



EnBio MP46

Your responsible choice for a sustainable environment

Product Description

EnBio MP46 is a patented high performance, cost effective, energy saving environmentally safe, biodegradable, synthetic hydraulic fluid designed specifically for use in hydraulic systems in equipment used in environmentally sensitive areas, such as marine, agriculture, mining, dockside, industrial, and mobile equipment. EnBio MP46 meets or exceeds Bosch-Rexroth, Danfoss, Eaton, and Parker's specifications.

Product Features & Benefits

- Very high viscosity index, which means EnBio MP46, can be used over a wide temperature range having only a minimal impact on the bulk fluid viscosity. No need to use two different grades of hydraulic oil for summer and winter, where one gets high temperature differences, for example New York.
- Outstanding anti-wear performance has been demonstrated which means a longer, more reliable service life, which in turn means lower maintenance costs and less down time.
- A unique additive package provides unsurpassed thermal and oxidative stability, which means that EnBio MP46 remains clean, will not sludge or varnish and lasts 3-4 times longer than vegetable hydraulic oils.
- EnBio MP46 is classified as readily biodegradable (by OECD 301B / 301F test method) and is dyed blue for ease of detection when a spill occurs.
- Classified Ecologically harmless, as it has no significant hazard to small mammals, plant life or aquatic life. Under OECD guideline 420 for acute oral toxicity testing, EnBio MP46 is classified as a "compound, which does not present a significant acute toxic risk if swallow
- Should EnBio MP46 accidentally spill into waterways it will NOT form a streak on water (sheen) nor will it form an emulsion or sludge thereby preventing the destruction of future and existing food supplies, breeding animals and habitats which exist on the surface or in contact with water.
- It has been shown through numerous tests, that EnBio MP46's low toxicity, readily biodegradability and **NO** sheen make it ideally suited for the environmentally sensitive applications in or around water.
- Lower friction losses and higher gear efficiencies, leads to reduced sump temperatures, which in turn means better performance and lower maintenance costs.
- A High VI and low coefficient of friction leads to lower Energy consumption (Fuel savings) by increasing pump efficiency due to optimized viscosities at start up , normal operation and peak load conditions.



Typical Physical & Chemical Properties

Test Method	Typical Results		
Appearance			Blue fluid
ISO Viscosity Grade			46
Viscosity @ 40°C (Cst)		ASTM D445	46.9
Viscosity @ 100°C (Cst)	ASTM D445		9.9
Viscosity @ 0 °C (Cst)		ASTM D445	481.6
Specific Gravity @ 20°C	ASTM D1298		1.06
Viscosity Index		ASTM D2270	205
Flash Point (open cup) (°F)	ASTM D92		586
Flash Point (Closed cup) (°F)		ASTM D93	435
Fire Point (°F)	ASTM D92		595
Pour Point (°F)		ASTM D97	-53
Foam Test — seq.1,11,111	ASTM D892		0/0:20/0:0/0
Corrosion Protection		ASTM D665A & B	Pass
Copper Strip Corrosion	ASTM D130		1B
Turbine Oxidation		ASTM D934	>5000 Hours
Fourball Anti-Wear (mm wear scar)		ASTM D4172	0.37
Fourball EP (mm wear scar)		ASTM D2783	0.32
Sonic Shear Stability			
- initial viscosity @ 40°C (Cst)		ASTM D5621	46.91
- irradiated viscosity @ 40°C (Cst)			46.87
- initial viscosity @ 100°C (Cst)		ASTM D5621	9.89
- irradiated viscosity @ 100°C (Cst)			9.85
Fuel Injection Shear Stability Test		ASTM D 3945	NO Viscosity Loss
V104 Vane Pump Test (mg/hr)	DIN 51,389 M-		0.018
35 VQ Vickers Vane Pump Test		2950-S	Pass
FZG Visual Gear Test	ASTM D5182		Passes 12 stages
Modified Sturm Biodegradability Test (28 days)		OECD 301B/301F	Readily Biodegradable
Sea Water			
96 hour Sheephead Minnow LC50 (mg/l)			> 1000
96 hour Mysid Shrimp LC50(mg/l)			> 1000
Fresh Water			
96 hour Fathead Minnow LC50 (mg/l)		OECD 203	>45 000
16 hour Bacterial Inhibition IC50 (mg/l)			19 000
48 Hour Daphina Magna EC (mg/l)		OECD 202	>34 000