

PERFORMANCE FOCUSED SOLUTIONS FOR SUSTAINABLE INDUSTRIAL LUBRICANTS

A full line of base oils, thickeners, and performance additives for grease, gear oils, and hydraulic fluids.

Brought to you by
Biosynthetic
Technologies and
Innoleo.

TRUE PERFORMANCE.

TRUE SUSTAINABILITY.



Biosynthetic Technologies' estolide base oils offer the opportunity to develop high-performing grease, gear oil, and hydraulic fluid formulations that are both sustainable and biobased.

The patented estolide technology contains a high degree of polarity, making the products suitable for use as primary or secondary base oils when preparing a grease formulation. Our highly functionalized oils also protect bearings and machinery components against wear and corrosion, and are especially suitable for high-temperature environments. The products are compatible with conventional additive packages and various high-quality thickeners, allowing formulators a full range of technologies to create exceptional industrial greases. Our LP-branded base oils can make excellent low-temperature grease.

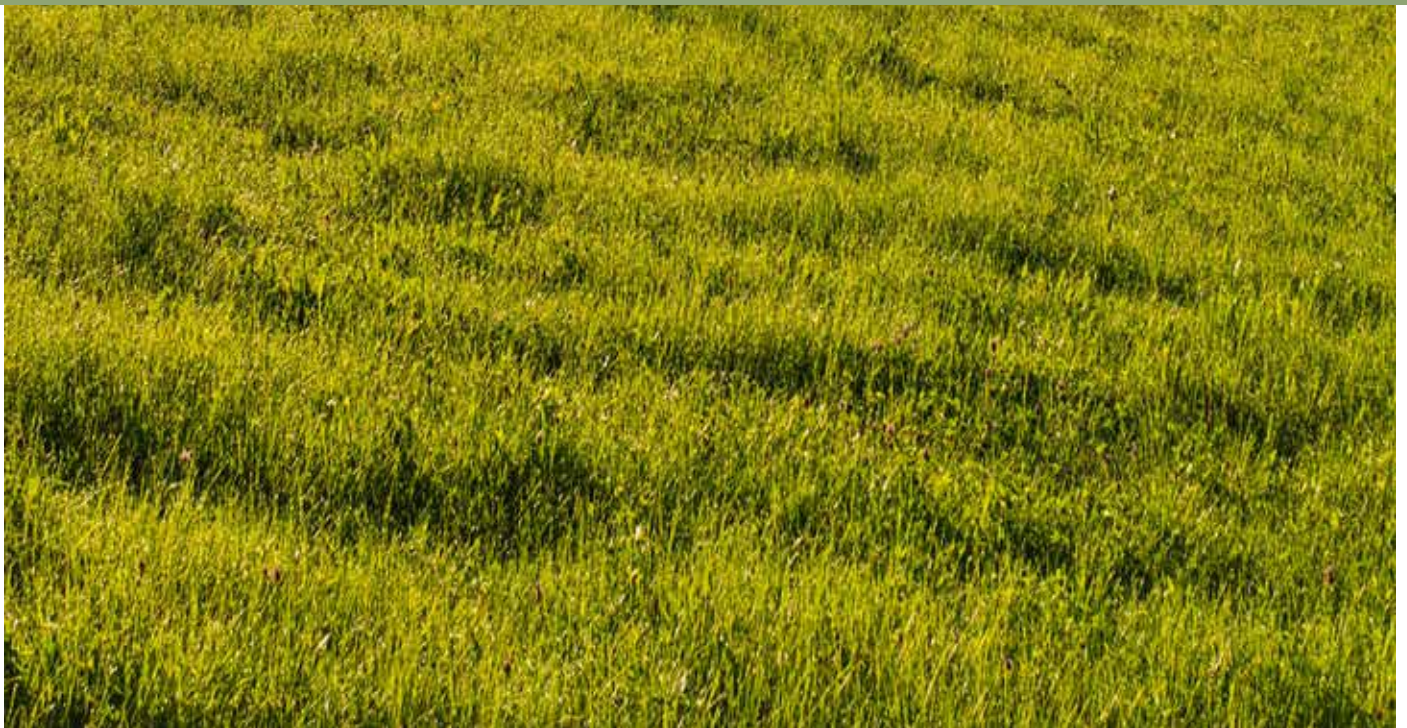
For gear oils and hydraulic fluids, the estolides provide long lubricant life and excellent equipment protection due to the superior oxidative and hydrolytic stability they offer. They provide exceptional detergency to assist with keeping metal surfaces clean and smooth.

Biosynthetic Technologies base oils are a perfect choice for environmentally sensitive areas. They are Ecolabel compliant, USDA certified biobased, and food grade (HX-1) certified, as well as being suitable for demanding U.S. EPA VGP regulations.



High-performing, sustainable innovations.

Designed to help you produce the future of high-performing greases and industrial lubricants.



GREASE

Base Oils

BT22: A medium viscosity base oil built to deliver optimal performance in lubrication applications to meet our customers' high-quality standards.

BT22 LP: A low pour point version of our BT22 estolide designed to provide optimal performance at very low temperatures.

BT75 LP: A sustainable and biodegradable base oil that can be used to formulate high-viscosity products or be blended with BT4 or BT22 to obtain a lower viscosity for a specific application.

	Pour Point (°C)	Flash Point (°C)	Viscosity Index	Kinematic Viscosity, 40 °C	Kinematic Viscosity, 100 °C
BT22	-21	270	170	150	22
BT22 LP	-42	270	185	140	22
BT75 LP	-33	290	205	600	75

Performance Additives

BT DPI53: A drop point improver designed to provide grease formulators with an option to create stronger greases.

BT DPI64: A drop point improver designed to provide grease formulators with an option to create stronger greases.

Innoleo PolyAdd G1: A new innovative product designed to maximize the performance of polyurea greases. The product is a thermoplastic polymer additive that works synergistically with the polyurea structure.

	Form	Color	Boron Content (%)	Melting Point (°C)
BT DPI 53	Liquid	Transparent/light yellow	1-3	-
BT DPI 64	Liquid	Yellow to brown	1-2	-
Innoleo PolyAdd G1	Granules	Transparent	-	65-70



Thickeners

Innoleo 12HSA: A high-purity 12-hydroxystearic acid derived from castor oil.

Innoleo FSG: A first special grade (or #1) castor oil for use in a wide variety of products.

Innoleo HCO: A hydrogenated castor oil that is 100% biobased.

Innoleate LHS: A lithium 12-hydroxystearate soap used as a pre-formed thickener in lithium grease production.

Innoleo C18-70: A high-quality grade stearic acid that is useful as an emulsifier, emollient, and lubricant in various applications.

Innoleo CHS: A calcium 12-hydroxystearate soap used as a pre-formed thickener in calcium grease production.

Innoleo PGT: A TDI-based polyurea grease thickener used to create unique greases.

Innoleo PGM: An MDI-based polyurea grease thickener used to create unique greases.

	TAN	Saponification Value	Iodine Value (g I ₂ /100 g)	Melting Point (°C)
Innoleo 12HSA	175-185	184-192	4 max	72-80
Innoleo FSG	2 max	177-185	82-92	-
Innoleo HCO	3 max	175-185	3 max	86-88
Innoleate LHS	-	-	-	200 min
Innoleo C18-70	200-207	201-208	1 max	-
Innoleo CHS	<1	-	-	315
Innoleo PGT	-	-	-	175
Innoleo PGM	-	-	-	140

Complexing Agents

Innoleo SA: A high-purity sebacic acid that can be used in a variety of applications.

Innoleo HA: A high-purity heptanoic acid that can be used as a complexing agent in many greases.

Innoleo AZ1: A high-purity azelaic acid for use in many industrial grease applications.

	TAN	Purity (by GC)	Melt Point (°C)	Saponification Value
Innoleo SA	550 min	99.5 min	130.0-134.5	-
Innoleo HA	420 - 430	98.0 min	-	420-430
Innoleo AZ1	575 - 595	95.0 min	100-110	-

INDUSTRIAL LUBRICANTS

Gear Oils

Biosynthetic® Technologies' patented base oils can be used in the manufacturing of sustainable and environmentally acceptable gear oils that are Eco-Label compliant. With superior oxidative and hydrolytic stability, our sustainable base oils deliver superior performance while being eco-friendly. They are also suitable for a wide ISO viscosity range of gear oil applications that provide outstanding lubricity to prevent the wear and tear of the target parts even under high-stress working conditions. Due to the inherent polarity of our estolide base oils, they provide exceptional detergency to assist with keeping metal surfaces clean and smooth.

BT D11: An ultra-low viscosity base oil designed for formulators that need to formulate products down to very low temperatures.

BT4: A low viscosity base oil that can also be used with higher viscosity base oils to achieve target product viscosities.

BT22: A medium viscosity base oil designed to deliver optimal performance while delivering sustainable, bio-based solutions.

BT22 LP: A low pour point version of our standard BT22 designed to allow formulators to create solutions that will perform in very cold environments

BT75 LP: A high viscosity and low pour point base oil designed to create solutions for the market at a higher target viscosity. The product can be blended with BT4, BT22, and BT22 LP to create truly unique products at a wide variety of viscosities.

	Pour Point (°C)	Flash Point (°C)	Viscosity Index	Kinematic Viscosity, 40 °C	Kinematic Viscosity, 100 °C
BT D11	-60	>200	155	11-13	2 - 4
BT4	-21	240	145	22	4.8
BT22	-21	270	170	150	22
BT22 LP	-42	270	185	140	22
BT75 LP	-33	290	205	600	75



Hydraulic Fluids

Biosynthetic® Technologies' patented estolide base oils can be used in the formulation of sustainable and environmentally acceptable hydraulic fluids that can be Eco-Label compliant. With superior oxidative and hydrolytic stability, our sustainable base oils deliver superior performance while being eco-friendly and non-toxic. Our base oils are suitable for a wide ISO viscosity range of hydraulic fluid applications that provide superior lubricity while creating an excellent film strength with the substrate for enhanced performance. Our high viscosity index ensures that the resulting hydraulic fluids will optimally function over extended periods of time without the failure rates seen with many Group V base oils. They are also compatible with various OEM seal technologies.

BT4: A low viscosity base oil that can also be used with higher viscosity base oils to achieve target product viscosities.

BT22: A medium viscosity base oil designed to deliver optimal performance while delivering sustainable, bio-based solutions.

BT22 LP: A low pour point version of our standard BT22 designed to allow formulators to create solutions that will perform in very cold environments.

BT75 LP: A high viscosity and low pour point base oil designed to create solutions for the market at a higher target viscosity. The product can be blended with BT4, BT22 and BT22 LP to create truly unique products at a wide variety of viscosities.

BT TMPTO: A versatile ester used to improve and enhance lubricity in many hydraulic applications.

BT TM8: A TMP ester designed to provide maximum performance while maintaining a low pour point for hydraulic and compressor fluids.

	Pour Point (°C)	Flash Point (°C)	Viscosity Index	Kinematic Viscosity, 40 °C	Kinematic Viscosity, 100 °C
BT4	-21	240	145	22	4.8
BT22	-21	270	170	150	22
BT22 LP	-42	270	185	140	22
BT75 LP	-33	290	205	600	75
BT TMPTO	-40	300	191	45	9
BT TM8	-50	>250	140	19	4



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