

BIO-XPL™ Red



BIO-XPL™ Red offers unparalleled performance for an environmentally friendly hydraulic fluid. Made with renewable biosynthetic base oils and non-toxic additives, the readily biodegradable fluid is minimally toxic and will not bioaccumulate, minimizing the environmental damage and cleanup expense for an accidental release. BIO-XPL Red is formulated for maximum wear protection and stability allowing for longer oil and filter change intervals and extended asset life. The ultra-high viscosity index delivers improved hydraulic efficiency and productivity. BIO-XPL Red features a red dye to aid in leak detection and fluid level verification.

BIO-XPL Hydraulic Fluid Meets or Exceeds:

Eaton E-FDGN-TB002-E	Parker Hannifin HF-0 (-1, -2)	ASTM D6158 HVHP	ISO 15380 HEPR
Bosch Rexroth RE 90220	Parker Hannifin HF-6 HEPR	DIN 51524-3 HVLP	
Danfoss 520L0463	EPA 2013 Vessel General Permit†	ISO 11158 HV	

†BIO-XPL is classified as an Environmentally Acceptable Lubricant (EAL) per EPA 800-R-11-002

BIO-XPL Red is recommended for use in mowing and landscaping equipment where a biodegradable hydraulic fluid is specified, and is a direct replacement for Toro Premium Synthetic Biodegradable Hydraulic Fluid.

BIO-XPL Red is **NOT recommended** for use in mowing and landscaping equipment where a transaxle fluid or universal hydraulic and transmission fluid (UTHF) is specified. Where Toro HYPR-Oil 500 or a 20W-50 synthetic engine oil is specified, see HyTrax™ ZT (SKU 4102).

PRODUCT ATTRIBUTE	TEST METHOD	TYPICAL PROPERTIES
ISO Grade	ASTM D2422	46
Optimum Fluid Temperature, °F	See notes	127
Fluid Temperature Operating Range, °F	See notes	0 to 205
Density, g/ml @ 15.5°C	ASTM D1298	0.849
Density, lb/gal @ 60°F	ASTM D1298	7.086
Kinematic Viscosity, cSt @ 40°C	ASTM D445	46.2
Kinematic Viscosity, cSt @ 100°C	ASTM D445	9.3
Viscosity Index	ASTM D2270	191
Brookfield Viscosity, cP @ -20°C	ASTM D2983	1125
Brookfield Viscosity, cP @ -30°C	ASTM D2983	2850
Brookfield Viscosity, cP @ -40°C	ASTM D2983	8500
Pour Point, °F (°C)	ASTM D97	-60 (-51)
Flash Point, °F (°C)	ASTM D92	455 (235)
4-Ball Wear, scar diameter, mm	ASTM D2266	0.43
FZG Scuffing, A/8.3/90, Fail Stage	ASTM D5182	> 12
TOST Oxidation Stability, hrs	ASTM D943	> 8000
KRL Shear Stability, % KV40 loss after 20hr	CEC L-45-A-99	5.3
Copper Corrosion, 3 hr @ 121°C	ASTM D130	1B
Dielectric Breakdown Voltage, (kV)	ASTM D877A	31.4
Rust Test, Distilled Water	ASTM D665A	Pass
Rust Test, Syn. Sea Water	ASTM D665B	Pass
Water Separability, min @ 54°C	ASTM D1401	15

PRODUCT ATTRIBUTE	TEST METHOD	TYPICAL PROPERTIES
Foam , Blow/Settle ml/ml, Seq. I, II, III	ASTM D892	0/0, 0/0, 0/0
Air Release , min @ 50°C	ASTM D3427	< 7
Nitrile Elastomer Compatibility	ASTM D471	SRE-NBR 1 @ 100°C for 168hr
- Volume Change, %		2
- Shore A Hardness Change, %		-1
Viton Elastomer Compatibility	ASTM D471	FKM 2 @ 95°C for 1008hr
- Volume Change, %		2
- Shore A Hardness Change, %		0
Fluid Cleanliness	ISO 4406	16/14/11 or cleaner*
Acute Aquatic Toxicity		Minimally Toxic
Biodegradability , %	OECD 301B	> 60
Renewable Content , %	ASTM D6866	90

*Certain components of BIO-XPL Hydraulic Fluid will cause optical interference with laser particle count measurements, testing by ASTM D7647 is required to ensure an accurate particle count.

Application Notes:

- The Optimal Fluid Temperature is approximated as the temperature when the kinematic viscosity is 30 cSt ensuring maximum operating life for the hydraulic system components.
- Fluid Temperature Operating Range is based off a general range recommendation for premium AW hydraulic fluids meeting Parker HF-0 requirements. The actual requirements for each application may vary and the OEM manual should be consulted.
- Lower limit for Fluid Temperature Operating Range is approximated when the kinematic viscosity is 1000 cSt, allowing the system to run at the lowest speed and pressure until it warms up.
- Upper limit for Fluid Temperature Operating Range is approximated when the kinematic viscosity is 10 cSt, allowing the system to run at full speed and pressure with adequate protection against wear.

WARRANTY:

When properly stored and used in accordance with instructions, any material not satisfactory will be replaced with any product in our line on a dollar for dollar basis provided the account is paid in full when due and Hydrotex is notified in writing within 12 months of the date of the order by the customer.

Hydrotex® is a manufacturer and distributor of high performance lubricant and fuel improver solutions. As an employee owned company, we help our customers develop sustainable solutions designed to improve system reliability, save energy, limit pollution, extend fixed asset life, reduce maintenance costs and improve fuel efficiency. Our products and services leverage over 80 years of innovation resulting in superior lubrication solutions and high touch customer service.