



Renewable Lubricants, Inc.

476 Griggy Rd., P.O. Box 474
 Hartville, Ohio 44632-0474
 Voice: 330.877.9982 Fax 330.877.2266
 Web: www.renewablelube.com

Bio-SynXtra™ Heavy Duty 460 E.P. Grease NLGI #2



"Biobased Lubricants that Perform Like Synthetics"

This Biodegradable, Biobased grease is a state-of-the-art EAL product, which is characterized by its heavy viscosity bio-synthetic base oil and lithium thicker. It is a specially formulated Environmentally Acceptable Lubricant (EAL) with a heavy synthetic ester base oil to provide maximum protection for marine shipboard equipment affected by the United States Environmental Protection Agency's (EPA) 2013 Vessel General Permit (VGP) and for other environmentally sensitive areas. The heavy viscosity of the Stabilize bio-synthetic ester base oil naturally improves the thermal shear stability and improves 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 heavy duty 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 Environmentally Acceptable additives and the total formulation is Ultimately Biodegradable¹. The data below shows that this product is truly an outstanding Heavy-Duty EP lithium grease providing excellent Extreme Pressure properties, good mobility, and meets and exceeds the performance requirements of ASTM D-4950 (NLGI LB) for heavy equipment chassis.

Applications: Bio-SynXtra Heavy Duty 460 EP Grease simply adds a **heavier cushioning fluid film** between metal to metal surfaces under heavier loads or in large equipment where close tolerances and high speeds are not a concern or where a multipurpose grease is not heavy duty enough for the application, such heavy **Applications** may be found on larger heavy equipment used in: Marine, Mining, Forestry, heavy Transportation, Agricultural, Industrial, Oil Drilling, and Construction Equipment, **including more specific Applications:** Heavy/Large journal, roller, and ball bearings and open gears, in paper mills, saw mills, steel mills, Bridge Bearings, Railroad Bearings, Marine Stern Tube and Rudder Bearings, Controllable Pitch Propellers and Thruster Bearings, **Other oil-to-sea interfaces,** Mechanical equipment subject to immersion (e.g. dredges, grabs, etc.) turn tables, and Large Heavy bearings in slow moving conveyors, can all benefit from its Heavy Duty Ultimately Biodegradable¹ protection. In addition, **sliding surfaces:** fifth wheels, hinge pins, chain guides, ways, and wire ropes, etc. are typical sliding surface applications that can also benefit from the use of **Bio-SynXtra Heavy Duty 460 EP Grease, or where a (Totally Lost Lubricant) Grease is required by the EPA VGP.**

- **Bio-SynXtra Heavy Duty 460 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 (**Totally Lost Lubricant**) requirement.

Typical Specifications:	NLGI 2
Base Oil- Viscosity @ 40°C cSt	458.3
Viscosity @ 100°C cSt	29.25
Viscosity Index	91
Pour Point	-°C
Color	Blue
Texture	Smooth, Tacky
Drop Point, minimum F (C) D-566	388°F (200°C)
4-Ball Wear D-2266	0.38 mm
4-Ball EP D-2596 (weld kg)	400
Timken OK Load D-2509	70 lbs
Pen, @ 25°C Unwkd D-217	274 mm/10
Pen, Wkd 60 strokes	278 mm
Pen, Wkd 10,000 strokes change from 60 strokes	280 mm/10 (-4)
Roll Stability D-1831	1%
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	1B

¹ **Ultimate/Readily Biodegradation (Pw1) >60% 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 base oils. Patented 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
 ™Trademark of Renewable Lubricants, Inc. Copyright 1999 Renewable Lubricants, Inc.

Availability	F.O.B. :Manufacturer	14 oz. Tube	35 lb Pail	120 lb Keg	400 lb Drum
	RLI Product Item #	87641	87644	87645	87646