



Discover Prep™
Microwave Extraction System

CEM

Discover Prep

Discover Prep

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Methods


Run

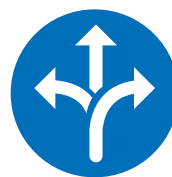

Results

Rapid Extraction

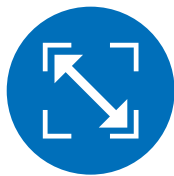
The Discover Prep utilizes microwave technology to extract your desired analyte from a variety of sample matrices. With a 10" touchscreen interface and easy-to-navigate software, you can quickly program a method and achieve rapid, reproducible results in a short time.



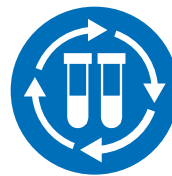
Rapid Results



Run a Variety of Sample Types
in a Single System



Small Footprint

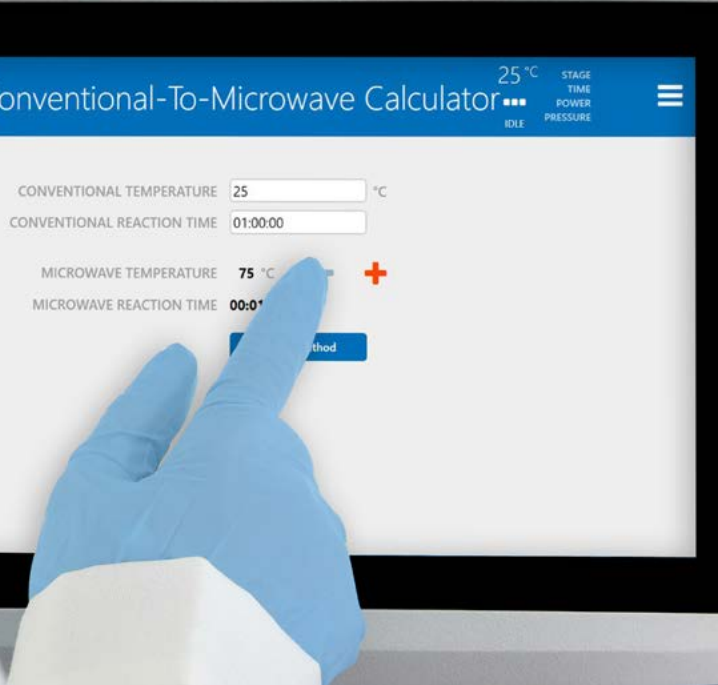


Automate up to 48 Samples

Microwave Technology

Efficient and fast extraction.

Rapid heating to the desired extraction temperature, coupled with rapid cooling, ensure a quick and efficient extraction each and every time. Complete control over each individual sample means every extraction is held at the optimal temperature just long enough and then the next sample is processed, maximizing productivity.



Complete Control

Maintain required parameters for your extraction.

The Discover Prep's microwave cavity provides a true internal temperature reading and in-situ stirring that allows for efficient microwave extraction. The Discover also has a rapid cooling mechanism, which allows for the safe handling of the sample mere minutes after the extraction.



The Discover Prep can be used for quick and easy extraction of a variety of samples, including but not limited to:



Polymers



Pharmaceuticals



Consumer Products



Nutraceuticals



Cosmetics



Academic Testing

Flexible

Extract many different sample types with only one instrument.

The Discover Prep can extract many different analyte sets from a variety of sample types, from polymers to nutraceuticals, using the same system.



Compact

Its small size is a big advantage.

The Discover Prep, including the autosampler is only 14" wide. That's about the width of an analytical balance. Take up minimum bench top space and add efficiency.



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Methods



Run

1 Load Autosampler

Prepared 10 or 35 mL vials containing samples, reagents, and stir bars can be loaded onto the 12- or 48-position autosampler, allowing for automated sample handling and throughput.

2 Select a Method

Select the desired method, program the number of samples, and press “Play”.

3 Microwave Energy is Applied

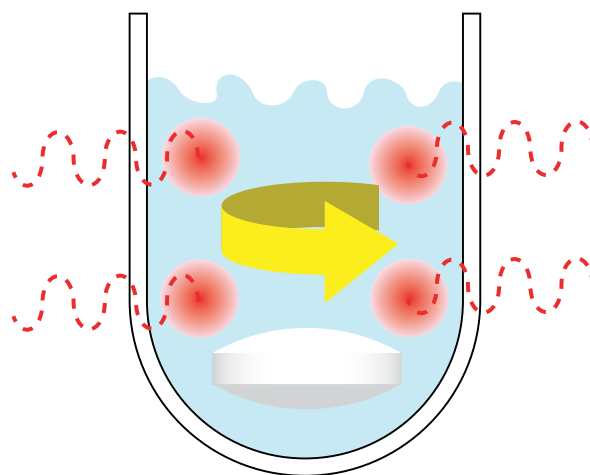
The reaction chamber is pressurized and microwave heating is applied to the vial contents. This results in direct molecular activation and fast and efficient heating. Electromagnetic stirring ensures equal heat distribution and reaction homogeneity.

4 iWave® Feature Controls Temperature

iWave technology allows for accurate temperature monitoring of the vial contents, regardless of sample type or solvent volume.

5 Compressed Air Cooling

Upon method completion, compressed air cooling is applied, enabling rapid cooling for safe handling and preparation for analysis.





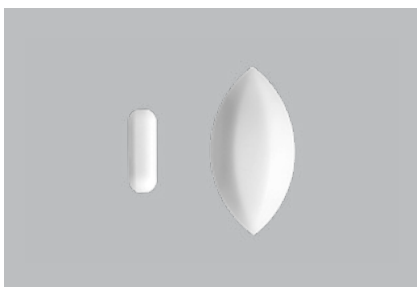
10 mL and 35 mL Vials

Multiple vial sizes are available to meet your specific sample needs. Both 10 mL and 35 mL Pyrex pressure-rated vials are available for use with the Discover Prep system.



10 mL and 35 mL Vial Caps

Easy to apply and easy to remove, the Teflon® lined vial caps enable self-venting capability of the extraction vial within a safe environment (and without loss of sample).



Micro and Egg Shaped Stir Bars

Each designed for optimal stirring within the specified vial, the micro stir bar is best utilized in the 10 mL vial while the egg shaped stir bar is ideal for the 35 mL vial.



10 mL and 35 mL Liners

Either a TFM or PFA liner can be used with 35 mL vials, and a PFA liner can be used with 10 mL vials. This helps with easy cleanup of extracting difficult matrices.



You get more than an instrument.

When you own a CEM instrument, you have access to a support team of chemists and engineers that are ready to answer any questions, work through ideas, and provide any support you may need. We are here to make sure you succeed.

Application Notes

Go to cem.com/solvent-extraction to download EDGE application notes.

The screenshot shows a web browser window with the address bar containing cem.com/solvent-extraction. The page content includes the CEM logo, the title "Application Note: The Extraction of Antioxidants from Food Packaging Film", and the main heading "The Extraction of Antioxidants from Food Packaging Film". Below the heading, there are two columns of text: "Abstract" and "Materials and Methods".

Abstract

Polymer materials are an integral part of every day life, especially food packaging. Often, antioxidants are added to food packaging materials to help aid in their stability. However, these antioxidants can leach out of the materials into food, demonstrating the importance of being aware of the levels of antioxidants in the polymer materials in food packaging. In this work, Irganox 1076 and Irganox 1010 were extracted from food film provided by a local manufacturer, using three CEM extraction systems, the MARS 6™ microwave system, the Discover Prep™ microwave system, and the EDGE® automated extraction system.

Materials and Methods

Reagents

Food film was provided by a local manufacturer. ASTM D6042-96 Calibration Mix was purchased from Restek. ACS-grade 2-propanol and HPLC-grade 2-propanol were purchased from Sigma. 5-mL syringes were purchased from Fisher, and 0.2-micron PTFE Luer lock syringe filters were purchased from Phenomenex. Other materials were provided by CEM.

MARS Extraction



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United States Headquarters: +1 (704) 821-7015 | info@cem.com
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