



RADIOCARBON DATING SERVICES FOR BIO-BASED MATERIALS

The US EPA incentivizes the use of renewable fuels, requiring our renewable-producing customers to participate in a credit trading program.

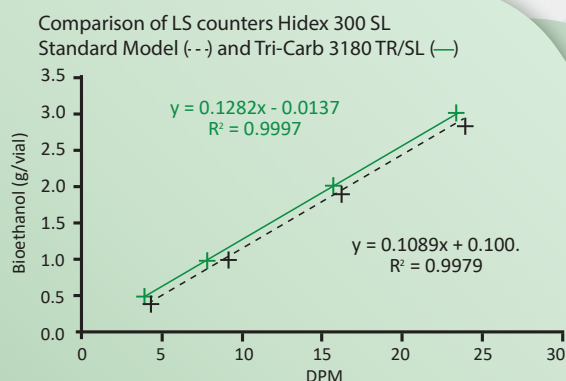
Conventional refineries can generate credits through the co-processing of biomass feedstocks with conventional crude feedstocks and produce the following Renewable Products:

- + Renewable Diesel
- + Renewable Gasoline & Blendstocks
- + Sustainable Aviation Fuel (SAF)
- + Carbon Dating (C14)
- + Ethanol
- + Feedstock Testing
- + LPG & Specialty Chemicals
- + Biofuels

RADIOCARBON DATING

ASTM D6866 measures the amount of the C14 molecule within a renewable fuel sample.

- + A new method for identification was needed because these co-processed materials have identical chemical structures and physical properties as traditional petroleum materials.
- + Crude feedstocks are fossil fuels, aged to a point where the radiocarbon isotopes (C14) are no longer detected.
- + Renewable feedstocks are recently materialized biocomponents and contain an abundance of C14 isotopes.
- + ASTM D6866 measures the percent of modern carbon (pMC) and determines the biogenic and biobased content of renewable materials.



Analysis of the ¹⁴C content from bioethanol with direct LSC measurement

FUELS SUITABLE FOR RADIOCARBON DATING - ASTM D6866

- + Bio-ethanol
- + Renewable diesel
- + Synthetic biodiesel / FAME (Fatty Acid Methyl Ester)
- + Hydrotreated vegetable oil (HVO)





AMSPEC INVESTING IN THE FUTURE OF FUEL

HIDEX 300/600 SL AUTOMATIC LIQUID SCINTILLATION COUNTERS

Hidex LS counters with three photomultiplier tube (PMT) detectors are suitable for bio-content determination in various sample materials. Modern design, small size, and easy installation make Hidex 300 SL suitable for any laboratory. For high throughput needs, the Hidex 600 SL offers an effective option with technology similar to the 300 SL series. The low level models with active guard meet international standards criteria for LS counters.

Performance parameters set for the LSC

	Criteria ASTM	Hidex
	D6866-12	300/600 SL
Bkg	< 5 DPM	< 4 DPM
Efficiency	> 60%	> 85%
FOM (Eff ² /Bkg)	> 1000	> 2000

WHY AMSPEC?

AmSpec offers high-quality radiocarbon analysis with a fast turnaround time. Our average turnaround time is 48 to 72 hours. Our experts will work with clients to develop the most suitable sample preparation and analysis methods that produce reliable results.

AmSpec's state-of-the-art facilities offer a full spectrum of analytical services. Our laboratories are located throughout the country. We can assist clients with product sampling, collection, transportation, analysis, and data certification, making it a convenient and worry-free process.

AmSpec has a long history of working with large upstream and downstream operators and a rigorous product assurance program. We are well-situated to support major capital projects and commercial operations.



CONTACT US TODAY TO LEARN MORE

✉ Email: ContactUs@amspecgroup.com

☎ Phone: +1 713-330-1000

