

B660

Enviro Blend™

Biodegradable Synthetic Blend Hydraulic Oil

DESCRIPTION:

Enviro Blend B660 answers the challenge to develop a lubricant that harmonizes with the environment while delivering superior performance. A lubricant that is non-toxic and biodegrades rapidly in the environment should a spill or leakage occur, which does not rapidly degrade in hydraulic service or in other industrial applications, while providing superior lubrication and antiwear protection, was the criteria for the formulation of Enviro Blend B660.

COMPOSITION:

Enviro Blend B660 is a fully formulated high performance lubricant utilizing a unique vegetable oil blended with a combination of carefully selected synthetic base fluids. Added to this blend are non-toxic, ashless antiwear additives, demulsifiers and pour point depressants. It is also fully inhibited against rust, corrosion and oxidation. Enviro Blend B660 is classified as *readily biodegradable*.

PERFORMANCE CHARACTERISTICS:

Enviro Blend B660 is environmentally acceptable by many standards. Besides being non-toxic and biodegradable, it provides other environmental benefits such as reduced leakage due to its extremely high viscosity index, resource conservation, and waste reduction due to its longer drain intervals. With reduced disposal and recycling activities, less energy consumption is achieved.

Performance-wise, Enviro Blend B660 exceeds major hydraulic pump manufacturers' requirements. It has excellent low temperature properties and oxidation stability unlike other ordinary vegetable based hydraulic oils. Its water separating properties rank with the best of conventional hydraulic oils while its load carrying, anti-wear, and viscosity/temperature behavior is far superior.

Enviro Blend B660 is an extended drain oil. Based on laboratory oxidation tests, it is capable of going 2 to 3 times as long as other biodegradable hydraulic oils. Actual performance will vary. Below is a summary of severity criteria in which to classify the performance of biodegradable fluids:

Enviro Blend B660 is a Marine Readily Biodegradable Hydraulic Fluid that meets the USDA definition EO 13101 for Biobased products and the U.S. EPA's 2013/2018 Vessel General Permit (VGP) specifications and requirements for Environmentally Acceptable Lubricants (EAL). It is a superior marine hydraulic oil for application where B660 may come into contact or is used around both fresh or ocean waters including where the United States Coast Guard (USCG) requires such a product.

Antiwear Hydraulic Fluid - Summary

- Hydraulic fluids based on standard vegetable oils can be used in less demanding temperature ranges, especially in "loss" lubricant situations. (Operating Range 20° F to 190° F)
- Hydraulic fluids based on higher grade vegetable oils can be used at higher operating temperatures where low temperature performance may be sacrificed and where more frequent service intervals are used. (Operating Range 20° F to 280° F)
- Enviro Blend B660 based on synthetic esters with highest grade vegetable oil should be used when highest performance is needed and longer service intervals are desired. (Operating Range -30° F to over 300° F)*

USES:

Enviro Blend B660 may be used in a wide variety of hydraulic systems operating at both high and low pressures. It is compatible with conventional mineral oil based hydraulic oils and with all seal materials found in hydraulic systems. It is especially suited for use in environmentally sensitive areas where leaks and spills can cause environmental damage. Enviro Blend B660 is also recommended for use wherever an industrial anti-wear bearing, gear, chain, or circulating lubricant is required.

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APPLICATIONS:

- Offshore
- Logging
- Mining
- Waterways
- Forestry
- Dredging
- Marine
- Agriculture
- Construction

TYPICAL SPECIFICATIONS:

Test	Method	Value
Viscosity Grades	ISO	32, 46 and 68
Viscosity Index, min.	ASTM D-2270	197
Flash Point, °F, min.	ASTM D-92	500
Pour Point, °F, max.	ASTM D-97	-40*
Specific Gravity		0.9
Rotary Bomb Oxidation Test	ASTM D-2272	240
Foam Test	ASTM D-892	0/0
Demulsibility Test	ASTM D-1401	40/40/0
Four Ball Wear	ASTM D-2266	0.36
Rust Test	ASTM D-665	Pass
Copper Corrosion Test	ASTM D-130	1A
Denison-Hagglunds Pump Test	HF-0	Pass
Vickers Pump Test	35VQ25	Pass
FZG Load Test, load stages passed	ASTM D5182-97	12
Biodegradability	CEC-L-33-T-82	Pass
Aquatic Toxicity Test	EPA	Pass
Rexroth Environmental Fluid	RA 90 221/05.93	Pass

* Note: Low temperature of operating range and Pour Point specification apply only to ISO 32 grade.