



Renewable Lubricants, Inc.

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Bio-E.P.™ Graphite Grease

NLGI #2



"Biobased Lubricants that Perform Like Synthetics"

Bio-E.P.™ Graphite Greases NLGI#2 and #1 are biobased, Extreme Pressure (EP) greases specially formulated for sliding surfaces and applications where extreme pressure exceeds the fluid film. The super high viscosity index of the Stabilized* HOBS naturally improves the thermal shear stability and load carrying capacity. These products provide exceptional EP performance where a solid film lubricant is required. In addition, they provide good anti-rust, anti-oxidation, and anti-wear protection. Their specially designed low-toxic, tacky lithium thickener and calcium enhanced additive technology system provides for improved water resistance, corrosion protection, mechanical stability and excellent pumpability in low temperature for automatic lubricating equipment. They contain no heavy metals or chlorine and are Ultimately/Readily Biodegradable¹. (**Bio-E.P.™ Graphite Greases NLGI#1&2 are the best responsible environmental choice for replacing Cat. spec. 3% to 5% Moly EP Grease recommended in most heavy construction, mining, agriculture, and forestry equipment**). **Bio-E.P.™ Graphite Greases NLGI#1-provides the best pumpability performance in cold temperature and is highly recommended for** railroad tracks, gage faces, wheel flanges on locomotive and automatic lubrication systems.

Application:

Bio-E.P.™ Graphite Grease NLGI#1-2 are specifically designed for lubrication of sliding surfaces, slow moving journal, and roller, bearings continually reversing under load in one direction and then another and where a hydrodynamic lubricating fluid film cannot be developed. Sliding surface examples include: railroad tracks, gage faces, wheel flanges on locomotive and railroad cars, curved railroad tracks, chains, cables, hinge pins, bushing, Truck fifth wheels, slideways kingpins, and chassis, NLGI Classification LB.

Typical Specifications:

	<u>NLGI 2</u>	<u>NLGI 1</u>
Grade	Black	Black
Color	Smooth & tacky	Smooth & tacky
Texture	Lithium	Lithium
Thickener Type	5.0%	5.0%
Graphite percent	265-295	310-340
Penetration Worked ASTM D-217	43	43
Base Oil Viscosity @ 40°C, cSt ASTM D-445	10.4	10.4
Viscosity @ 100°C, cSt ASTM D-445	-31°C	-31°C
Pour Point ASTM D-97	242	242
Viscosity Index ASTM D-2270	0.40 - 0.50 mm	0.40 - 0.50 mm
4-Ball Wear ASTM D-2266	Weld 500 kg / LWI 55	Weld 500 kg /LWI55
4-Ball EP ASTM D-2596	60 lb.	55 lb
Timken OK Load ASTM D-2509	355 °F	350 °F
Dropping Point ASTM D-2265	Pass	Pass
Rust Test ASTM D-1743	>60% retained	60% retained
Water Spray off ASTM D 4049		
Product Item #	87670	87680

Bio-E.P.™ Graphite Grease NLGI#1&2 meet 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. They exceed the acute toxicity (LC-50 / EC-50 >1000 ppm/1000 mg/Lt) criteria adopted by the US Fish and Wildlife Service and the US EPA. Bio-E.P.™ Graphite Greases NLGI#2 and #1 are **ENVIRONMENTALLY RESPONSIBLE** Greases that are formulated from renewable agricultural biobased resources. We believe Earth's environmental future rests in the use of renewable materials.

¹ Based on previous ASTM D-5864 studies and ASTMD-7373 Calculations, Bio-E.P.™ Graphite Grease NLGI#1&2

are **Ultimate/Readily Biodegradable >60% within 28 days in 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 biobased oils. This Patented Stabilized Technology allows the HOBS to perform as a high-performance formula in high and low temperature applications, reducing oil thickening and deposits.

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<u>Availability</u>	<u>F.O.B. :Manufacturer</u>	<u>14 oz. Tubes</u>	<u>35 lb Pails</u>	<u>120 lb Kegs</u>	<u>400 lb Drums</u>
RLI Product Item #		876841	87684	87685	87686