



## **BIOMAX HYDRAULIC OIL**

### **HIGH PERFORMANCE EAL HYDRAULIC OIL**

#### **BEYOND SYNTHETIC®**

Royal Purple's BioMax EAL Hydraulic Oil is an environmentally acceptable, high performance lubricant formulated for those users of hydraulic oil products in marine applications affected by the 2013 Vessel General Permit (VGP).

BioMax Hydraulic Oil provides excellent performance for use in sensitive environments such as thrust gears, steering gears, stern tube and other marine related services.

The long life and high film strength of BioMax Hydraulic Oil greatly increases equipment reliability as well as provides excellent protection in highly corrosive environments. It gains its performance advantage over competing oils through its superior blend of base oils plus Royal Purple's proprietary Synerlec® additive technology. This unique, synthetic additive technology is proven to make bearings and equipment run smoother, cooler, quieter, longer and more efficiently.

#### **SYNERLEC® ADDITIVE TECHNOLOGY MAKES THE DIFFERENCE!**

Synthetic oils enable Royal Purple to make superior lubricants, but it is Royal Purple's advanced Synerlec additive technology that gives its lubricants their amazing performance advantages. Synerlec additive technology truly is beyond synthetic.

Synerlec additive technology forms a tough, slippery, synthetic film on all metal surfaces. This proprietary film significantly improves lubrication: first, by increasing the oil film's thickness, and second, by increasing the oil film's toughness, both of which help to prevent metal-to-metal contact. It displaces moisture from metal surfaces and protects all metals against rust and corrosion. It also fortifies the oil against the detrimental effects of heat, which causes oil to oxidize.

#### **PERFORMANCE ADVANTAGES**

##### **High Film Strength**

Royal Purple's BioMax EAL Hydraulic Oil with Synerlec additive technology protects gear components beyond the ability of other environmentally friendly hydraulic oils.

##### **Longer Oil Life**

BioMax EAL Hydraulic Oil has outstanding oxidation stability and keeps equipment clean.

##### **Excellent Corrosion Protection**

Royal Purple's BioMax EAL Hydraulic Oil with Synerlec additive technology's tough oil film forms an ionic bond on metal surfaces. This film not only protects during operation and acts as a preservative oil during shutdown, but it also provides instant lubrication upon startup to prevent wear.

##### **Improved System Performance**

BioMax EAL Hydraulic Oil frequently lowers operating temperatures and restores smooth, consistent performance to erratically operating gear systems.

##### **Rapidly Separates From Water**

BioMax EAL Hydraulic Oil rapidly and completely separates from water, which can easily be drained from the bottom of oil reservoir to keep the oil dry.

##### **Synthetic Solvency**

BioMax EAL Hydraulic Oil's natural solvency cleans up dirty equipment and keeps it clean.

##### **Compatible With Seals**

BioMax EAL Hydraulic Oil has excellent seal compatibility.



		ISO GRADE			
Typical Properties*	Method	22	32	46	68
Density @ g/cm <sup>3</sup>	D4052	0.9131	0.8604	0.867	0.8798
Viscosity	D445				
cSt @ 40°C		22	32	46	68
cSt @ 100°C		4.9	5.95	7.71	10.41
Viscosity Index	D2270	131	126	136	141
Flash Point, °F/°C	D92	460/238	424/218	424/218	434/223
Pour Point, °F/°C	D97	-71/-57	-60/-51	-60/-51	-60/-51
Copper Corrosion Test	D130	1A	1A	1A	1A
Steel Corrosion Test	D665B	No Rust	No Rust	No Rust	No Rust
Elastomer Compatibility	ISO 15380	PASS	PASS	PASS	PASS
Demulsibility Test	D1401	40/40/0 (5)	40/40/0 (10)	42/37/1 (10)	42/37/1 (15)
FZG Gear Test, A/8.3/90	DIN ISO	>12	>12	>12	>12
Biodegradability	OECD 301B	>60	>60	>60	>60

\*Properties are typical and may vary.