



Lab & Biodegradable Info

Lab Introduction

RLI's laboratory is world renowned as a leader in R&D of Biobased/Biodegradable Lubricant Technology. Many companies have required RLI's biobased research and development expertise and application knowledge.

RLI's lab has been under R&D contracts and worked with companies and government organizations including: Battelle Memorial Institute, Chevron Phillips Chemical, United Soybean Board, Ohio Soybean Council, Dow AgroSciences, Lubrizol, USDA, DOD, and CTC, to name a few. RLI's laboratory was chosen to participate in ASTM's Round Robin studies for Cannon Instruments.

[To view Physical Properties and ASTM Lubricant Bench Testing & Costs in Adobe](#)

[To view Biodegradability and Environmental Lab Testing & Costs in Adobe](#)

Let Renewable Lubricants, Inc. support your biobased and biodegradable product program through biodegradability testing. RLI's laboratory is fully equipped to run standard biodegradability and toxicological tests.



Please take advantage of RLI's biobased materials and testing expertise. Call us for a free consultation for choosing the right test for your product. We can run your biodegradability test quickly and professionally. RLI can also run other related standardized tests or work with you and customize to test for your specific application.

[To view Understanding Biobased/Biodegradable and the Industry's Standardized Tests and Definitions in Adobe](#)

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Renewable Lubricants Environmental Testing Lab

ASTM D-5864 Standard Test Method for Determining Aerobic Aquatic Biodegradation of Lubricants

Shown is the biodegradation section of RLI's environmental lab. This setup is capable of measuring the biodegradability of six sample formulations in triplicate along with a vegetable oil control and blank over a 28 day period. Biodegradability is determined by the metabolism of the sample oils into carbon dioxide by microorganisms.

ASTM D-6046 Environmental Impact Classification of Lubricant Tests Also available:

- OECD 201 Alga, Growth Inhibition Test
- OECD 202 Daphnia, Immobilization and Reproduction Test
- OECD 203 Fish, Acute Toxicity Test

RLI Turfgrass Toxicological Test

The RLI Turfgrass Toxicological Test is a toxicological test designed by RLI to mimic both a half gallon and a one gallon spill of hydraulic fluid on a 25 square foot grassy area. This test compares the toxicity of biobased formulations with petroleum formulation on creeping bentgrass (golf course greens) in small 36 sq. in test plots under controlled growth conditions.



The front four test plots showing the burnt bentgrass are the result of petroleum hydraulic spills. The petroleum oils in these plots burned the grass within 24 hours. The remaining plots are spills of RLI's biobased hydraulic formulations, pure vegetable oil, and blank test controls. There was no noticeable difference in plant health between equal spill volumes of RLI's biobased hydraulic

formulations
and pure
vegetable oil.

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