TECHNICAL DATA SHEET

# BioMax Stern Tube EAL

## ENVIRONMENTALLY ACCEPTABLE STERN TUBE LUBRICANT

Royal Purple's BioMax Stern Tube Oil is an environmentally acceptable, synthetic, high performance lubricant formulated for stern tube lubrications in marine applications. This product is European Ecolabel approved, meets the US EPA 2013 Vessel General Permit (VGP) guidelines as an Environmentally Acceptable Lubricant (EAL).

BE/027/004

EU Ecolabel www.ecolabel.eu

BioMax Stern Tube Oils are biodegradable, non-emulsifying, non-bioaccumulative, minimally toxicity, provides excellent seals compatibility in preventing leakage, protection for bearings, propeller shaft and stern tube systems at varying operating temperature conditions.

The long life and noncorrosive BioMax Stern Tube Oil greatly increase reliability, efficiency as well as exceptional thermal and oxidative stability at high temperatures in highly corrosive environments. It gains its performance advantage over competing oils through its superior blend of renewable synthetic base oils plus Royal Purple's proprietary Synerlec® additive technology. This unique, synthetic additive technology is proven to prevent bearing failures, corrosion, rust, reduce equipment downtime, provides longevity and energy savings.

### PERFORMANCE ADVANTAGES

- LONGER OIL LIFE - BioMax Stern Tube Oil has outstanding oxidation, thermal and hydrolytic stability with keep clean deposit control agents
- CORROSION PROTECTION - Excellent protection against rust and corrosion in water environment. Protect bearings, stern tube systems and surfaces exposed to seawater
- ELASTOMER COMPATIBILITY- Superior seal protection, elastomers maintain mechanical and physical properties, diminishes rubber degradation which prevents ingress of water and excessive loss of oil.
- NON-EMULSIFYING- Rapidly separates from water, which can easily be drained from the bottom of oil reservoir to keep the oil dry.
- IMPROVED SYSTEM PERFORMANCE - BioMax Stern Tube Oil lowers operating temperatures, improves efficiency, consistent performance in severe and challenging stern tube systems.

### SPECIFICATIONS AND APPROVALS

- EU Ecolabel License No. BE/027/004
- US EPA VGP (2013)
- AEGIR Marine
- KEMEL



Distributed By Calumet Branded Products, LLC | 2780 Waterfront Pkwy. E. Dr., Suite 200 | Indianapolis, IN 46214 | Technical Services: 888-382-6300 | www.royalpurple.com

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| Typical Physical Properties | | | |
|---|---|---|---|
| **Property** | **Test Method** | **100** | **150** |
| **Viscosity @40°C, cSt** | D445 | 100.00 | 150.00 |
| **Viscosity @100°C, cSt** | D445 | 15.2 | 20.6 |
| **Viscosity Index** | D2270 | 158.0 | 159.0 |
| **Density @15°C, g/ml** | D4052 | 0.878 | 0.894 |
| **Demulsibility, ml/ml/ml** | D1401 | 40/40/0 | 42/38/0 |
| **Copper Corrosion** | D130 | 1A | 1A |
| **Rust Test** | D665B | PASS | PASS |
| **Elastomer Compatibility** | ISO 6072 | PASS | PASS |
| **Pour Point, °C/°F** | D97 | -39/-38 | -39/-38 |
| **Flash Point, °C/°F** | D92 | 263/506 | 267/512 |
| **Foam Tendency, Seq II, ml/ml** | D892 | 0/0 | 0/0 |
| **Biodegradability, % (28 days)** | OECD 301B | >60 | >60 |
| **Toxicity (Algae), mg/L** | OECD 201 | >1000 | >1000 |
| **Toxicity (Daphnia), mg/L** | OECD 202 | >1000 | >1000 |
| **Toxicity (Fish), mg/L** | OECD 203 | >1000 | >1000 |
| **Toxicity (Bacteria), mg/L** | OECD 209 | >1000 | >1000 |
| **Bioaccumulation, log POW** | OECD 107 | <3 | <3 |