Renewable Lubricants, Inc.
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Bio-Syntra™ LM Cutting/Honing Oil

STABILIZED™ by Renewable Lubricants

"Biobased Lubricants that Perform Like Synthetics"

Bio-Syntra™ LM (light to medium) Cutting/Honing Oil is an ultimately biodegradable[1], biobased lubricant designed for honing, lapping, and *light to medium* duty cutting operations where lighter viscosity oils are required. It is non-staining to yellow metals and may be used for machining both ferrous and non-ferrous metal alloys. Performance is enhanced by use of the patented Stabilized™ HOBS's, natural fatty acid composition, which provides cutting tool wetting and oiliness; combined with excellent extreme pressure and antiwear technology. The super high viscosity index of the Stabilized HOBS adds additional load carrying and lubricity properties for many metal working applications. Applications may include: milling, drilling, turning, grinding, honing, broaching, thread cutting, and tapping *(match viscosity and EP performance below to equipment and application requirements*). Its color can be classified as transparent, which permits viewing the cutting operations while in process and it is formulated to reduce smoke and mist. This biobased product does not contain active sulfur, chlorine, zinc, phosphorus, silicon, or heavy metals, and does not produce an abrasive odor.

Bio-Syntra™ LM Cutting/Honing Oil's extreme pressure properties can be increased by the addition of Bio-SynXtra™ MW Oils (see data sheet for Bio-Syntra and Bio-SynXtra products). The performance and flexibility of these compatible products helps in reducing inventory and lowering cost. They provide the most advanced technology in today's metalworking.

The advantages are many: biodegradable, renewable, low toxicity, no hazardous volatile organic compounds (VOC), more fire resistant, safer, EPA and ISO 14000 compliant, reduces foreign oil, and helps secure the American Economy, OSHA and worker acceptance is high with biobased oils.

Bio-Syntra™ LM Cutting/Honing Oil is an ENVIRONMENTALLY RESPONSIBLE product that is formulated from renewable agricultural plant resources. We believe Earth's environmental future rests in the use of renewable materials.

Typical Specifications

Specific Gravity @60^{O}F.	90
VISCOSITIES:@ 100^{O}C., cSt.	5.3
@40^{O}C., cSt.	20.4
Viscosity Index	214
Flash Point, COC ^{O}C	190
Pour Point, ^{O}C	-12
Copper Corrosion ASTM D-130	1B
Rust Prevention ASTM D-665	No Rust
4-Ball Wear ASTM D-4172 (mm)	.40 to.50
4-Ball EP Weld Pt. ASTM D-2783 (kg)	400
Load Wear Index	52

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.

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

Patented Product: US Patent 6,383,992, US Patent 6,534,454, Patent 6,624,124, US Patent 6,620,772 with additional Pending and Foreign Patents

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Availability **F.O.B. :Hartville, Ohio, USA** **5 Gallon Pails** **Drums** **Bulk**