



## Accredited Laboratory

A2LA has accredited

**MICROBAC LABORATORIES, INC**

Newton, IA

for technical competence in the field of

**Chemical Testing**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



Presented this 7<sup>th</sup> day of October 2025.

A blue ink signature of Mr. Trace McInturff.

Mr. Trace McInturff, Vice President, Accreditation Services  
For the Accreditation Council  
Certificate Number 7713.01  
Valid to May 31, 2026

*For the tests to which this accreditation applies, please refer to the laboratory's Chemical Scope of Accreditation.*



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

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CHEMICAL

Valid To: May 31, 2026

Certificate Number: 7713.01

In recognition of the successful completion of the A2LA evaluation process, accreditation is granted to this laboratory to perform the following tests using the testing technologies identified below:

| <u>Parameter/Analyte(s)</u>          | <u>Test Method(s)</u>   | <u>Matrix(ces)</u>                        | <u>Technology</u>                              |
|--------------------------------------|-------------------------|-------------------------------------------|------------------------------------------------|
| Aldehydes                            | ISO 22241-2 F           | Diesel Exhaust Fluid                      | Spectrophotometer                              |
| Alkalinity                           | ISO 22241-2 D           | Diesel Exhaust Fluid                      | Titrimetric                                    |
| Ash                                  | ASTM D482               | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Muffle Furnace                                 |
| Biodiesel Concentration              | ASTM D7371              | Diesel/Oil/Bioblends                      | Fourier Transform Infrared spectroscopy (FTIR) |
| Biuret                               | ISO 22241-2 E           | Diesel Exhaust Fluid                      | Spectrophotometer                              |
| BTU/Combustion                       | ASTM D240               | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Bomb Calorimeter                               |
| Carbon Residue<br>10% Ramsbottom     | ASTM D524               | Diesel/Oil/Bioblends                      | Carbon Res Furnace                             |
| Carbon, Hydrogen, and<br>Nitrogen    | ASTM D5291              | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | CHN Combustion Analyzer                        |
| Cetane Index                         | ASTM D976<br>ASTM D4737 | Diesel/Oil/Bioblends                      | Calculation                                    |
| Cold Filter Plugging Point<br>(CFPP) | ASTM D6371              | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | CFPP Analyzer                                  |
| Cloud Point                          | ASTM D2500              | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Cold Bath                                      |
| Copper Corrosion                     | ASTM D130               | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Hot Block                                      |
| Density                              | ISO 12185               | Diesel Exhaust Fluid                      | Digital Densitometer                           |
| Density/API                          | ASTM 4052               | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Digital Densitometer                           |
| Distillation                         | ASTM D86                | Diesel/Oil/Bioblends                      | Auto distillation                              |
| Flash Point                          | ASTM D93<br>ASTM D7094  | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Flash Point Test                               |
| High Temp Stability                  | ASTM D648               | Diesel/Oil/Bioblends                      | Photovolt Reflectance Meter                    |

| <b><u>Parameter/Analyte(s)</u></b>                            | <b><u>Test Method(s)</u></b>        | <b><u>Matrix(ces)</u></b>                 | <b><u>Technology</u></b>               |
|---------------------------------------------------------------|-------------------------------------|-------------------------------------------|----------------------------------------|
| ICP Metals<br>Al, Ca, Cr, Cu, Fe, K, Mg,<br>Na, Ni, P, and Zn | ISO 22241-2 I                       | Diesel Exhaust Fluid                      | Inductively Coupled Plasma<br>(ICP)    |
| Identity                                                      | ISO 22241-2 J                       | Diesel Exhaust Fluid                      | FTIR                                   |
| Oxidation Stability                                           | ASTM D7545                          | Diesel/Oil/Bioblends                      | PetroOxy Tester                        |
| Particle Count                                                | ASTM D7619<br>ISO 4406              | Diesel/Oil/Bioblends                      | Laser Counter                          |
| Phosphate                                                     | ISO 22241-2 H                       | Diesel Exhaust Fluid                      | Spectrophotometer                      |
| Pour Point                                                    | ASTM D97                            | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Cold Bath                              |
| Refractive Index                                              | ISO 22241-2 C                       | Diesel Exhaust Fluid                      | Refractometer                          |
| Soluble Matter                                                | ISO 22241-2 G                       | Diesel Exhaust Fluid                      | Filtration                             |
| Sulfur                                                        | ASTM D5453                          | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Combustion Analyzer                    |
| Urea                                                          | ISO 22241-2 B<br>ISO 22241-2 C      | Diesel Exhaust Fluid                      | CHN Combustion Analyzer<br>Calculation |
| Viscosity                                                     | ASTM D445                           | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Water bath/Glass<br>Viscometer         |
| Visual Inspection                                             | ASTM D4176<br>ASTM D4176 (Modified) | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | ASTM Bar Chart                         |
| Water & Sediment                                              | ASTM D2709                          | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Centrifuge                             |
| Water by Karl Fischer                                         | ASTM D6304                          | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Coulometric Titration                  |

#### BIOLOGICAL

| <b><u>Parameter/Analyte(s)</u></b> | <b><u>Test Method</u></b> | <b><u>Matrix(ces)</u></b>                 | <b><u>Technology</u></b> |
|------------------------------------|---------------------------|-------------------------------------------|--------------------------|
| Bacteria/Mold & Yeast              | ASTM D6469                | Diesel/Oil/Bioblends<br>Biodiesel (B-100) | Dipslide                 |