

BioMax Gear EAL

ENVIRONMENTALLY ACCEPTABLE GEAR LUBRICANT

Royal Purple's BioMax Gear EAL carries the EU Ecolabel certification identifying it as an environmentally acceptable lubricant, recognized world-wide. This high-performance lubricant is specifically formulated for enclosed gear systems used in environmentally sensitive areas including, but not limited to the applications below. The EU Ecolabel certification of BioMax guarantees superior environmental and technical standards.

Environmentally-friendly lubricants often compromise performance and durability in order to meet biodegradability and toxicity requirements. BioMax Gear EAL provides uncompromised lubrication and protection for all gear box components requiring the use of an Environmentally Acceptable Lubricant. The performance advantage over competing oils is due to BioMax's superior formulation, using the highest quality synthetic base stocks and Royal Purple's proprietary Synerlec® additive technology. This unique, synthetic additive is proven to provide lasting protection and optimized efficiency.



APPLICATIONS

BioMax Gear EAL is perfect for enclosed gear sets operating in:

- Inland waterways, off-shore and blue-water marine equipment
- Wind turbine and other power generation equipment
- Construction and mining mobile and stationary equipment
- Forestry service equipment
- Wastewater treatment facilities

PERFORMANCE ADVANTAGES

- HIGH FILM STRENGTH - Synerlec® additive technology dramatically reduces metal-to-metal contact, friction, and wear
- EXCEPTIONAL CORROSION & RUST PROTECTION - Prevents internal damage to equipment from chemical attack
- SUPERIOR OXIDATION & THERMAL STABILITY - Resists oil degradation and varnish formation for longer oil life
- OUTSTANDING SYSTEM PERFORMANCE - Provides a wide operating temperature range and excellent shear stability
- EXCELLENT DEMULSIBILITY - Rapidly separates from water, allowing free water to be drained from the system
- OUTSTANDING ELASTOMER COMPATIBILITY - Will not harm seals designed for use with lubricating oils

SPECIFICATIONS AND APPROVALS

- EU Ecolabel License No. BE/027/004
- US EPA VGP (2103) and VIDA
- AAA Propulsion (BioMax Gear EAL 100)
- ISO 12925-1
- DIN 51517 Part 1, 2 & 3
- AGMA 9005-F16
- David Brown S1.53.101
- GM LS2 EP Gear Oils
- U.S. Steel 224

Typical Physical Properties							
Property	Test Method	100	150	220	320	460	680
Viscosity @ 40°C, cSt	ASTM D445	100.00	150.00	220.00	320.00	460.00	680.00
Viscosity @ 100°C, cSt	ASTM D445	14.40	19.70	26.30	34.80	46.10	61.60
Viscosity Index	ASTM D2270	146	149	152	153	156	159
Density @15°C, g/ml	ASTM D4052	0.880	0.895	0.908	0.917	0.931	0.945
Demulsibility, ml/ml/ml	ASTM D1401	40/40/0	42/37/1	41/39/0	40/40/0	43/37/0	43/37/0
Copper Corrosion	ASTM D130	1A	1A	1A	1A	1A	1A
Rust Prevention, Dist. Water	ASTM D665A	PASS	PASS	PASS	PASS	PASS	PASS
Rust Prevention, Sea Water	ASTM D665B	PASS	PASS	PASS	PASS	PASS	PASS
Elastomer Compatibility	ISO 6072	PASS	PASS	PASS	PASS	PASS	PASS
Pour Point, °C (°F)	ASTM D97	-39 (-38)	-36 (-33)	-36 (-33)	-33 (-27)	-33 (-27)	-30 (-22)
Flash Point, °C (°F)	ASTM D92	224 (435)	242 (468)	243 (469)	254 (489)	260 (500)	267 (513)
Foam Tendency, Seq. I, II, III	ASTM D892	0/0	0/0	0/0	0/0	0/0	0/0
Four-Ball Wear, mm	ASTM D4172	0.49	0.48	0.50	0.46	0.45	0.45
Four-Ball EP, LWI	ASTM D2783	60.3	60.1	68.8	86.8	85.6	86.4
Four-Ball EP, Weld Load, kg	ASTM D2783	315	315	315	315	315	315
FZG Gear Test, A/8.3/90	ASTM D5182	>12	>12	>12	>12	>12	>12
Biodegradability, % (28 days)	OECD 301B	>60	>60	>60	>60	>60	>60
Toxicity (Algae), mg/L	OECD 201	>1000	>1000	>1000	>1000	>1000	>1000
Toxicity (Daphnia), mg/L	OECD 202	>1000	>1000	>1000	>1000	>1000	>1000
Toxicity (Fish), mg/L	OECD 203	>1000	>1000	>1000	>1000	>1000	>1000
Toxicity (Bacteria), mg/L	OECD 209	>1000	>1000	>1000	>1000	>1000	>1000
Bioaccumulation, log POW	OECD 107	<3	<3	<3	<3	<3	<3

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