



# Renewable Lubricants, Inc.

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## **Bio-Aluminum™ Cutting Oil 4 cSt – 18 cSt (Food Grade)**



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

A specially formulated, ultimately biodegradable<sup>1</sup> aluminum cutting oil that replaces light petroleum solvents. This biobased and Food Grade<sup>2</sup> product provides improved drilling, tapping, and cutting of hard to work with soft aluminum and prevents the material from sticking to the tool. It may also be used on other non-ferrous metal alloys. Performance is enhanced by use of the natural fatty acid composition which provides cutting tool wetting and oiliness. The product provides low odor and is non-staining to aluminum and yellow metals.

Bio-Aluminum™ Cutting Oil is formulated without regulated volatile organic compounds (VOCs) and EPA, OSHA, and worker acceptance is high with biobased products. Components in this formulation are not regulated as volatile organic compounds (VOCs) by the California Air Resources (CARB). The product is not classified as combustible under DOT regulations. Because of the high flash, the product is also safer than petroleum solvents with comparative viscosity range (more fire resistant). The advantages are many: biodegradable, renewable, low toxicity, low volatility, (Safer) helps secure the American Economy, and multi-performance.

#### **Typical Data**

		<b>4 cSt</b>	<b>18 cSt</b>
Specific Gravity @60°F.	ASTM D-287	.85	.89
Viscosity @40°C., cSt.	ASTM D-445	3.5	18.27
Flash Point, PMCC	ASTM D-92	230°F, 110 °C	360°F, 182 °C
Pour Point	ASTM D-5985	-5°C	-5°C
Copper Corrosion Strip 3hr @ 100 °C	ASTM D-130	1 A	1 A
Foam Sequence I, II, III (10 min)	ASTM D-1401	0 Foam	0 Foam
Four Ball Wear	ASTM D-2266	.40	.40

***RLI can modify the above products by adjusting viscosities between 4 cSt to 50 cSt at 40°C, increasing corrosion inhibitors, and improving cold temperature performance.***

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.

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

<sup>2</sup> Base oils and additives in this product are listed in 21 CFR 178.3570, Lubricants for incidental food contact (USDA H-1). Full compliance with other applicable restrictions of FDA, USDA, oil spill, and oil pollution prevention statutes is recommended.

Patented Product with Pending and Foreign Patents

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**Availability   F.O.B. :Hartville, Ohio, USA   1 Gallon   5 Gallon Pails   Drums   Bulk**