



# Renewable Lubricants, Inc.

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## **Bio-High Temp™ 180 E.P. Grease**

NLGI #2 (Multipurpose Lithium Complex)



### *"Biobased Lubricants that Perform Like Synthetics"*

This High Temperature Biobased grease is a state-of-the-art product, which is characterized by its super high viscosity index base oil and lithium complex thicker. It is specially formulated to provide maximum protection for marine shipboard equipment affected by the United States Environmental Protection Agency's (EPA) 2013 Vessel General Permit (VGP). The super high viscosity index of the Stabilize\* HOBS naturally improves the thermal shear stability and load capacity. This very high load carrying ability, excellent resistance to water, corrosion, and an outstanding performance in a wide temperature range makes it a high performance premium grease. It contains no heavy metals or other harmful or environmentally undesirable additives, such as chlorine, barium or lead. The Extreme Pressure performance is supported by an environmentally friendly E.P. additive and the total formulation is Ultimately Biodegradable<sup>1</sup>. The data below shows that this product is truly an outstanding multipurpose lithium complex grease with excellent high temperature properties, good cold temperature mobility, and meets and exceeds the performance requirements of ASTM D-4950 (NLGI GC/LB).

**Applications:** Marine, mining, forestry, transportation, agricultural, industrial, construction, including: conveyors, journal bearings, electric motors, and pumps can all benefit from its long lasting protection.

- Bio-High Temp™ 180 EP Grease meets the Environmental Protection Agency (EPA) 2013 Vessel General Permit (VGP) guidelines for Environmentally Acceptable Lubricants (EALs), and should be used where **LOW TOXICITY, BIODEGRADABILITY** and **NON-BIOACCUMULATION** properties are required. Meets the acute toxicity (LC-50 / EC-50 >1000 ppm) criteria adopted by the US Fish and Wildlife Service and the US EPA.
- Provides significant protection in automotive, industrial and agricultural wheel bearing applications where temperatures can be high due to heat from disc brakes
- Excellent for chassis lubrication because of superior low temperature properties, shear stability, and water resistance
- Preferred grease for lubrication of antifriction bearings

#### **Typical Specifications:**

Base Oil- Viscosity @ 40°C cSt	179
Viscosity @ 100°C cSt	26
Viscosity Index	180
Pour Point	-36°C
Color	Green
Texture	Smooth, Tacky
Drop Point F (C) D-566	>590°F (>310°C)
Bomb Oxidation, 100 h. D-942	5.0 psi
4-Ball Wear D-2266	0.428 mm
4-Ball EP D-2596	Weld 315, LWI 44
Low Temp Performance, Torque at -40 C D-4693	0.04 Max, 6.39 at 60 sec
High Temperature Life D-3527	100 hrs.
Leakage Tendencies D-4290	7.4 g
Timken OK Load D-2509	60 lbs
Pen, @ 25°C Unwkd D-217	274 mm/10
Pen, Wkd 60 strokes	284 mm/10
Pen, Wkd 10,000 strokes change from 60 strokes	280 mm/10 (-4)
Pen, Wkd 100,000 strokes change from 60 strokes	293 mm/10
Roll Stability D-1831	-4.00%
Cone Bleed D-6184	4.94% Loss
Water Washout D-1264 (Avg.)	5.00% Loss
Evaporation D-6184	0.52% Loss
Oil Separation D-1742	1.1% Loss
Rust Test D-1743	Pass
Copper Corrosion D-130	1A



#### <sup>1</sup> Ultimate Biodegradation (Pw1) within 28 days in ASTM D-5864 Aerobic Aquatic Biodegradation of Lubricants

\*STABILIZED by Renewable Lubricants is RLI's trademark on their proprietary and patented anti-oxidant, anti-wear, and cold flow technology. High Oleic Base Stock (HOBS) are agricultural vegetable oils. This Stabilized technology allows the HOBS to perform as a high performance formula in high and low temperature applications, reducing oil thickening and deposits. Patented Product: US Patent 6,383,992, US Patent 6,534,454 with additional Pending and Foreign Patents  
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<b>Availability</b>	<b>F.O.B. :Manufacturer</b>	<b>14 oz. Tube</b>	<b>35 lb Pail</b>	<b>120 lb Keg</b>	<b>400 lb Drum</b>
RLI Product Item #		87611	87614	87615	87616