



Trusted Technical Expertise.

Fuel Testing Services



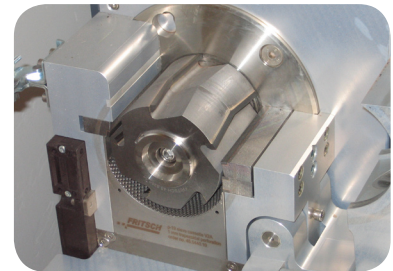
LECO TruSpec CHNS Analyzer with Oxygen Module

Alternative fuels are a critical component in the quest for energy independence. Once considered waste products, alternative fuels are now valuable fuel resources. Columbia Analytical has experienced chemists and state-of-the-art equipment to support the growing demand for testing of alternative fuels.

Our Tucson Laboratory has offered micro-elemental analyses (CHN, oxygen, sulfur, metals, and halogens) and solid fuel testing services since 1980. Our clients are industries, such as, biotech, pulp and paper, chemical, and power companies; consulting engineers; and top government and university research laboratories.

In addition, the Tucson facility provides analyses for a wide variety of biomass materials to show compliance for air permits, MACT Boiler Rules and Greenhouse Gas regulations. Samples include those from all phases of the conversion of biomass to energy: the source materials, process samples, end product and residual materials after the fuel is spent. Examples include:

- Oils from pyrolysis and materials like algae
- Municipal waste
- Tire-derived fuels
- Waste chemicals
- Biological liquids and sludges
- Coal



Knife Mill

The diverse conversion research projects we have supported range from waste to ethanol and algae to jet fuel .

The right sample preparation equipment, such as our German made Fritsch P19 Knife Mill with tungsten carbide cutting edges (named Das Piranha), offers homogenization of bulk fuels to a fine powder that is free of metals. This sample preparation process is critical in providing our clients with accurate and precise analytical results.



Metals free, powdered bark sample after ground with Knife Mill

Columbia Analytical's LECO TGA701 thermo-gravimetric analyzer for automated Proximate analyses (Moisture, Ash, Volatile Matter, Fixed Carbon, and Ash) and LECO AC600 semi-automated calorimeter for heating value (BTU) determinations offer accuracy, precision and speed of analysis.

For more information contact our Tucson Laboratory at 520.573.1061 or visit our website at www.caslab.com



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