



## Renewable Lubricants, Inc.

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### **Bio-Food Grade™ Lift Lube™**



#### ***"Biobased Lubricants that Perform Like Synthetics"***

Bio-Food Grade™ Lift Lube™ is a multi-functional biobased lubricant that contains ingredients, which are "Generally Regarded as Safe" (GRAS) for food processing equipment. This BioPreferred<sup>SM</sup> Fluid is formulated to perform in hydraulic systems and gear drives that require Anti-Wear (AW), anti-rust, anti-oxidation, anti-foam, and demulsibility properties. It is highly inhibited against moisture and rusting in both fresh and sea water and pass both A and B Sequences of the ASTM D-665 Turbine Oil Rust Test. Incorporating the super high viscosity index of the Stabilized\* High Oleic Base Stocks (HOBS) into the formula, increases the viscosity index past synthetic levels (Energy Conserving Formulas). This biodegradable<sup>1</sup>, food grade<sup>2</sup> product can be used in environmentally sensitive areas such as in agriculture, marine, and food processing plants. Contains no animal byproducts and are manufactured under kosher supervision.

Bio-Food Grade™ Lift Lube™ is designed for use in vane, piston, and gear-type pumps and has shown excellent anti-wear performance in ASTM D-4172. The anti-wear performance meets and exceeds the requirements for Vickers M-2950-S (35VQ-25) and I-286-S (V-104C), Rexroth, US Steel 126, 136, and 127, and DIN 51524 Part 2. It also meets the requirements for ashless GL-1 and GL-2 gear oils in reduction units and gear sets. (*Use Viscosity Sufficient For OEM Application*)

The super high viscosity index of the HOBS naturally improves the thermal shear stability of the formula and increases load capacity. The HOBS's extremely low volatility increases the flash and fire safety features in the formula.

#### **Applications:**

Hydraulic systems, gear drives, gearhead motors, drip oilers, air-oilers, air-tools, water pumps, bearings, machine oils, roller chains, cables, circulating oils, etc., and general lubrication. These products may also be used in reduction units where original equipment manufactures (OEM) require a light viscosity R&O lubricant (i.e. AFNOR NFE 48-600 HL, DIN 51524 Part 1, and Denison HF-1 fluids).

The advantages are biodegradable, renewable, low toxicity, no volatile organic compounds (VOCs), safer, more fire resistant, EPA and ISO 14001 compliant reduces foreign oil, and helps secure the Economy. OSHA and worker acceptance is high with biobased oils.

This is an **ENVIRONMENTALLY RESPONSIBLE** lubricant formulated from renewable agricultural plant resources. Earth's environmental future rests in the use of renewable material.

\*STABILIZED by Renewable Lubricants\* is RLI's trademark on their proprietary and patented technology. High Oleic Base Stock (HOBS) are agricultural vegetable oils. This Stabilized technology allows the HOBS to perform as a high performance formula in high and low temperature applications, reducing oil thickening and deposits.

<sup>1</sup> Ultimate Biodegradation (Pw1) within 28 days in ASTM D-5864 Aerobic Aquatic Biodegradation of Lubricants

<sup>2</sup> Base oils and additives in this product are listed in 21 CFR 178.3570, Food Grade Lubricants (USDA H-1 or H-2). Full compliance with other applicable restrictions of FDA, USDA, oil spill, and oil pollution prevention statutes is recommended.

Patented Product with Pending and Foreign Patents

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**Availability**   **F.O.B. :Hartville, Ohio, USA**   **5 Gallon Pails**   **Drums**   **Bulk**

Bio-FG Lift Lube meets and exceeds requirements for Food Grade Lubricating Oils for use in Food Processing Equipment.

<b>Typical Data</b>	
<b>ISO grade</b>	<b>22</b>
<b>AGMA Grade</b>	<b>N/A</b>
<b>ASTM Grade</b>	<b>100</b>
Specific Gravity @60°F. (D287)	.87
VISCOSITIES:	
@100°C., cSt. (D-445)	5.1
@40°C., cSt. (D-445)	21.6
Viscosity Index (D-2270)	177
Flash Point, COC, °C (D-92)	205
Pour Point, °C (D-97)	-36
Copper Corrosion 3hr @ 100°C (D-130)	1A
Acid Number (D-974)	1.1
4-Ball Wear, mm (D-4172)	.40
4-Ball EP Weld Point (kg) (D-2783)	160
4-Ball EP Load Wear Index	40
FZG Test (DIN 51354)	10
Demulsibility (D-2711)	40/40/0
Foam Sequence I, II, III (D-892)	0 Foam
Rust Prevention (D-665 A & B)	Pass
Rotary Bomb Oxidation Stability (D-2272), Minutes	250
RLI Product Number	

RLI's Products have been tested by the USDA to meet the biobased content guidelines for BioPreferred Procurement by the U.S. Federal Agencies. The Biobased Content Guidelines are listed in law H.R. 2646 Section 9001 and Bio-Food Grade Lift Lube meets and exceeds the requirements in this law for biobased hydraulic fluids.