

# BIO LUBE WRL

**Overview:** BioLube WRL is a readily biodegradable, zinc-free wire rope lube formulated from renewable basestocks. The high lubricity base oil of BioLube WRL is paired with environmentally friendly additive technologies and tackifier to deliver optimum wear protection, corrosion protection, and enhanced metal adhesion. BioLube WRL DT is a tackifier-free version of the product that cures to a “dry to touch” film within 24 hours.

**Wear Protection:** Abrasive wear occurs inside and outside of wire ropes. Individual strands inside the rope move and rub against one another during normal loading creating internal 2-body abrasive wear. External rope surfaces accumulate dirt and contaminants from sheaves and drums during the spooling process causing 3-body abrasive wear eroding outer wires and strands, reducing rope diameter and resulting in core failure and internal wire breakage. BioLube WRL penetrates into wire ropes providing optimal metal wetting and friction reduction, while the superior solvency of the natural ester base oils cleans external surfaces to remove contaminants and dirt.

**Corrosion & Environmental Protection:** Rope corrosion and oxidation is caused by humidity, fumes, salt air or brines, acids, sulfur and gases which shorten rope life due to metal loss and pitting. BioLube WRL provides superior corrosion management, reducing the accelerated corrosion tied to elevated operating temperatures, delivering an optimal balance between base oil and additive system performance to minimize environmental impact.

**Specifications, Approvals, Recommendations:**

- Classified as an EAL per the EPA's 2013 VGP
- USDA BioPreferred Program (in progress)

Physical Properties	WRL	WRL DT
ISO Grade	46	46
Specific Gravity, ASTM D1298	.91	.91
Viscosity, ASTM D445 @40°C, cSt	46	46
Viscosity, ASTM D445 @100°C, cSt	10	10
Viscosity Index (VI), ASTM D2270	>200	>200
Pour Point, ASTM D97, °F (°C)	-10 (-23)	-22 (-30)
Flash Point, ASTM D92, °F (°C)	>500 (260)	>400 (204)
Copper Corrosion, ASTM D4048	1A	1A
Rust Test, ASTM D665, A & B	PASS	PASS
4 Ball Wear, ASTM D4172, Scar, mm	<0.50	<0.50
Dielectric Breakdown Voltage, ASTM D877, kV	>45	>45
<b>Environmental Stewardship: Meets EPA requirements to be classified as an EAL per the 2013 VGP</b>		
Readily Biodegradable (meaning>60%) OECD 301B, %	PASS 75%	PASS 75%
Minimally Toxic OECD 201 - Algae (EC 50), 72 hr, mg/L OECD 202 - Daphnia (EC 50), 48 hr, mg/L OECD 203 - Fish (LC 50), 96 hr, mg/L	PASS	PASS
Not Bioaccumulative* [*Calculated value as per EPA standard]	PASS	PASS
<b>Additional Environmental Features and Characteristics</b>		
Bio-based Content, ASTM D6866, %	>90	>90

**Applications & Industries:** BioLube WRL is suitable for use as a wire rope lubricant on the many wire rope configurations currently deployed market-wide. BioLube WRL is the perfect choice for lubrication of wire ropes where a release into the environment is possible, or where a leak or spill could reach a waste stream.

