



ENVIRO



UCT

# ChloroFiltr®



INNOVATION THROUGH CHEMISTRY



# ChloroFiltr®

Most QuEChERS methods use graphitized carbon black (GCB) to remove chlorophyll from QuEChERS extracts. GCB is very effective in removing chlorophyll, but it also removes planar pesticides. UCT has developed a new sorbent that removes chlorophyll without the loss of planar pesticides. ChloroFiltr® is used as an alternative to GCB. No method modifications are required.



ChloroFiltr® Dispersive Products		
PART NUMBER	DESCRIPTION	UNITS
<b>CUMPSGG2CT</b>	2mL centrifuge tubes with 150mg MgSO <sub>4</sub> , 50mg PSA and 50mg <b>ChloroFiltr®</b> Designed to clean-up a 1 mL aliquot of supernatant.	100/pack
<b>CUMPSGGC182CT</b>	2mL centrifuge tubes with 150mg MgSO <sub>4</sub> , 50mg PSA, 50mg C18 and 50mg <b>ChloroFiltr®</b> Designed to clean-up a 1 mL aliquot of supernatant.	100/pack
<b>ECQUCHL12CT</b>	2mL centrifuge tube with 150mg MgSO <sub>4</sub> , 50mg C18, and 50mg <b>ChloroFiltr®</b> Designed to clean-up a 1 mL aliquot of supernatant.	100/pack
<b>ECMPSGG15CT</b>	15mL centrifuge tube with 900mg MgSO <sub>4</sub> , 300mg PSA and 150mg <b>ChloroFiltr®</b> Designed to clean-up a 3 mL aliquot of supernatant.	50/pack
<b>ECMSGG15CT</b>	15mL centrifuge tube with 900mg MgSO <sub>4</sub> and 150mg <b>ChloroFiltr®</b> Designed to clean-up a 3 mL aliquot of supernatant.	50/pack
<b>ECQUCHL115CT</b>	15mL centrifuge tube with 900mg MgSO <sub>4</sub> , 300mg PSA, and 300mg <b>ChloroFiltr®</b> Designed to clean-up a 6 mL aliquot of supernatant.	50/pack
<b>ECQUCHL215CT</b>	15mL centrifuge tube with 900mg MgSO <sub>4</sub> , 300mg C18, and 300mg <b>ChloroFiltr®</b> Designed to clean-up a 6 mL aliquot of supernatant.	50/pack
<b>ECQUCHL315CT</b>	15mL centrifuge tube with 900mg MgSO <sub>4</sub> , 300mg PSA, 300mg C18, and 300mg <b>ChloroFiltr®</b> Designed to clean-up a 6 mL aliquot of supernatant.	50/pack
<b>ECQUCHL150CT</b>	50mL centrifuge tube with 1800mg MgSO <sub>4</sub> , 600mg PSA, and 600mg <b>ChloroFiltr®</b> Designed to clean-up a 12 mL aliquot of supernatant.	50/pack
<b>ECQUCHL250CT</b>	50mL centrifuge tube with 1800mg MgSO <sub>4</sub> , 600mg C18, and 600mg <b>ChloroFiltr®</b> Designed to clean-up a 12 mL aliquot of supernatant.	50/pack
<b>ECQUCHL350CT</b>	50mL centrifuge tube with 1800mg MgSO <sub>4</sub> , 600mg PSA, 600mg C18, and 600mg <b>ChloroFiltr®</b> Designed to clean-up a 12 mL aliquot of supernatant.	50/pack

# ChloroFiltr<sup>®</sup>: A Novel Sorbent for Chlorophyll Removal using QuEChERS

Spinach and other highly pigmented vegetables contain chlorophylls, carotenoids, xanthophylls, and anthocyanins. Chlorophylls have the greatest adverse effect on GC systems due to their non-volatile characteristics. This QuEChERS procedure uses ChloroFiltr<sup>®</sup> to significantly reduce chlorophylls without sacrificing the recoveries of planar pesticides.

## Procedure

### 1. QuEChERS Extraction

- a) Homogenize 500 g of spinach in a food processor for 1-2 minutes
- b) Weigh 10 grams of homogenized spinach sample into 50 mL centrifuge tube
- c) Spike with 100  $\mu$ L of 50 ppm triphenyl phosphate\* as internal standard (IS)
- d) Add 10 mL of acetonitrile then shake for 1 min
- e) Add contents of Mylar pouch **ECQUUS2-MP** then shake vigorously for 1 min
- f) Centrifuge at 5,000 rpm for 5 min
- g) Supernatant is ready for clean-up

\*50 ppm TPP solution: mix 50  $\mu$ L of 5000 ppm TPP solution with 4.95 mL of MeCN

### 2. dSPE Clean-up

- a) Transfer 1 mL of the extract to the 2 mL **CUMPSGGC182CT** (ChloroFiltr<sup>®</sup>) dSPE micro centrifuge tube
- b) Shake for 30 sec
- c) Centrifuge at 3,000 rpm for 5 min
- d) Transfer 0.4 mL of the supernatant to a 2 mL autosampler vial e) Sample is ready for LC/MS/MS analysis

Comparison of Pesticide Recoveries and RSDs Obtained by dSPE Clean-up of Spinach Sample using ChloroFiltr <sup>®</sup> and GCB (n=4)				
Pesticide	ChloroFiltr <sup>®</sup>		GCB (7.5 mg)	
	Recovery%	RSD%	Recovery%	RSD%
Carbendazim	87.1	1.0	71.2	4.0
Thiabendazole	93.2	1.9	55.9	2.6
Pyrimethanil	97.3	1.2	85.0	1.2
Cyprodinil	91.2	0.5	79.3	3.1
Diazinon	104.5	2.3	100.0	0.6
Pyrazophos	92.0	0.9	92.7	1.6
Chlorpyrifos	95.6	2.5	96.3	2.1

## PRICES AND TERMS

Our prices are subject to change without notice. The price in effect when we receive your order will apply. All prices are in US Dollars and are F.O.B. Lewistown, PA 17044. Terms of payment are net 30 days.

## MINIMUM ORDERS

We welcome all orders, therefore, we do not have a minimum order requirement. When ordering, please include your purchase order number, complete "Ship To" and "Bill To" address, catalog number, quantity, and description of product(s). Also include your name and a phone number where you can be reached should we have any questions concerning your order.

## SHIPMENTS

Normal processing is within 24 hours after receipt of an order. Unless special shipping requests have been made, our trained staff will send all orders by UPS Ground service. The appropriate shipping charges (freight & insurance costs) will be added to the invoice, unless otherwise instructed by the customer.

## SPECIAL PRICING

We offer special pricing for volume purchases and standing orders. These discounts apply to bonded phase extraction column purchases only. Please call a sales representative for more information on special pricing qualifications.

## RETURN POLICY

Our Quality Manager will handle all returns. Before returning merchandise, please call to obtain a return authorization number from the quality manager. We will need to know the reason for the return, date of purchase, purchase order number and invoice number in order to issue a return authorization number. Return merchandise must be received before a credit can be issued. Returns will not be accepted after 90 days. A restocking fee of 25% of the price paid, or a minimum of \$25.00 (whichever is greater) will be charged on all returns.

## WARRANTY

All products manufactured by UCT are guaranteed against defects in materials and workmanship for a period of 90 days after shipment. UCT will replace any items that prove to be defective during this time period.

The exclusive remedy requires the end user to first advise UCT of the defective product by phone or in writing. Secondly, the defective product must be returned within 30 days after proper approval from our Quality Manager. All returns must indicate the purchase order number, the lot number and the shipping date. UCT's total liability is limited to the replacement cost of UCT products.

This warranty does not apply to damage resulting from misuse.

## Placing An Order

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