

Bio-AW Turbine™ R&O Fluids

(ISO 32, 46, 68, 100, 220)

Bio-AW Turbine™ R&O Fluids are readily biodegradable, biosynthetic-blend lubricants formulated to replace mineral oil-based turbine oils in environmentally sensitive applications, especially hydroelectric turbine bearings. These systems typically operate at lower temperatures and are exposed to high moisture or seal leakage. The fluids are engineered to provide anti-wear, anti-rust, anti-oxidation, anti-foam, and demulsibility performance, while offering superior moisture resistance and rust prevention—even in seawater.

Formulated with Stabilized™ High Oleic Base Stocks (HOBS), these fluids deliver synthetic-like multigrade performance with an exceptionally high viscosity index, improved thermal shear stability, low volatility, and enhanced fire safety. A zinc-free additive system enhances load capacity and environmental compatibility, meeting FZG Load Stage 12 and ashless GL-3 gear oil requirements.

Benefits

- Readily biodegradable, non-toxic, and not bioaccumulative
- Excellent rust and corrosion resistance in fresh and seawater (ASTM D-665 A&B – Pass)
- Zinc-free formulation
- Compatible with systems requiring ashless R&O lubricants
- FZG Load Stage 12 – suitable for light reduction gears
- Low volatility with high flash/fire points
- Suitable for air-oilers, air tools, roller chains, water pump bearings, drip systems
- EPA VGP 2013 compliant Environmentally Acceptable Lubricant (EAL)
- LC-50 / EC-50 >1000 ppm (meets EPA and USFWS acute toxicity criteria)

Application / New Filling

- Recommended for use in:
 - Hydroelectric turbine bearings
 - Air-oilers and drip oilers
 - Air tools and water pump bearings
 - Roller chains and light circulating systems
 - Light-duty reduction units (check OEM viscosity requirements)
 - Contact RLI for guidance when converting from mineral oils to bio-based lubricants

Specifications and Approvals

- OECD 301 Readily Biodegradable
- ASTM D 5864
- USDA Bio-preferred
- EPA EAL VGP Compliant (USCG approved)
- Vickers (20VQ, 35VQ-25(M-2950-S), V-104C (ASTM D-2882), I-286-S)
- Dennison (T-5D)
- US Steel (126, 136, 127)

Typical Specifications

| | | | | | |
|---|---------|---------|---------|---------|---------|
| ISO Grade | 32 | 46 | 68 | 100 | 220 |
| VISCOSITIES: | | | | | |
| @100°C., cSt. | 6.9 | 9.67 | 12.5 | 16.6 | 36.0 |
| @40°C., cSt. | 30.87 | 43.8 | 64.1 | 92.1 | 219 |
| Viscosity Index | 184 | 216 | 198 | 196 | 214 |
| Flash Point, COC, °C | 236 | 243 | 270 | 280 | 285 |
| Pour Point, °C | -40 | -40 | -39 | -34 | -20 |
| Copper Corrosion Strip 3hr @ 100°C | 1A | 1A | 1A | 1A | 1A |
| 4 Ball Wear, 1h, 1670 F, 1200 RPM, 40kg | .40 | .40 | .40 | .40 | .40 |
| FZG Test | 12 | 12 | 12 | 12 | 12 |
| Demulsibility (ASTM D-1401) | 40/40/0 | 40/40/0 | 40/40/0 | 40/40/0 | 40/40/0 |
| Foam Sequence I, II, III (ASTM D-892) | 0 | 0 | 0 | 0 | 0 |
| Rust Prevention, (ASTM D-665 A&B) | Pass | Pass | Pass | Pass | Pass |
| Rotary Bomb Oxidation, (min) | 360 | 360 | 360 | 360 | 300 |
| RLI Product Item # | 81700 | 81710 | 81720 | 81730 | 81750 |

US
Steel

(126, 136, 127)

F.O.B: Hartville, Ohio

Availability: 1 Gallon, 5 Gallon Pail, Drum, Totes, Bulk



