

Renewable Lubricants, Inc.

Distributed By: DM's Bio-Based Fluid Supply Inc. 10 McEwan Dr. W, Unit 4B Bolton, ON, Canada L7E 1H1

Voice: 905.951.1100 Fax: 905.951.2100

Bio-Heavy Duty™ Cutting Oil



"Bio-based Lubricants that Perform Like Synthetics"

A heavy duty, ultimately biodegradable¹, vegetable based, cutting oil which provides excellent performance in a wide variety of machining operations on tough ferrous alloys as well as mild steel and cast iron. These operations include: milling, drilling, turning, grinding, light and medium duty broaching, and thread cutting and tapping. This product replaces the use of products that contain chlorinated paraffin additives.

Performance is enhanced by use of the Stabilized HOBS's, natural fatty acid composition, which provides cutting tool wetting and oiliness; combined with sulfur/phosphorous EP and antiwear technology. The super high viscosity index of the Stabilized HOBS adds additional lubrication qualities to this high performance lubricant.

Bio-Heavy DutyTM Cutting Oil is an <u>ENVIRONMENTALLY RESPONSIBLE</u> cutting oil that is formulated from renewable agricultural plant resources. We believe Earth's environmental future rests in the use of renewable materials.

Typical Specifications	
SAE Grade	<u>30</u>
ISO Grade	46
Pounds/Gallon @ 60°F.	7.39
Specific Gravity @60°F.	0.887
VISCOSITIES:	
@100°C., cSt.	9.63
@40°C., cSt.	45.7
Viscosity Index	202
Flash Point, COC, ^o C.	250
Pour Point, ^o C.	-18
Copper Corrosion ASTM D-130	1-B
Rust Prevention ASTM D-665	
A (Distilled Water)	No Rust
B (Synthetic Sea Water)	No Rust
Tapping Test	
304 Stainless Steel, % Efficiency	125
1020 HR Steel, % Efficiency	120
Falex EP Test, (Fail load lbs.)	4250

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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¹ Ultimate Biodegradation (Pw1) within 28 days in ASTM D-5864 Aerobic Aquatic Biodegradation of Lubricants

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