

## Leak Detector Filaments

Fil-Tech's LD10's are drop-in replacements for the OEM part. Our filament is welded into the slotted posts for greater reliability and longer life.



LD7



LD10

FILAMENT	ALCATEL	Fil-Tech	
Filament	053146	LD10	\$150
Collector Single	083485	LD11	35
Collector Double	101127	LD12	40

FILAMENT	AGILENT	Fil-Tech Repair Exchange	
Tungsten	82850301	LD7RE	\$80
Iridium	82850302	LD8RE	110

## Nude Gauges & Filaments



Visit [www.filtech.com](http://www.filtech.com) for a complete listing of our nude gauges and replacement filaments.

AGILENT • AMAT • MKS

### Bayard Alpert Gauges/Pin Guards

Flange 2 3/4" • Header Ceramic to Metal Seal • Degas E-Beam Only

MKS		AMAT	DESCRIPTION	Fil-Tech	
274128	\$640		Iridium Single	GB20IR	\$490
274103	730	3310-01081	Iridium Single With Pin Guard	GB43IR	665

### UHV Gauges/Pin Guards

Flange 2 3/4" • Header Ceramic to Metal Seal • Degas E-Beam Only

MKS		DESCRIPTION	Fil-Tech	
274022	\$640	Tungsten Dual	GU21T	\$490
274123	760	Iridium Dual	GU21IR	550
274050	653	Tungsten Dual, NW40KF	GU50T	590
274041	725	Tungsten Dual With Pin Guard	GU41T	650
274142	730	Iridium Dual With Pin Guard	GU42IR	650

### AGILENT

X3004-64401	750	Iridium Dual	GU24IR	675
9715008	707	Tungsten Dual	GU24T	625

### Replacement Filaments

AGILENT		DESCRIPTION	Fil-Tech	
9710018	\$131	Tungsten Dual	GF18	\$52
X3004-64403	249	Iridium Dual	GF28	106

### MKS

274024	220	Tungsten Dual	GF24	80
274125	260	Tungsten Dual	GF25	106
274129	225	Iridium Single	GF29	106

One filament per box

## CALIBRATED HELIUM LEAKS

	NEW	Fil-Tech	RECALIBRATION
CL7	10-7ccHe/sec	\$800	Certification \$450
CL8	10-8ccHe/sec	850	NIST Traceable Certification

## Fil-Tech Fluid vs Torrlube

Fil-Tech Fluid dramatically increases bearing life in vacuum and semiconductor processes by reducing friction. It has exceptional lubricating properties for sliding and rotating applications to 10<sup>-8</sup> torr. Fil-Tech Fluid functions in a wide temperature range (-20°C to 260°C) and is chemically inert in the presence of most semiconductor gases such as fluorine at 200°C and trifluoride at 50°C.



ITEM	SIZE	TORRLUBE®	Fil-Tech FLUID™
FTF001	1 cc Syringe	\$112	\$90
FTF003	3 cc Syringe	247	250
FTF100	2-50 cc Bottles	1,280	1,000

## Diffusion Pump Silicones

All Fil-Tech's fluids are the functional equivalent to Dow Corning's DC702, DC704, and DC705, respectively. They can be mixed and/or reprocessed together in any portion with their respective counterpart. Fil-Tech sells silicones!

**FIL-TECH FT702, FT704 AND FT705 SILICONES REPLACE THE NO-LONGER-AVAILABLE DOW CORNING DC702, DC704 AND DC705 SILICONES**

### FT702 Phenylmethylsiloxane

is an economical general purpose silicone fluid for pumping large gas loads with thermal stability and oxidation resistance. Vacuum 10<sup>-5</sup> to 10<sup>-7</sup> torr.

### FT704 Tetramethyltetraphenyltrisiloxane

is a single component fluid extensively used for applicators requiring rapid pump down of large gas loads. For performance and economics, your best choice. Vacuum 10<sup>-5</sup> to 10<sup>-8</sup> torr.

### FT705 Pentaphenyltrimethyltrisiloxane

is a single component fluid for ultra high and ultra clean vacuums. For lowest ultimate pressure, your best choice. Higher resistance to crystallization. Vacuum 10<sup>-5</sup> to 10<sup>-10</sup> torr.

## Fil-Tech

	FT702	NEW	REPROCESSING
1 Gallon	\$440	\$215	
5 Gallon	2,000		
<b>FT704</b>			
500 cc	\$90		
1 Gallon	550	215	
5 Gallon	2,500		
<b>FT705</b>			
500 cc	\$140		
1 Gallon	800	230	
5 Gallon	3,800		



Call Fil-Tech at 800-743-1743 for a free DOT approved pail to collect your used fluid for remanufacture.

- TRADEMARKS**  
Fil-Tech®
- OTHER TRADEMARK OWNERS**
- Agilent® Agilent Technologies, Inc.
  - Alcatel® Alcatel Vacuum Technology
  - AMAT® Applied Materials, Inc.
  - Axcelis® Axcelis Technologies, Inc.
  - Chemours® The Chemours Company
  - Convectron® MKS Instruments
  - Dow Corning® Dow Corning Corp.
  - CTI/Brooks® Brooks Automation, Inc.
  - Frontier Vacuum® Frontier Vacuum
  - High Performance® Ferrotec Corp.
  - INFICON® INFICON
  - Advanced Adhesion Alloy®
  - Longer Life Gold®
  - Quality Crystals®
  - Stress Relieving Alloy®
  - InstruTech® InstruTech
  - Intellectrics® Intellevation Ltd.
  - Ion Tech® Veeco Instruments, Inc.
  - Kaufman & Robinson® Kaufman & Robinson
  - Krytox® The Chemours Company FC, LLC
  - Lam® Lam Research Corporation
  - Leybold® Oerlikon Leybold Vacuum
  - Maxtek® INFICON
  - MKS® MKS Instruments
  - Novellus® Novellus Systems, Inc.
  - QCM-I® Semilab Inc.
  - Q-Sense® Biolin Scientific Holding, AB
  - Santovac® Arch Technology Holding, LLC
  - Satisloh® Satisloh GmbH
  - Sloan® Veeco Instruments, Inc.
  - SuperSource® Ferrotec Corp.
  - Telemark® Telemark
  - Temescal® Ferrotec Corp.
  - Thermionics® TLI Enterprises, Inc.
  - TorrLube® The Torr Lube Company, LLC
  - ULVAC® ULVAC Technologies, Inc.
  - Umicore® Umicore
  - Unaxis® OC Oerlikon Corp., AG
  - Veeco® Veeco Instruments, Inc.
  - Windows® Microsoft, Inc.

SHOP ONLINE NOW!



## SANTOVAC 5 Polyphenyl Ether Diffusion Pump Fluid

SANTOVAC® 5 will provide vacuums in the 10<sup>-10</sup> torr range with exceptionally low vapor pressure and backstreaming. It is excellent for applications that must be free of silicones or those requiring ultra high, clean vacuums.

SANT5-006	65 cc	\$245
SANT5-01	100 cc	335
SANT5-05	500 cc	1,295
SANT5-1	1 Gallon	7,700

# MECHANICAL PUMP FLUIDS & VACUUM VALVES

## FT19

Molecularly distilled hydrocarbon fluid for non-corrosive applications. FT19 works well for all mechanical pumps.

SPECIFICATIONS		SIZES	PRICE
Vapor Pressure @ 25°C	1 x 10-5 torr	1 Gallon	\$45
Viscosity @ 40°C	54 cst (251 SUS)	5 Gallon	140
Viscosity @100°C	8 cst (52.7 SUS)	55 Gallon	1,250

## FT20

Doubly distilled hydrocarbon fluid for corrosive or reactive applications. Ideal for direct drive and belt driven mechanical pumps and also suitable for diffusion pump applications.

SPECIFICATIONS		SIZES	PRICE
Vapor Pressure @ 25°C	1 x 10-6 torr	1 Gallon	\$75
Viscosity @ 40°C	58 cst (269 SUS)	5 Gallon	290
Viscosity @100°C	8.5 cst (54.1 SUS)	55 Gallon	2,150

## FT70

High grade oil with temperature resistance and wear protection with extreme load-carrying capability. FT70 is safe for yellow metals in single stage pumps that run hot.

SPECIFICATIONS		SIZES	PRICE
Vapor Pressure @ 25°C	1 x 10-4 torr	1 Gallon	\$65
Viscosity @ 40°C	75 cst (350 SUS)	5 Gallon	225
Viscosity @100°C	9.4 cst (58 SUS)	55 Gallon	1,550

## FT77

Molecularly distilled hydrocarbon fluid for rotary piston pump in non-corrosive applications. It has the high viscosity required for the proper lubrication of piston pumps.

SPECIFICATIONS		SIZES	PRICE
Vapor Pressure @ 25°C	1 x 10-4 torr	1 Gallon	\$50
Viscosity @ 40°C	90 cst (418 SUS)	5 Gallon	175
Viscosity @100°C	10 cst (58.8 SUS)	55 Gallon	1,300

## FT87

Molecularly distilled hydrocarbon for large rotary piston pumps and roots blowers in non-corrosive applications requiring higher viscosity fluids.

SPECIFICATIONS		SIZES	PRICE
Vapor Pressure @ 25°C	4 x 10-4 torr	1 Gallon	\$60
Viscosity @ 40°C	100 cst (600 SUS)	5 Gallon	200
Viscosity @100°C	14 cst (64 SUS)	55 Gallon	1,400

## FT97

Molecularly distilled hydrocarbon for large rotary piston pumps and roots blowers in non-corrosive applications requiring highest viscosity fluids.

SPECIFICATIONS		SIZES	PRICE
Vapor Pressure @ 25°C	4 x 10-4 torr	1 Gallon	\$65
Viscosity @ 40°C	205 cst (950 SUS)	5 Gallon	225
Viscosity @100°C	18 cst (85 SUS)	55 Gallon	1,550

## FTTW

### TECHNICAL WHITE

Molecularly distilled hydrocarbon fluid containing no additives. Specifically recommended for mechanical pumps exposed to reactive or corrosive gases. FTTW is the longest lasting hydrocarbon fluid.

SPECIFICATIONS		SIZES	PRICE
Vapor Pressure @ 25°C	<1 x 10-6 torr	1 Gallon	\$70
Viscosity @ 40°C	56 cst (260 SUS)	5 Gallon	290
Viscosity @100°C	9 cst (55.4 SUS)	55 Gallon	2,500



## Frontier Vacuum

Fil-Tech distributes Frontier Vacuum Angle, Gate and Ball Valves. Frontier Vacuum offers 25 years of excellent quality valves at competitive prices to the semiconductor, solar, and thin film industries.



### Vacuum Angle Valves

Frontier manual and pneumatic vacuum angle valves are designed for general use in vacuum systems, processes, and exhaust applications. They are particularly well suited for vacuum isolation or control under rigorous installation conditions. The angle valves are equipped with vacuum bellows and are highly effective in high vacuum environments. Frontier manual and pneumatic angle valves operate in a pressure range of 1x10<sup>-6</sup> Pa to 1.2x10<sup>(5)</sup> Pa and are offered with DN25, DN40, DN63, DN80, and DN100 flanges.

### Vacuum Gate Valves

Frontier vacuum gate valves offer a thin profile and low flow resistance. They transport gases and solids and can seal against atmospheric pressure. The valve plate moves within the body cavity without contacting the walls. When opening or closing, the valve plate expands or contracts linearly upon reaching the sealing surface and avoids friction on the O-ring seal on the valve plate. Frontier Vacuum gate valves are offered in manual or pneumatic, stainless steel and aluminum, have a leak rate of 1.3x10<sup>-10</sup> PaM<sup>3</sup>/S, and are available with DN40-1320 flanges.

### Vacuum Ball Valves

Frontier manual ball valves are used to start and cut off fluid flow in vacuum systems and can be used in gas and liquid pipeline systems under positive and negative pressure ranging from 1x10<sup>-6</sup> Pa to 1.2x10<sup>(5)</sup> Pa. Frontier pneumatic 2-way and 3-way ball valves can withstand positive pressure to meet the requirements for ultra-high vacuum and accelerator systems and are used in vacuum systems ranging from 1x10<sup>-6</sup> Pa to 4x10<sup>(5)</sup> Pa. Manual and pneumatic ball valves are offered with DN16, DN25, DN40, DN50, DN63, DN80, DN100, DN160 and DN200 flanges.

# KRYTOX VACUUM PUMP FLUIDS

## Krytox® Fluid

Chemours Krytox fluids are totally perfluorinated polyether fluids (PFPE) that are suitable for the harsh environments associated with semiconductor processes. The fluids are chemically inert, thermally stable, oxygen resistant and nonflammable. Available with controlled low vapor pressures and viscosities. Applications include plasma etching, LPCVP and 100% oxygen service.

## Remanufacturing Service

Fil-Tech's remanufacturing service restores your contaminated KRYTOX or other PFPE fluids to their original properties at high recovery yields. The cost is a fraction of the price of new fluid. Call for pricing.



Authorized Distributor of Krytox™, a Brand of The Chemours Company

1506	\$370/kg
1514	370/kg
1525	370/kg
1514XP	400/kg
1525XP	400/kg
XP Rust preventative fluid	
PFPE SOLVENT	
KXSOLV-1	\$600/gallon

Contact us for quantity discounts.

Call Fil-Tech for a free DOT approved pail to collect your used fluid for remanufacture. 800-743-1743

SHOP ONLINE NOW!

# KRYTOX VACUUM GREASES

Chemours has a series of Krytox (PFPE) vacuum greases suitable for various applications. Your viscosity, temperature and vapor pressure requirements will determine your choice of grease. All Krytox greases are inert and suitable for applications requiring high temperature stability and low vapor pressure. They show excellent resistance to the aggressive environments inherent in the semiconductor industry. Krytox greases are oxygen compatible and hydrocarbon free.

SPECIFICATIONS		2 oz	8 oz	Kg	TEMPERATURE RANGE	VISCOSITY AT 40°C	VAPOR PRESSURE AT 40°C
Electronic Grade EG Greases	EG2000	\$136	\$500	\$2,350	-34°/288°C	240 cSt	2 x 10-8 torr
	EG3000	136	500	2,350	-29°/316°C	440 cSt	6 x 10-9 torr
Aerospace 240 Greases (milspec)	240AB	275	960	3,435	-40°/232°C	78 cSt	5 x 10-6 torr
	240AC	275	960	3,435	-34°/288°C	270 cSt	8 x 10-8 torr
	240AD	275	960	3,435	-29°/316°C	500 cSt	6 x 10-9 torr
Low Vapor Pressure Grease	LVP	136	500	1,975	15°/300°C	740 cSt	1 x 10-13 torr
General Purpose Greases	GPL202	62	198	680	-63°/132°C	15 cSt	Standard Grade
	GPL203	60	190	655	-60°/154°C	30 cSt	Standard Grade
	GPL205	60	190	655	-36°/204°C	160 cSt	Standard Grade
	GPL206	60	190	655	-36°/260°C	243 cSt	Standard Grade
	GPL207	60	190	655	-30°/288°C	450 cSt	Standard Grade
	GPL224	60	190	655	-51°/179°C	60 cSt	Anti Corrosion
	GPL226	60	190	655	-36°/260°C	160 cSt	Anti Corrosion
GPL227	60	190	655	-30°/288°C	440 cSt	Anti Corrosion	

# KRYTOX GENERAL PURPOSE OILS

Krytox GPL oils are clear, colorless, fluorinated synthetic oils that are non reactive, nonflammable, safe in chemical and oxygen service, and long-lasting.

	Kg	TEMPERATURE RANGE	VISCOSITY AT 40°C
GPL101	\$660	-70°/104°C	7.8 cSt
GPL102	660	-63°/132°C	15 cSt
GPL103	636	-60°/154°C	30 cSt
GPL104	636	-51°/179°C	60 cSt
GPL105	636	-36°/204°C	160 cSt
GPL106	636	-36°/260°C	243 cSt
GPL107	636	-30°/288°C	450 cSt