

New! EnSight™ Biodiesel Analyzer

Monitor your reaction, determine total glycerin, and profile feedstock oils with a single instrument!

- **Faster and more reproducible than traditional GC methods**
- **Minimal sample prep required**
- **More versatile than other technologies**
- **Analyze difficult impurities like sterol glucosides**

The EnSight™ Biodiesel Analyzer is a high performance liquid chromatograph (HPLC) with an advanced evaporative light scattering detector (ELSD). Unlike traditional gas chromatography (GC) methods, our unique HPLC methods do not require complicated and time-consuming sample preparation. The result is faster, more reproducible methods that allow direct quantitation of all compounds.

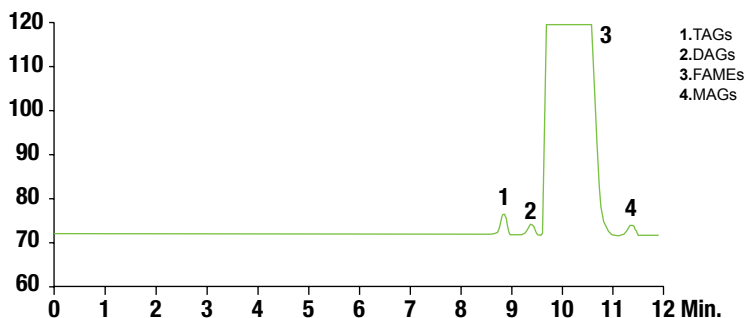


Determine total glycerin in less than 12 minutes!

Our unique method separates mono-, di-, and tri-glycerides as single peaks for each compound class, making quantification easy. Sample prep consists of a simple dilution – no derivatization necessary.

Synthetic Biodiesel Total Glycerin = 0.052%

Column: EnSep™ BD, 250 x 4.6mm (x3)
Mobile Phase: Ethyl Acetate:Methanol (85:15)
Flow Rate: 0.8mL/min
Column Temp: 40°C
Detector: ELSD



www.GraceBiofuels.com

02/2008, M257

Grace Davison Biofuel Technologies Regional Headquarters:

North America:

W.R. Grace & Co. – Conn.
 7500 Grace Drive
 Columbia, Maryland 21044 USA
 TEL +1 410.531.4000
 NA TOLL FREE +1 800.638.6014
 FAX +1 410.531.4273

Europe:

Grace GmbH & Co. KG
 In der Hollerhecke 1
 67545 Worms/Germany
 TEL +49.6241.403.0
 FAX +49.6241.403.211

Asia:

W. R. Grace (Hong Kong) Ltd.
 Shanghai Rep. Office
 1010 Huai Hai Zhong Road
 19th Floor K Wah Centre
 Shanghai, 200031, China
 TEL +86.21.5467.4678

South America:

Grace Brasil Ltda.
 Rua Albion, 229-10o. – cj.101
 Lapa – São Paulo – SP – Brasil
 05077-130
 TEL +55.11.3649.2704
 FAX +55.11.3649.2706

Monitor your reaction

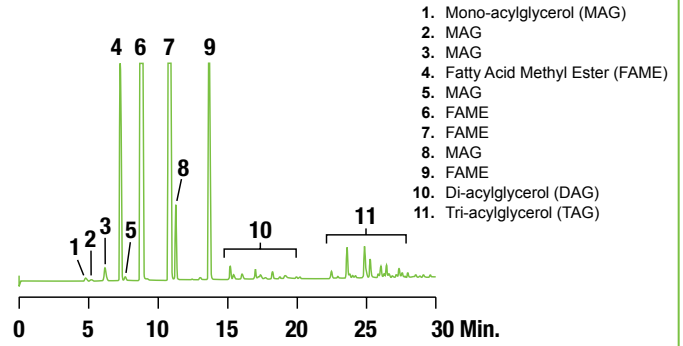
The concentrations of mono-, di-, and tri-acylglycerols are the key parameters in monitoring the transesterification reaction by which biodiesel is produced. Excess MAGs and DAGs, and unreacted TAGs can cause severe engine problems, so it is important to have accurate analytical methods to monitor the reaction and quantify contaminants to low levels.

Column: Alltech® Alltima™ HP C18 Hi-Load, 5µm, 250 x 4.6mm
Mobile Phase: A: Acetonitrile B: Dichloromethane
Gradient:

Time:	0	5	30	32	35
%B:	0	15	70	70	0

Flow Rate: 1.0 mL/min
Column Temp: Ambient
Detector: ELSD

Biodiesel in Specification with ASTM and EN Standards



Profile feedstock oils

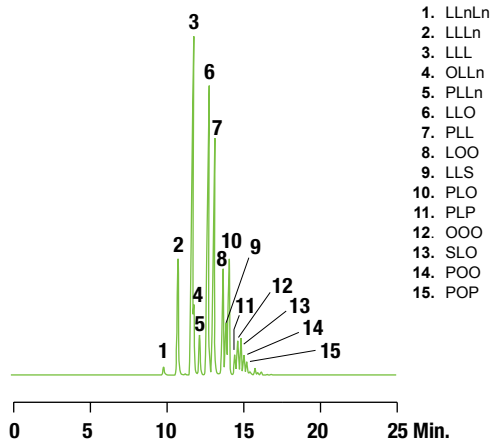
All vegetable oils and fats have a unique fingerprint of triglycerides, which can be used to determine purity and origin of feedstocks. This method allows the producer to confirm the feedstock oil type or determine if the oil has been adulterated.

Column: Alltech® Alltima™ HP C18 Hi-Load, 5µm, 250 x 4.6mm
Mobile Phase: A: Acetonitrile B: Dichloromethane
Gradient:

Time:	0	20	25	30	35
%B:	30	70	70	30	30

Flow Rate: 1.0 mL/min
Column Temp: Ambient
Detector: ELSD

Triacylglycerol Distribution in Soy Oil



High Performance, Yet Easy To Use

The EnSight™ Biodiesel Analyzer is a fully integrated HPLC system consisting of a binary pump, column heater, injector, ELSD, and laptop computer with EZStart™ chromatography data collection software. All methods come pre-loaded on the software for easy set-up and operation.

Ordering Information

Description	Part No.
EnSight™ Biodiesel Analyzer	5144001
EnSep™ BD Column Kit (contains 3 columns)	5142921
Alltech® Alltima™ HP C18 Hi-Load, 5µm, 250 x 4.6mm	87698

