



# Microwave Liquid Phase Hydrolysis

Safe and Rapid Sample Preparation



Discover Prep™ for Microwave Hydrolysis

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iWave® Sensor Technology

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Custom Microwave Methods

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CEM

Discover Prep

Discover Prep

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TIME  
POWER  
PRESSURE  
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IDLE



Methods



Run



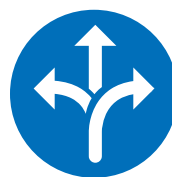
Results

# Rapid and Accurate Hydrolysis

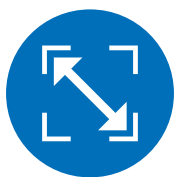
The Discover Prep uses microwave technology to hydrolyze proteins and peptides, resulting in improved control of hydrolysis conditions with better accuracy, reproducibility, speed, and robustness. Featuring intuitive software with a 10" touchscreen interface, Discover Prep will program a method in seconds and achieve reproducible results in as little as 15 minutes.



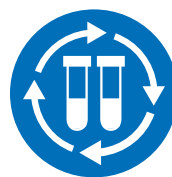
Fastest Technique Available



Run Acid and Base Hydrolysis  
in a Single System



Small Footprint



Automate up to 24 Samples

# The advantage of our microwave technology.

The efficient microwave cavity with true internal temperature reading and in-situ stirring ensures an accurate hydrolysis. Combine these fast hydrolysis times with the integrated rapid cooling to ensure safe handling of a fully hydrolyzed sample in mere minutes.



## Automate up to 24 samples.

The autosampler for the Discover Prep can process up to 24 samples, providing fully automated hydrolysis capabilities that are ideal for high-throughput labs.



# Meets a variety of industry needs.

The Discover Prep can be used for the simple and fast hydrolysis of a variety of sample types, including but not limited to:



Dry & Wet Pet Food



Feeds



Meat



Nutraceuticals



Processed Foods



Dairy



## Hydrolyze all samples with one instrument.

Run either an acid hydrolysis or base hydrolysis with the same system. With pre-programmed methods, liquid phase hydrolysis is simple.

## Its small size is a big benefit.

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



CEM

Discover Prep

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Discover Prep



Methods



Run



# The Process

## 1 Load Autosampler

Prepared 35 mL vials containing samples, reagents, and stir bars can be loaded onto the 24-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

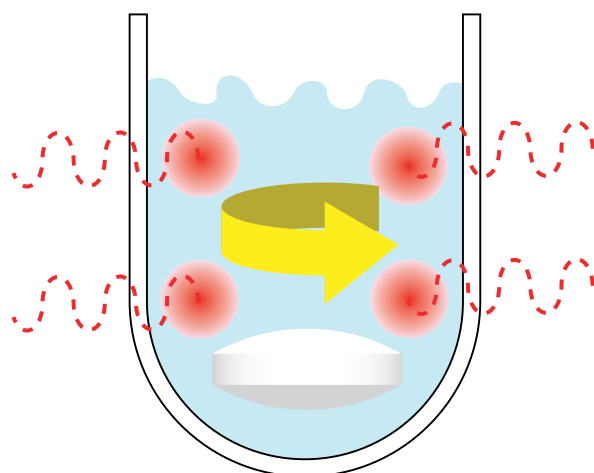
The reaction chamber is pressurized and microwave heating is applied to the vial contents. This results in direct molecular activation and fast and efficient heating. Electromagnetic stirring ensures equal heat distribution and reaction homogeneity.

## 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.



# Consumables



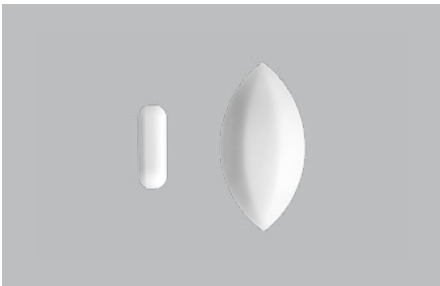
## 35 mL Vials

Pressure-rated 35 mL vials are available to meet your specific sample needs.



## 35 mL Vial Caps

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



## Micro and Egg Shaped Stir Bars

These stir bars are designed for optimal stirring in the 35 mL vial.



## 35 mL Teflon Liners

A Teflon liner can be used with a 35 mL vial and is specifically designed for the corrosive nature of base hydrolysis conditions; it adds an additional layer of safety to an already robust environment.

# Hydrolysis Support



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/hydrolysis-applications](https://cem.com/hydrolysis-applications) to download hydrolysis application application notes.



**Application Note**  
Using Microwaves for the Rapid and Efficient Amino Acid Hydrolysis of Pet Foods

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## Using Microwaves for the Rapid and Efficient Amino Acid Hydrolysis of Pet Foods





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