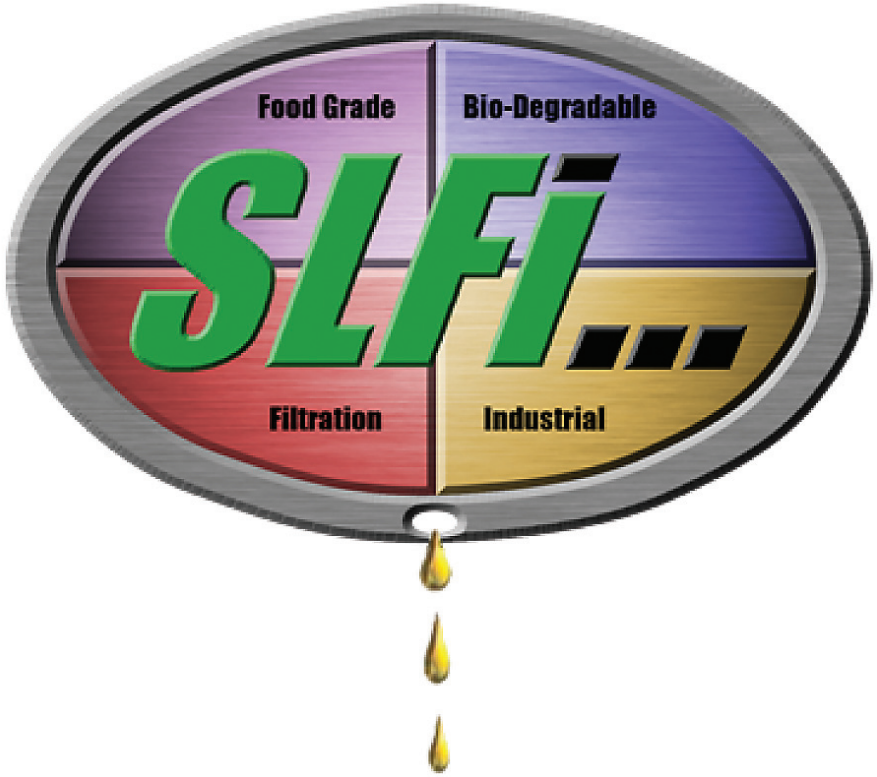
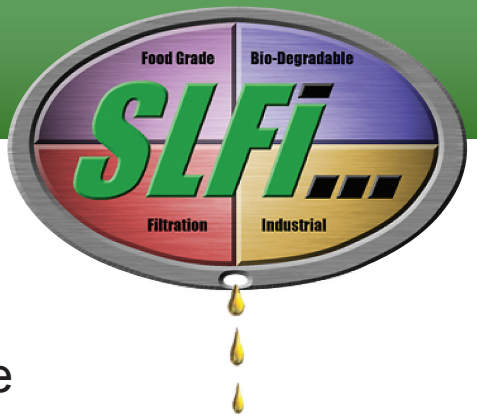


BG&GHF

Biodegradable Hydraulic Fluid

Synthetic Lubricants and Filters Inc.
7401 University Dr., Shreveport, LA 71105
(800) 637-5126 (p) • (866) 305-5126 (f) • www.slfi.net

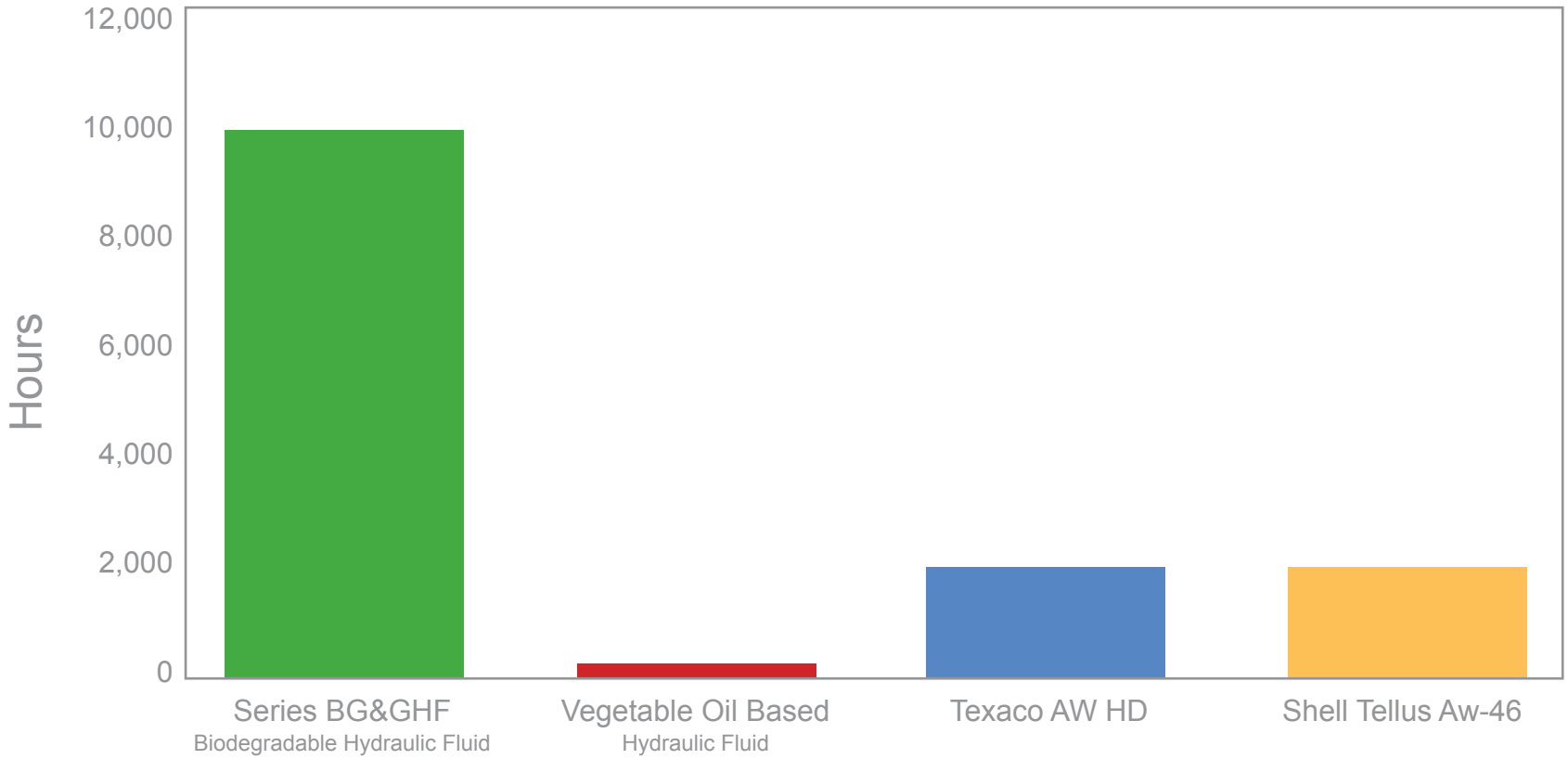
About BG&GHF



- Provides biodegradability without compromising performance
- Formulated from high performance synthetic bio-degradable base fluids, for enhanced performance and environmental protection
- Long lasting fluid, provides excellent performance even in the most demanding conditions
- Non-Toxic formulation
- Resists water contamination
- Resists carbon and varnish buildup
- Meets hydraulic pump manufacturers specifications: Vicers, Denison, Racine, Cincinnati-Milacron, etc.
- Helps protect against wear, rust and corrosion
- Offers excellent lubricity and load carrying capabilities
- Reduces friction to help better lubricate

Extended Fluid Life

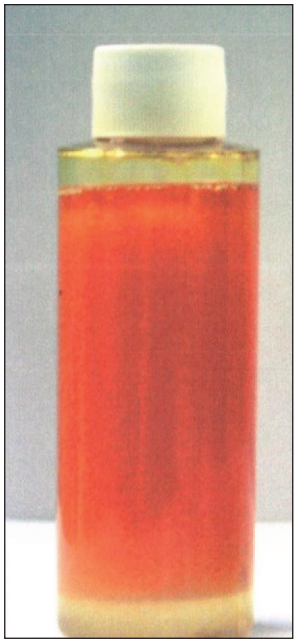
- Vegetable Oil (Uncomplete Ester) based hydraulic fluids offer poor oxidative stability, a short fluid life, are subject to rotting and even consumption by wildlife
- SLFI's BG&GHF have a long fluid life and superior oxidative stability even outlast most standard hydraulic fluids



Resists Water Contamination

SLFI's BG&GHF provide excellent resistance against water contamination. Excessive water contamination can increase wear and lead to premature fluid change-outs.

SLFI BG&GHF

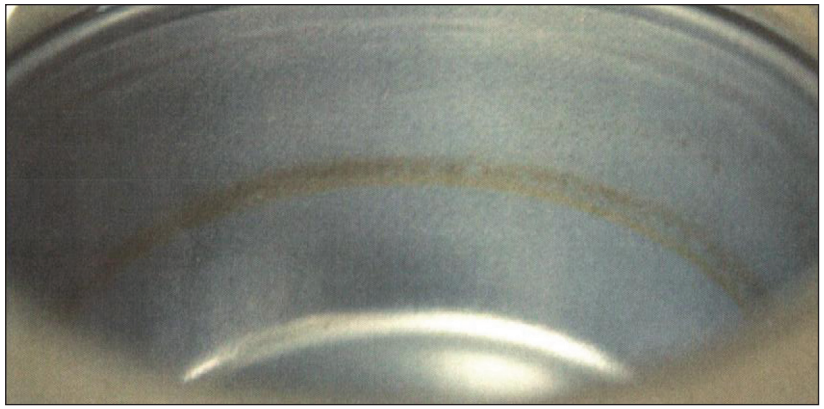


Vegetable Oil (Uncompleted Ester) Based Hydraulic Fluids

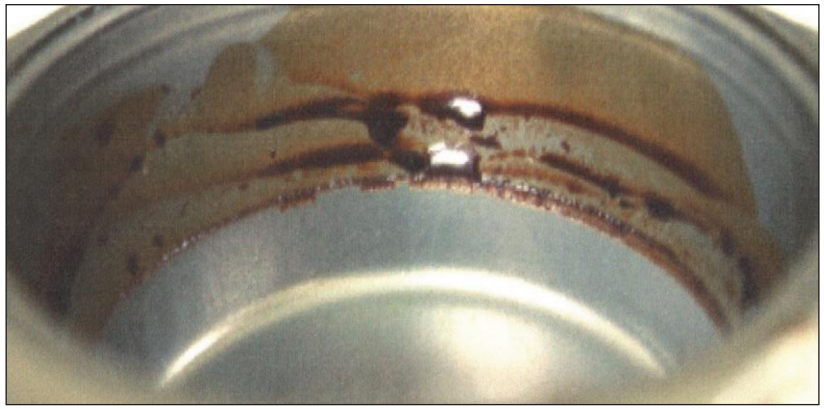
- A fluid with poor demulsibility will not readily separate from water often resulting in cloudiness in both the oil and water layers, if separation occurs at all.
- Cloudiness in water layer can also indicate possible additive drop out (typically rust inhibitor)

Resist Carbon and Varnish Formation

- Vegetable Oil (Uncomplete Ester) based hydraulic fluids offer poor thermal stability and high volatility often results in excessive carbon and varnish formation
- SLFI hydraulic fluids offer superior oxidative thermal stability, and offer excellent resistance against carbon and varnish formation



SLFI BG&GHF



Vegetable Oil (Uncompleted Ester) Based Hydraulic Fluids

BG&GHF vs Vegetable Oil (Uncompleted Ester) Based Fluids

- Vegetable Oil (Uncomplete Ester) based hydraulic fluids offer poor resistance against thermal and oxidative breakdown, and poor resistance against water contamination
- BG&GHF hydraulic fluids are highly thermally and oxidatively stable, and offer resistance against water contamination

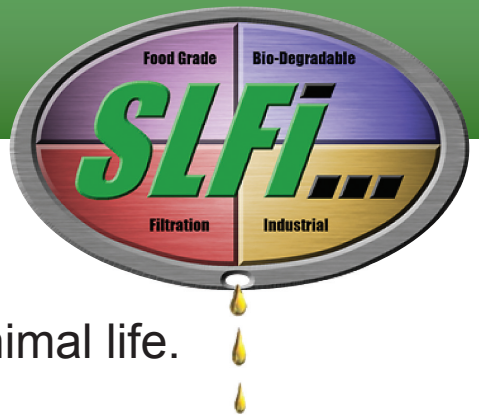
Characteristics	Series BG&GHF Biodegradable Hydraulic Fluid	Vegetable Oil (Uncompleted Ester) Based Hydraulic Fluid
Wear Contamination	Designed to shed water. Excess water can be drained from system.	Water contamination affects performance of hydraulic fluid, especially fluid life.
Available Viscosities	Available in ISO grades 22, 32, 46, 67	Available in limited ISO grades only
Color	<0.5, very light color	2 - yellow tint
Oxidation Test	Excellent oxidation resistance >10,000 hrs. (ASTM D943)	Oxidation resistance poor approx. 75 hrs. (ASTM D943)
Food value	- NONE -	Problems with rodents chewing through hydraulic lines
Pump Wear Test	- PASS -	- PASS -

BG&GHF vs Standard Hydraulic Fluids

BG&GHF hydraulic fluids outlast even standard hydraulic fluids

Characteristics	Series BG&GHF Biodegradable Hydraulic Fluid	Exxon NUTO H	Shell Tellus AW 46	Mobil HYD Oil AW	NOTES
Viscosity cSt @ 40ºC	45	46	42	46	...
Viscosity Index	101	95	100	97	Higher Viscosity Index results in better equipment protection at elevated temps.
Pour Point ºC	-34	-24	-26	-18	Low pour point provides better cold temp operations
Flash Point ºC	227	216	227	198	High flash points result in lower volatility and safer operations.
Oxidation Stability HR	10,000+	No Data	1,500+	No Data	Increased oxidation stability leads to increased fluid life
Color	<0.5	>2	>2	>2	Higher color indicates greater presence of sulfur compounds, which have greater phytotoxicity.
Rust Test	No Rust	No Rust	No Rust	No Rust	Most hydraulic oils protect from rust and corrosion
Pump Wear Test (Vickers) 35CVQ25	PASS	PASS	PASS	PASS	Typical zinc anti-wear additives used in most hydraulic oils will show about 57mg of lost vane material
Denison HF-0	MEETS	MEETS	MEETS	MEETS	Meets Manufacturers Specifications
Cincinnati Milacron	MEETS	MEETS	MEETS	MEETS	Meets Manufacturers Specifications

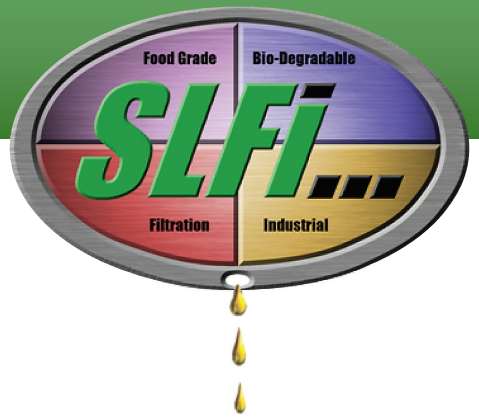
Bioassay of BG&GHF



SLFI's BG&GHF are formulated only with non-toxic/non-hazardous base fluids and additives to ensure a minimal impact on plant and animal life.

Test Species	Test Duration/Mode	Test Type	Concentration Test Score	Conclusion
Ceriodaphnia Dubia	48 Hrs	LC50	>100,000 mg/L	Non-Hazardous
Mysid Shrimp	96 Hrs	LC50	>100,000 mg/L	Non-Hazardous
Rainbow Trout	96 Hrs	LC50	>100,000 mg/L	Non-Hazardous
Rabbit	Oral	LD50	>5,000 mg/kg	Non-Toxic in all Practical Situations
Rabbit	Oral	LD50	>2,000 mg/kg	Non-Toxic in all Practical Situations
Rabbit	Eye	72 Hrs	0	Non-Irritant
Rabbit	Skin	72 Hrs	0	Non-Irritant

Tailor Made to Meet Your Needs



Unlike most competitive fluids, BG&GHF can be formulated to meet specific operating conditions

- **SLFI-BG&GHF-FG** (Food Grade)
  - Food Grade formulation, meets H-1 requirements for incidental food contact
  - Excellent wear protection
  - Long fluid life
  - Excellent resistance against rust and corrosion
  - Excellent carbon and varnish control
- **SLFI-BG&GHF-MT** (Multi-Temperature)
  - Ideal for multi-temperature applications (ie cold storage facilities)
  - Excellent cold temperature fluidity
  - Long fluid life
  - Excellent resistance against rust and corrosion
  - Excellent carbon and varnish control
- **SLFI-BG&GHF-HD** (High Dielectric)
  - Excellent electrical resistance, ideal for applications in the vicinity of high voltage sources
  - Excellent thermal stability
  - Long fluid life
  - Excellent resistance against rust and corrosion
  - Excellent wear protection