Renewable Lubricants, Inc.
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Bio-MIL-PRF-32073 Hydraulic Fluid

(ISO 15, 22, 32, 46, 68)

STABILIZED™ by Renewable Lubricants

"Bio-based Lubricants that Perform Like Synthetics"

Bio-MIL-PRF-32073 Hydraulic Fluids are ultimately biodegradable[1] vegetable bio-based formulas that were designed specifically to replace mineral oil based hydraulic fluids for environmentally sensitive areas. They have been specifically formulated to provide additional seal swell (10% to 30%) as required by MIL-PRF-32073 and ISO 15 or ISO 22 can replace obsolete specification MIL-PRF-5606 for ground support equipment. Bio-MIL-PRF-32073 Hydraulic Fluids are formulated to perform in hydraulic systems that require anti-wear, anti-foam, anti-rust, anti-oxidation, 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, gives multi-grade synthetic base oil performance by boosting the viscosity index to synthetic levels. This 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. A zinc-free additive system has also been developed that is environmentally friendly and exceeds the load stage 10 in the FZG (DIN51354) requirements for both turbine oils and reduction gears. They also meet the requirements for an ashless GL-3 gear oil. Bio-MIL-PRF-32073 Hydraulic Fluids are ENVIRONMENTALLY RESPONSIBLE products that are formulated from renewable agricultural plant resources. We believe Earth's environmental future rests in the use of renewable materials.

Typical Specifications

ISO Grade	**15**	**22**	**32**	**46**	**68**
Specific Gravity @60^{O}F.	.866	.870	.874	.876	.886
VISCOSITIES (ASTM D-445):					
@100^{O} C., cSt.	3.81	5.0	6.9	9.67	12.5
@40^{O} C., cSt.	14.18	21.1	30.87	43.8	64.1
@-15^{O} C., cSt.	250	375	550	1100	1600
Viscosity Index (ASTM D2270)	172	175	184	216	198
Low Temperature Stability (ASTM D-6351)	Pass	Pass	Pass	Pass	Pass
Flash Point, COC, ^{O}C (ASTM D-92)	188	205	236	243	270
Pour Point, ^{O}C (ASTM D-97)	-60	-52	-48	-39	-36
Acid Number (ASTM D-664)	0.4	0.4	0.4	0.4	0.4
Copper Corrosion (ASTM D-665)	1A	1A	1A	1A	1A
4 Ball Wear (ASTM D4172)					
1h, 167^{O} F, 1200 RPM, 40kg	.40	.40	.40	.40	.40
Demulsibility (ASTM D-1401)	40/40/0	40/40/0	40/40/0	40/40/0	40/40/0
Foam Sequence I, II, III (ASTM D-892)	0	0	0	0	0
Rust Prevention, (ASTM D-665 A&B)	Pass	Pass	Pass	Pass	Pass
Galvanic Corrosion FTM 791-5322	Pass	Pass	Pass	Pass	Pass
Oxidation Stability (ASTM D-6186)					
PDSC minutes @180 ^{O}C	25	25	25	25	25
PDSC minutes @155 ^{O}C	95	95	90	90	90
Seal Swell FTM- 791-3603 NBR-L %	20	20	13	13	13

STABILIZED by Renewable Lubricants* is RLI's trademark on their proprietary and patented anti-oxidant, anti-wear, and cold flow 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] Ultimate Biodegradation Pw1 >60% within 28 days in ASTM D-5864 Aerobic Aquatic Biodegradation of Lubricants

Patented Product: US Patent 6,383,992, US Patent 6,534,454 with additional Pending and Foreign Patents

* Trademark of Renewable Lubricants, Inc.

Availability **F.O.B. :Bolton, ON, Canada** **5 Gallon Pails** **Drums** **Bulk**