubricant and sealant. And Krytox™ LVP grease offers all these features at a price that is less expensive than many vacuum-rated hydrocarbon, silicone, and chlorofluorocarbon greases.

Krytox™ LVP high-vacuum grease is used as a sealant or lubricant in vacuum systems. Chemically inert and offering superior lubrication properties, Krytox™ LVP grease combines the extremely low vapor pressure of Krytox™ fluorinated oil, which is based on the most stable type of perfluoroalkylpolyether available, with a fluorocarbon thickener. Thus, Krytox™ LVP grease will not explode, ignite, decompose, react to form gummy or solid deposits, or act as fuel for fires. Krytox™ grease retains its lubricating ability at temperature extremes ranging from –15–300 °C (0–570 °F) and offers complete oxidation resistance. All these features add up to lower wear and longer life for equipment and components—so important when access for component repair or replacement is difficult or impossible.

Krytox™ fluorinated grease was first used as a highly reliable, low-friction lubricant in aerospace projects, such as the Lunar Rover's traction motors. It was in this and other similar critical applications that Krytox™ lubricants earned a reputation for superior performance.

Today, Krytox™ products are proven performers that are setting the industry standard for safety, reliability, and cost-effectiveness.

Grease Typical Properties	
NLGI Consistency	Grade 2 penetration
Vapor Pressure	
Torr at 20 °C (68 °F)	-1.0×10^{-13}
Torr at 200 °C (392 °F)	-1.0×10^{-5}
kPa at 20 °C (68 °F)	-1.0×10^{-14}
kPa at 200 °C (392 °F)	-1.0×10^{-6}
Evaporation Loss	
4 x 10-6 torr at 150 °C (302 °F)	
(30 min) wt%	0.1
(60 min) wt%	0.2
(120 min) wt%	0.2
Evaporation Loss	
22 hr at 200 °C (392 °F)	<0.3%
Density, 25 °C (77 °F), g/cc	1.94
Base Oil Typical Properties	
Average Molecular Weight	9500
Kinematic Viscosity, cSt	
40 °C (104 °F)	740
100 °C (212 °F)	64.5
200 °C (392 °F)	8.8
Pour Point	–15 °C (5 °F)

This table gives typical properties based on historical production performance. Chemours does not make any express or implied warranty that this product will continue to have these typical properties.

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Applications

- Sealant or lubricant in vacuum systems
- High-temperature bearing, valve, and O-ring lubricant
- Oven conveyor chain and bearing grease
- Pressure relief valve lubricant
- Any use that requires high-temperature stability, low vapor pressure, or chemical inertness

Properties

Chemically Inert

Krytox™ LVP high-vacuum grease has demonstrated an exceptionally high degree of chemical inertness to many highly reactive chemicals. For example, Krytox™ LVP grease shows no evidence of reactivity when exposed to:

- Boiling sulfuric acid
- Fluorine gas at 200 °C (392 °F)
- Chlorine trifluoride at 10–50 °C (50–122 °F)
- Uranium hexafluoride gas at 50 °C (122 °F)
- Molten sodium or potassium hydroxide at 318–360 °C (605–680 °F)
- Hydrogen gas at 250 °C (482 °F) and 250 psi
- Ammonia gas at 250 °C (482 °F) and 50 psi

Krytox™ LVP is not reactive with any of the following materials when tested at room temperature:

- Ethyl alcohol
- Hydrazine
- Diethylenetriamine
- 90% hydrogen peroxide
- Nitrogen tetroxide
- JP-4 turbine fuel
- Unsymmetrical dimethyl hydrazine
- Aniline
- Inhibited red fuming nitric acid
- Halogen acids
- Chlorine or bromine

Nonflammable

Krytox™ LVP grease is nonflammable under all conditions likely to be encountered in service. It shows no autogenous ignition, flash, or fire points up to the highest temperature tested, 649 °C (1200 °F), in standard ASTM tests.

Compatible with Oxygen

At elevated temperatures and pressures, Krytox™ LVP high-vacuum grease is highly resistant to attack by gaseous and liquid oxygen. As a result, it is the lubricant of choice in industries that manufacture or use oxygen.

Tests confirming the non-reactivity of Krytox™ lubricants with oxygen were performed at a variety of conditions.

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For product information, industry applications, technical assistance, or global distributor contacts, visit krytox.com or within the U.S. and Canada, call 1-844-773-CHEM/2436 or outside of the U.S., call 1-302-773-1000.

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Replaces: H-79785-5
C-10290 (9/15)