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Bio-Food Grade™ Hydraulic Fluids (ISO 15 & 22) H1, H2

"Biobased Lubricants that Perform Like Synthetics"

Bio-Food Grade™ Hydraulic Fluids are multi-functional biobased lubricants that contain ingredients, which are "Generally Regarded as Safe" (GRAS) for food and water processing equipment. These BioPreferred℠ Fluids are formulated to perform in hydraulic systems and gear drives that require Anti-Wear (AW), anti-rust, anti-oxidation, anti-foam, and demulsibility properties. They are 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). These food grade[1] hydraulic fluids 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™ Hydraulic Fluids are designed for use in vane, piston, and gear-type pumps and have shown excellent anti-wear performance in ASTM D-4172 Four Ball Wear Test. The anti-wear performance meets and exceeds 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. They also meet the requirements for ashless GL-1 and GL-2 gear oils in reduction units and gear sets where EP gear oils are not recommended *(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 With Incidental Food Contact In and Around Food Processing Equipment Areas
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 an R&O lubricant (i.e. AFNOR NFE 48-600 HL, DIN 51524 Part 1, and Denison HF-1 fluids).

The advantages are more biodegradable, renewable, low toxicity, no volatile organic compounds (VOCs), safer, more fire resistant, EPA and ISO 14000 compliant, reduces foreign oil, and helps secure the Economy. OSHA and worker acceptance is high with biobased oils.

They are ENVIRONMENTALLY RESPONSIBLE lubricants, formulated from renewable agricultural plant resources. Earth's environmental future rests in the use of renewable material.

STABILIZED by Renewable Lubricants* is RLI's trademarks 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.

[1]Food Grade components in this product are listed in 21 CFR 178.3570, Lubricants for incidental food contact (USDA HX-1, H-1). 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

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

ISO Viscosity Grades 15 & 22 meets and exceeds requirements for Food Grade Lubricating Oils for use in Food Processing Equipment.

These products are acceptable as lubricants with incidental food contact (H1) for use in and around food processing areas. Such compounds may be used on food processing equipment as a protective anti-rust film, as a release agent on gaskets or seals of tank closures, and as a lubricant for machine parts and equipment in locations in which there is a potential exposure of the lubricated part to food.

Typical Data		
ISO grade	**15**	**22**
ASTM Grade	**75**	**100**
Specific Gravity @60^{O}F. (D287)	.86	.86
VISCOSITIES:		
@100^{O}C., cSt. (D-445)	4.09	5.1
@40^{O}C., cSt. (D-445)	15.6	21.1
Viscosity Index (D-2270)	175	184
Flash Point, COC, ^{O}C (D-92)	185	225
Pour Point, ^{O}C (D-97)	-48	-44
Copper Corrosion 3hr @ 100^{O}C (D-130)	1A	1A
Acid Number (D-974)	1.1	1.1
4-Ball Wear, mm (D-4172)	.45	.45
FZG Test (DIN 51354)	10	10
Demulsibility (D-2711)	40/40/0	40/40/0
Foam Sequence I, II, III (D-892)	0 Foam	0 Foam
Rust Prevention (D-665 A & B)	Pass	Pass
Rotary Bomb Oxidation Stability (D-2272), Minutes	250	250
RLI Product Number	87104	87110

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 Hydraulic Fluids ISO 15 & 22 meet and exceed the requirements in this law for biobased hydraulic fluids.