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**EDGE<sup>®</sup>**

Automated Extraction System

# Method Note Compendium

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# Agriculture

# Extraction of Pesticides From Avocados

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

- Sodium Sulfate (5 g)
- Magnesium Sulfate (1,200 mg)
- Primary Second Amine (50 mg)

## Solvents

Acetonitrile

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	100	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Acetonitrile	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Polyphenols From Beans

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

(50:50) Methanol: Water

## Sample Weight

0.1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	80	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(50:50) Methanol: Water	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Fat From Brazil Nuts

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

Sand (12 g)

## Solvents

Petroleum Ether

## Sample Weight

12 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	175	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Petroleum Ether	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of Polyphenols From Cacao

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

(50:50) Methanol: Water

## Sample Weight

0.1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	80	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(50:50) Methanol: Water	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Cannabinoids From Cannabis Plant

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sample into the Q-Cup.

## Notes

Possessing, using, distributing or selling marijuana or marijuana-based products constitute federal crimes in the United States, even where a state law decriminalizes or legalizes such activities. CEM Corporation produces instruments that are intended for use in testing laboratories and applications only where such use is permitted under applicable state/country law.

## Sorbents

N/A

## Solvents

Methanol

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	5	5	100	0:30

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Mycotoxins From Cannabis Plant

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

Possessing, using, distributing or selling marijuana or marijuana-based products constitute federal crimes in the United States, even where a state law decriminalizes or legalizes such activities. CEM Corporation produces instruments that are intended for use in testing laboratories and applications only where such use is permitted under applicable state/country law.

## Sorbents

None

## Solvents

Methanol  
May also use a percentage of Water:Methanol as needed

## Sample Weight

1.5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C4

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	5	50	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	10
2	Methanol	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pesticides From Cannabis Plant

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc on top of the C9 Q-Disc.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

Possessing, using, distributing or selling marijuana or marijuana-based products constitute federal crimes in the United States, even where a state law decriminalizes or legalizes such activities. CEM Corporation produces instruments that are intended for use in testing laboratories and applications only where such use is permitted under applicable state/country law.

## Sorbents

Contents of Agilent QuEChERS SPE 15 mL Tube

## Solvents

1% Acetic Acid in Acetonitrile

## Sample Weight

1.5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	5	5	40	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	1% Acetic Acid in Acetonitrile	15
2	1% Acetic Acid in Acetonitrile	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PAHs From Dry Fish Samples

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weight the sorbent in the Q-Cup. Tap lightly to spread evenly.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

None

## Sorbents

C18 (1.7 g)

## Solvents

Dichloromethane

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	120	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	15
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCBs From Dry Soy Meal & Fish Meal

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

Less than 5 grams of sample can be used with a ratio of 1:2 C18: Sample  
Either C1 or M1 Q-Disc can be used

## Sorbents

C18 (2.5 g)

## Solvents

Options:  
Dichloromethane  
(50:50) Hexane: Acetone

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1  
M1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	120	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	15
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pesticides From Dry Spice Samples

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sample into the Q-Cup.

## Notes

Matrix matched calibration curve required without the use of sorbents.

## Sorbents

N/A

## Solvents

Acetonitrile with 1% Acetic Acid

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	5	40	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetonitrile with 1% Acetic Acid	10
2	Acetonitrile with 1% Acetic Acid	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Fat From Hazel Nuts

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

Sand (12 g)

## Solvents

Petroleum Ether

## Sample Weight

12 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	175	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Petroleum Ether	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of Pesticides From Hops

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Add sorbents to bottom of Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping. No mixing is required.
3. Weigh the sample into the Q-Cup. Add 5.0 g hops on top of sorbent bed.
4. Spike with 100 ug/mL Canadian Pesticide Mix 4 and leave in hood for approximately 30 minutes to evaporate solvent.

## Notes

Canadian Pesticide Mix 4 in LCMS grade obtained from SPEX CertiPrep.

## Sorbents

- ACS grade magnesium sulfate anhydrous > 99.5% (1.25 g)
  - Supel™ QuE Citrate (1.25 g)
  - Primary secondary amine (1.25 g)
  - Siliabond C18 (1.25 g)
- \*Different sorbents can be used

## Solvents

1% Acetic Acid in Acetonitrile

## Sample Weight

0.5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	5	100	00:30

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	1% Acetic Acid in Acetonitrile	20
2	1% Acetic Acid in Acetonitrile	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Fat From Pumpkin Seeds

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

Sand (12 g)

## Solvents

Petroleum Ether

## Sample Weight

12 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	175	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Petroleum Ether	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Brodifacoum From Rat Poison Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Methanol

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C4

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	130	02:00
2	15	10	10	130	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	15
2	Methanol	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pesticides From Rice

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sorbents into the Q-Cup. Spread evenly across the sample by gentle tapping.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

None

## Sorbents

- Sodium Sulfate (5 g)
- Magnesium Sulfate (1,200 mg)
- Primary Second Amine (50 mg)

## Solvents

Acetonitrile

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	100	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetonitrile	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pesticides From Strawberries

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sorbents into the Q-Cup. Spread evenly across the sample by gentle tapping.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

None

## Sorbents

- Sodium Sulfate (5 g)
- Magnesium Sulfate (1,200 mg)
- Primary Second Amine (50 mg)

## Solvents

Acetonitrile

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	100	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Acetonitrile	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCBs From Wet Feed/ Food Samples

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering on top of the sorbent. No mixing is needed.

## Notes

None

## Sorbents

-Sodium Sulfate (2.5 g)  
-C18 (2 g)

## Solvents

Dichloromethane

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	5	135	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Dioxins

## From Wet Feed/ Food Samples

### Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering on top of the sorbent. No mixing is needed.

### Notes

None

### Sorbents

-Sodium Sulfate (2.5 g)  
-C18 (2 g)

### Solvents

Dichloromethane

### Sample Weight

5 g

### Equipment

EDGE  
40 mL collection vials - clear

### Q-Disc™

C4

### Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	5	150	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

### Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Hexane	10

### General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PAHs From Wet Fish Tissue

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering on top of the sorbent. No mixing is needed.

## Notes

If there is moisture in collection vial after the extraction:

-Using a glass funnel with glass wool and about 20 g of Sodium Sulfate. Pour over into new collection vial and rinse thoroughly with fresh solvent.

## Sorbents

- Sodium Sulfate (1 g)
- C18 (0.8 g)

## Solvents

- Options:
- Dichloromethane
  - (50:50) Hexane: Acetone

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	120	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Extraction Solvent	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of Pesticides From Wet Food Sample

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sorbents into the Q-Cup. Spread evenly across the sample by gentle tapping.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

None

## Sorbents

- Sodium Sulfate (5 g)
- Magnesium Sulfate (1,200 mg)
- Primary Second Amine (50 mg)

## Solvents

Acetonitrile

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	100	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	30
2	Acetonitrile	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Total Fat From Feed/Food

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.
4. Dry Q-Cups with sample and sand in the oven for 1 hour at 100° C while tilted at an angle in ~2" aluminum pans or equivalent. This provides stability and enables easier visual identification that no sample has been lost.

## Notes

None

## Sorbents

Wet Samples Only: Sand (use equal amount to sample size)

## Solvents

Petroleum Ether

## Sample Weight

≤ 5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	140	01:00
2	10	10	0	130	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Petroleum Ether	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Cannabis

# Extraction of Cannabinoids From Cannabis Plant

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sample into the Q-Cup.

## Notes

Possessing, using, distributing or selling marijuana or marijuana-based products constitute federal crimes in the United States, even where a state law decriminalizes or legalizes such activities. CEM Corporation produces instruments that are intended for use in testing laboratories and applications only where such use is permitted under applicable state/country law.

## Sorbents

N/A

## Solvents

Methanol

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	5	5	100	0:30

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Mycotoxins From Cannabis Plant

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

Possessing, using, distributing or selling marijuana or marijuana-based products constitute federal crimes in the United States, even where a state law decriminalizes or legalizes such activities. CEM Corporation produces instruments that are intended for use in testing laboratories and applications only where such use is permitted under applicable state/country law.

## Sorbents

None

## Solvents

Methanol  
May also use a percentage of Water:Methanol as needed

## Sample Weight

1.5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C4

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	5	50	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	10
2	Methanol	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pesticides From Cannabis Plant

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc on top of the C9 Q-Disc.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

Possessing, using, distributing or selling marijuana or marijuana-based products constitute federal crimes in the United States, even where a state law decriminalizes or legalizes such activities. CEM Corporation produces instruments that are intended for use in testing laboratories and applications only where such use is permitted under applicable state/country law.

## Sorbents

Contents of Agilent QuEChERS SPE 15 mL Tube

## Solvents

1% Acetic Acid in Acetonitrile

## Sample Weight

1.5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	5	5	40	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	1% Acetic Acid in Acetonitrile	15
2	1% Acetic Acid in Acetonitrile	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

## Environmental & Regulatory

# Extraction of SVOCs

## Environmental Samples

### Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

### Notes

This is a general method for the miscellaneous extraction of environmental samples.

### Sorbents

N/A

### Solvents

Options:  
Acetone  
Dichloromethane  
Hexane  
Toluene

### Sample Weight

30 g

### Equipment

EDGE  
40 mL collection vials - clear

### Q-Disc™

C4

### Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	120	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

### Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	10
2	Extraction Solvent	10

### General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of SVOCs

## EPA 3545A

### Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

### Notes

See the CEM Application note: Extraction of Semi-Volatile Organic Compounds from Soil in Accordance with EPA 3545A if needed.

### Sorbents

N/A

### Solvents

(50:50) Acetone: Hexane

### Sample Weight

30 g

### Equipment

EDGE  
40 mL collection vials - clear

### Q-Disc™

C1

### Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	120	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

### Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	10
2	(50:50) Acetone: Hexane	10

### General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCB's From Large PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	5	15	115	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCB's From Small PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	0	15	100	00:10

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PAHs From Wet Fish Tissue

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering on top of the sorbent. No mixing is needed.

## Notes

If there is moisture in collection vial after the extraction:

-Using a glass funnel with glass wool and about 20 g of Sodium Sulfate. Pour over into new collection vial and rinse thoroughly with fresh solvent.

## Sorbents

- Sodium Sulfate (1 g)
- C18 (0.8 g)

## Solvents

- Options:
- Dichloromethane
  - (50:50) Hexane: Acetone

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	120	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Extraction Solvent	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Cleaning of PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Stage 1: Acetone  
Stage 2: Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	0	15	115	03:00
2	23	0	20	115	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	15
2	Hexane	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PAHs From Soil, Loam, or Clay

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

(50:50) Acetone: Hexane

## Sample Weight

30 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	120	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	10
2	Acetone	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCBs From Soil, Loam, or Clay

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

(50:50) Acetone: Hexane

## Sample Weight

30 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	120	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	10
2	Acetone	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Dioxins From Soil, Loam, or Clay

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Toluene

## Sample Weight

30 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	150	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	10
2	Acetone	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Food Testing

# Extraction of SVOCs

## Environmental Samples

### Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

### Notes

This is a general method for the miscellaneous extraction of environmental samples.

### Sorbents

N/A

### Solvents

Options:  
Acetone  
Dichloromethane  
Hexane  
Toluene

### Sample Weight

30 g

### Equipment

EDGE  
40 mL collection vials - clear

### Q-Disc™

C4

### Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	120	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

### Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	10
2	Extraction Solvent	10

### General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of SVOCs

## EPA 3545A

### Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

### Notes

See the CEM Application note: Extraction of Semi-Volatile Organic Compounds from Soil in Accordance with EPA 3545A if needed.

### Sorbents

N/A

### Solvents

(50:50) Acetone: Hexane

### Sample Weight

30 g

### Equipment

EDGE  
40 mL collection vials - clear

### Q-Disc™

C1

### Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	120	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

### Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	10
2	(50:50) Acetone: Hexane	10

### General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Film Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

Dichloromethane

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	0	*40-70	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	10
2	Cyclohexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pigments From Plastics

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

Dichloromethane

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	0	*40-80	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	10
2	Cyclohexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pesticides From Avocados

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

- Sodium Sulfate (5 g)
- Magnesium Sulfate (1,200 mg)
- Primary Second Amine (50 mg)

## Solvents

Acetonitrile

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	100	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Acetonitrile	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Polyphenols From Beans

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

(50:50) Methanol: Water

## Sample Weight

0.1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	80	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(50:50) Methanol: Water	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Fat From Brazil Nuts

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

Sand (12 g)

## Solvents

Petroleum Ether

## Sample Weight

12 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	175	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Petroleum Ether	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of Polyphenols From Cacao

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

(50:50) Methanol: Water

## Sample Weight

0.1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	80	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(50:50) Methanol: Water	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Cannabinoids From Cannabis Plant

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sample into the Q-Cup.

## Notes

Possessing, using, distributing or selling marijuana or marijuana-based products constitute federal crimes in the United States, even where a state law decriminalizes or legalizes such activities. CEM Corporation produces instruments that are intended for use in testing laboratories and applications only where such use is permitted under applicable state/country law.

## Sorbents

N/A

## Solvents

Methanol

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	5	5	100	0:30

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Mycotoxins From Cannabis Plant

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

Possessing, using, distributing or selling marijuana or marijuana-based products constitute federal crimes in the United States, even where a state law decriminalizes or legalizes such activities. CEM Corporation produces instruments that are intended for use in testing laboratories and applications only where such use is permitted under applicable state/country law.

## Sorbents

None

## Solvents

Methanol  
May also use a percentage of Water:Methanol as needed

## Sample Weight

1.5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C4

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	5	50	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	10
2	Methanol	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pesticides From Cannabis Plant

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc on top of the C9 Q-Disc.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

Possessing, using, distributing or selling marijuana or marijuana-based products constitute federal crimes in the United States, even where a state law decriminalizes or legalizes such activities. CEM Corporation produces instruments that are intended for use in testing laboratories and applications only where such use is permitted under applicable state/country law.

## Sorbents

Contents of Agilent QuEChERS SPE 15 mL Tube

## Solvents

1% Acetic Acid in Acetonitrile

## Sample Weight

1.5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	5	5	40	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	1% Acetic Acid in Acetonitrile	15
2	1% Acetic Acid in Acetonitrile	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Fat From Cashews

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

Sand (12 g)

## Solvents

Petroleum Ether

## Sample Weight

12 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	175	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Petroleum Ether	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PAHs From Dry Fish Samples

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weight the sorbent in the Q-Cup. Tap lightly to spread evenly.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

None

## Sorbents

C18 (1.7 g)

## Solvents

Dichloromethane

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	120	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	15
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCBs From Dry Soy Meal & Fish Meal

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

Less than 5 grams of sample can be used with a ratio of 1:2 C18: Sample  
Either C1 or M1 Q-Disc can be used

## Sorbents

C18 (2.5 g)

## Solvents

Options:  
Dichloromethane  
(50:50) Hexane: Acetone

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1  
M1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	120	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	15
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pesticides From Dry Spice Samples

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sample into the Q-Cup.

## Notes

Matrix matched calibration curve required without the use of sorbents.

## Sorbents

N/A

## Solvents

Acetonitrile with 1% Acetic Acid

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	5	40	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetonitrile with 1% Acetic Acid	10
2	Acetonitrile with 1% Acetic Acid	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of Flavonoids From Echinacea

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

(70:30) Methanol: Water

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	20	0	60	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(70:30) Methanol: Water	10
2	(70:30) Methanol: Water	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Fat From Egg Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Toluene

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C4

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	175	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Toluene	15
2	Toluene	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Fat From Hazel Nuts

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

Sand (12 g)

## Solvents

Petroleum Ether

## Sample Weight

12 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	175	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Petroleum Ether	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pesticides From Hops

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Add sorbents to bottom of Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping. No mixing is required.
3. Weigh the sample into the Q-Cup. Add 5.0 g hops on top of sorbent bed.
4. Spike with 100 ug/mL Canadian Pesticide Mix 4 and leave in hood for approximately 30 minutes to evaporate solvent.

## Notes

Canadian Pesticide Mix 4 in LCMS grade obtained from SPEX CertiPrep.

## Sorbents

- ACS grade magnesium sulfate anhydrous > 99.5% (1.25 g)
  - Supel™ QuE Citrate (1.25 g)
  - Primary secondary amine (1.25 g)
  - Siliabond C18 (1.25 g)
- \*Different sorbents can be used

## Solvents

1% Acetic Acid in Acetonitrile

## Sample Weight

0.5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	5	100	00:30

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	1% Acetic Acid in Acetonitrile	20
2	1% Acetic Acid in Acetonitrile	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCBs From Large PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	5	15	115	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction

## From Mouthwash

### Procedure

1. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering on top of the sorbent. No mixing is needed.

### Notes

None

### Sorbents

Options:  
-Sodium Polyacrylate (5 g)  
-Diatomaceous Earth (5 g)

### Solvents

Hexane

### Sample Weight

5 g

### Equipment

EDGE  
40 mL collection vials - clear

### Q-Disc™

C9 + G1 + C9

### Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	40	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

### Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

### General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Additives From PET

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

(40:60) Acetone: Hexane

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	25	10	5	115*	05:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	15
2	Hexane	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Additives From Pigment

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Dimethylformamide

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	100	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dimethylformamide	10
2	Dimethylformamide	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of Additives From Polyethylene Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the C9 Q-Disc on top of the M1 Q-Disc.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

Isopropanol

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	30	10	0	*90	15:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Isopropanol	15
2	Isopropanol	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Chemical Modifier From Polyethylene Resin

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

None

## Solvents

(40:60) Acetone:Hexane

## Sample Weight

0.1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	*60	15:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(40:60) Acetone:Hexane	10
2	(40:60) Acetone:Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Additives From Polypropylene Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

Isopropanol

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	30	10	0	120	15:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Isopropanol	15
2	Isopropanol	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Phthalates From Polyvinyl Chloride

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

(50:50) Isopropanol: Cyclohexane

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	*80	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(50:50) Isopropanol: Cyclohexane	10
2	(50:50) Isopropanol: Cyclohexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Nutrients From Protein Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

Sand (3 g)

## Solvents

(80:20) Methanol:Water

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C3

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	150	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(80:20) Methanol:Water	15
2	(80:20) Methanol:Water	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Fat From Pumpkin Seeds

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

Sand (12 g)

## Solvents

Petroleum Ether

## Sample Weight

12 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	175	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Petroleum Ether	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Brodifacoum From Rat Poison Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Methanol

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C4

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	130	02:00
2	15	10	10	130	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	15
2	Methanol	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Antioxidants From Resin

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Methanol

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	5	100	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of Pesticides From Rice

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sorbents into the Q-Cup. Spread evenly across the sample by gentle tapping.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

None

## Sorbents

- Sodium Sulfate (5 g)
- Magnesium Sulfate (1,200 mg)
- Primary Second Amine (50 mg)

## Solvents

Acetonitrile

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	100	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetonitrile	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCB's From Small PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	0	15	100	00:10

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Dioxins From Soil

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Toluene

## Sample Weight

10 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	175	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Toluene	10
2	Toluene	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pesticides From Strawberries

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sorbents into the Q-Cup. Spread evenly across the sample by gentle tapping.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

None

## Sorbents

- Sodium Sulfate (5 g)
- Magnesium Sulfate (1,200 mg)
- Primary Second Amine (50 mg)

## Solvents

Acetonitrile

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	100	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Acetonitrile	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCBs From Wet Feed/ Food Samples

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering on top of the sorbent. No mixing is needed.

## Notes

None

## Sorbents

-Sodium Sulfate (2.5 g)  
-C18 (2 g)

## Solvents

Dichloromethane

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	5	135	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Dioxins

## From Wet Feed/ Food Samples

### Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering on top of the sorbent. No mixing is needed.

### Notes

None

### Sorbents

-Sodium Sulfate (2.5 g)  
-C18 (2 g)

### Solvents

Dichloromethane

### Sample Weight

5 g

### Equipment

EDGE  
40 mL collection vials - clear

### Q-Disc™

C4

### Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	5	150	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

### Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Hexane	10

### General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PAHs From Wet Fish Tissue

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering on top of the sorbent. No mixing is needed.

## Notes

If there is moisture in collection vial after the extraction:

-Using a glass funnel with glass wool and about 20 g of Sodium Sulfate. Pour over into new collection vial and rinse thoroughly with fresh solvent.

## Sorbents

- Sodium Sulfate (1 g)
- C18 (0.8 g)

## Solvents

- Options:
- Dichloromethane
  - (50:50) Hexane: Acetone

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	120	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Extraction Solvent	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pesticides From Wet Food Sample

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sorbents into the Q-Cup. Spread evenly across the sample by gentle tapping.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

None

## Sorbents

- Sodium Sulfate (5 g)
- Magnesium Sulfate (1,200 mg)
- Primary Second Amine (50 mg)

## Solvents

Acetonitrile

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	100	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	30
2	Acetonitrile	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of PAH's From XAD Resin

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

Be sure that sample or sand is present in the Q-Cup when running this method. Sample size does matter, as you decrease the sample size you will build up more pressure within the cell.

## Sorbents

N/A

## Solvents

Dichloromethane

## Sample Weight

15 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	180	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	15
2	Dichloromethane	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PAH's From Yerba Mate

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Options:  
(50:50) Hexane: Acetone  
Dichloromethane  
Acetone

## Sample Weight

0.5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	10	120-150	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Solvent used in extraction	10
2	Solvent used in extraction	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Molybdenum

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Acetone

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	10	140	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	10
2	Acetone	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Total Fat From Feed/Food

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.
4. Dry Q-Cups with sample and sand in the oven for 1 hour at 100° C while tilted at an angle in ~2" aluminum pans or equivalent. This provides stability and enables easier visual identification that no sample has been lost.

## Notes

None

## Sorbents

Wet Samples Only: Sand (use equal amount to sample size)

## Solvents

Petroleum Ether

## Sample Weight

≤ 5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	140	01:00
2	10	10	0	130	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Petroleum Ether	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Total Fat From High-Fat Meats

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.
4. Dry Q-Cups with sample and sand in the oven for 1 hour at 100° C while tilted at an angle in ~2" aluminum pans or equivalent. This provides stability and enables easier visual identification that no sample has been lost.

## Notes

None

## Sorbents

Sand (2 g)

## Solvents

Petroleum Ether

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	140	01:00
2	10	10	0	130	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	10
2	Petroleum Ether	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Total Fat From Hotdogs

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.
4. Dry Q-Cups with sample and sand in the oven for 1 hour at 100° C while tilted at an angle in ~2" aluminum pans or equivalent. This provides stability and enables easier visual identification that no sample has been lost.

## Notes

None

## Sorbents

Sand (2 g)

## Solvents

Petroleum Ether

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	140	01:00
2	10	10	0	130	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	10
2	Petroleum Ether	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Total Fat From Peanuts

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.
4. Dry Q-Cups with sample and sand in the oven for 1 hour at 100° C while tilted at an angle in ~2" aluminum pans or equivalent. This provides stability and enables easier visual identification that no sample has been lost.

## Notes

None

## Sorbents

Sand (12 g)

## Solvents

Petroleum Ether

## Sample Weight

12 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	0	150	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Petroleum Ether	20

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Total Fat From Pepperoni

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.
4. Dry Q-Cups with sample and sand in the oven for 1 hour at 100° C while tilted at an angle in ~2" aluminum pans or equivalent. This provides stability and enables easier visual identification that no sample has been lost.

## Notes

None

## Sorbents

Sand (2 g)

## Solvents

Petroleum Ether

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	140	01:00
2	10	10	0	130	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	10
2	Petroleum Ether	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of Total Fat From Potted Meat

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.
4. Dry Q-Cups with sample and sand in the oven for 1 hour at 100° C while tilted at an angle in ~2" aluminum pans or equivalent. This provides stability and enables easier visual identification that no sample has been lost.

## Notes

None

## Sorbents

Sand (2 g)

## Solvents

Petroleum Ether

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	140	01:00
2	10	10	0	130	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	10
2	Petroleum Ether	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Total Fat From Protein Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

Sand (6 g)

## Solvents

Petroleum Ether

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	10	120	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Petroleum Ether	10
2	Petroleum Ether	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Cleaning of PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Stage 1: Acetone  
Stage 2: Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	0	15	115	03:00
2	23	0	20	115	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	15
2	Hexane	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PAHs From Soil, Loam, or Clay

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

(50:50) Acetone: Hexane

## Sample Weight

30 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	120	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	10
2	Acetone	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCBs From Soil, Loam, or Clay

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

(50:50) Acetone: Hexane

## Sample Weight

30 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	120	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	10
2	Acetone	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Dioxins From Soil, Loam, or Clay

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Toluene

## Sample Weight

30 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	150	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	10
2	Acetone	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Toothpaste

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sorbent/sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup\*.

## Notes

- \* for sand- mix into sample
- \* for Diatomaceous Earth- layer under sample, do not mix.

## Sorbents

Options:  
Sand (15 g)  
Diatomaceous Earth (5 g)

## Solvents

Hexane

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	40	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Hydrolysis & Extraction of Total Fat From Chocolate

## Procedure

### Step 1- Hydrolysis Method

1. Weigh out 1 g of milled or ground sample.
2. Add 1 mL Ethanol and 5 mL (25:11) Concentrated Hydrochloric Acid: Water. Heat for 1 hr at 100° C in a covered dish.
3. Add 5 mL of Ethanol. Filter the sample using Whatman 3 Filter Paper with a filter funnel, a vacuum pump, and filter flask. Wash any residual material from the beaker in the filter funnel using Ethanol.
4. Dry the filter paper in an oven at 100° C for 30 minutes. After the drying step, place Filter Paper into the Q-Cup and extract.

## Notes

### Step 2- EDGE Method

1. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Place the Filter Paper into the Q-Cup.

## Sorbents

N/A

## Solvents

Petroleum Ether  
(25:11) Concentrated Hydrochloric Acid: Water

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	140	01:00
2	10	10	0	130	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Petroleum Ether	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Hydrolysis & Extraction of Total Fat From Cookies

## Procedure

### Step 1- Hydrolysis Method

1. Weigh out 1 g of milled or ground sample.
2. Add 1 mL Ethanol and 5 mL (25:11) Concentrated Hydrochloric Acid: Water. Heat for 1 hr at 100° C in a covered dish.
3. Add 5 mL of Ethanol. Filter the sample using Whatman 3 Filter Paper with a filter funnel, a vacuum pump, and filter flask. Wash any residual material from the beaker in the filter funnel using Ethanol.
4. Dry the filter paper in an oven at 100° C for 30 minutes. After the drying step, place Filter Paper into the Q-Cup and extract.

## Notes

### Step 2- EDGE Method

1. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Place the Filter Paper into the Q-Cup.

## Sorbents

N/A

## Solvents

Petroleum Ether  
(25:11) Concentrated Hydrochloric Acid: Water

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	10	10	0	140	01:00
2	10	10	0	130	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Petroleum Ether	15

## General Guidelines

- This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- Wear hand, eye, and body protection when handling organic solvents.
- Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- Bring to volume or evaporate as necessary for analysis.

## Geoscience & Mining

# Extraction of Molybdenum

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Acetone

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	10	140	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	10
2	Acetone	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Industrial Hygiene

# Extraction of PCB's From Large PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	5	15	115	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Brodifacoum From Rat Poison Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Methanol

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C4

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	130	02:00
2	15	10	10	130	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	15
2	Methanol	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCB's From Small PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	0	15	100	00:10

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Cleaning of PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Stage 1: Acetone  
Stage 2: Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	0	15	115	03:00
2	23	0	20	115	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	15
2	Hexane	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Materials Science

# Extraction of Film Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

Dichloromethane

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	0	*40-70	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	10
2	Cyclohexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pigments From Plastics

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

Dichloromethane

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	0	*40-80	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	10
2	Cyclohexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PCB's From Large PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	5	15	115	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Additives

## Polypropylene Powder

### Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sample into the Q-Cup.

### Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

### Sorbents

N/A

### Solvents

Isopropanol

### Sample Weight

1 g

### Equipment

EDGE  
40 mL collection vials - clear

### Q-Disc™

C9 + G1 + C9

### Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	30	10	0	120	15:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

### Wash Program

Stage	Solvent	Volume (mL)
1	Isopropanol	15
2	Isopropanol	15

### General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Phthalates From Polyvinyl Chloride

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

(50:50) Isopropanol: Cyclohexane

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	*80	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(50:50) Isopropanol: Cyclohexane	10
2	(50:50) Isopropanol: Cyclohexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Brodifacoum From Rat Poison Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Methanol

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C4

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	130	02:00
2	15	10	10	130	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	15
2	Methanol	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Antioxidants From Resin

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Methanol

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	5	100	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Methanol	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of PCB's From Small PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	0	15	100	00:10

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PAH's From XAD Resin

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

Be sure that sample or sand is present in the Q-Cup when running this method. Sample size does matter, as you decrease the sample size you will build up more pressure within the cell.

## Sorbents

N/A

## Solvents

Dichloromethane

## Sample Weight

15 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	180	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	15
2	Dichloromethane	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Cleaning of PUF Filters

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™.
2. Compress and push the filter into the base of the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Stage 1: Acetone  
Stage 2: Hexane

## Sample Weight

Entire Filter

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	0	15	115	03:00
2	23	0	20	115	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	15
2	Hexane	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

## Metals & Alloys

# Extraction of Molybdenum

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Acetone

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	10	140	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	10
2	Acetone	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Nutraceuticals

# Extraction of PAHs From Dry Fish Samples

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weight the sorbent in the Q-Cup. Tap lightly to spread evenly.
3. Weigh the sample into the Q-Cup layering the sample on top of the salt. No mixing is required.

## Notes

None

## Sorbents

C18 (1.7 g)

## Solvents

Dichloromethane

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	120	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	15
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Flavonoids From Echinacea

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the M2 Q-Disc (textured side up) on top of the C9 Q-Disc.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

(70:30) Methanol: Water

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M2 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	20	0	60	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(70:30) Methanol: Water	10
2	(70:30) Methanol: Water	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.



# Extraction of Nutrients From Protein Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

Sand (3 g)

## Solvents

(80:20) Methanol:Water

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C3

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	10	10	150	00:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(80:20) Methanol:Water	15
2	(80:20) Methanol:Water	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PAHs From Wet Fish Tissue

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering on top of the sorbent. No mixing is needed.

## Notes

If there is moisture in collection vial after the extraction:

-Using a glass funnel with glass wool and about 20 g of Sodium Sulfate. Pour over into new collection vial and rinse thoroughly with fresh solvent.

## Sorbents

- Sodium Sulfate (1 g)
- C18 (0.8 g)

## Solvents

- Options:
- Dichloromethane
  - (50:50) Hexane: Acetone

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	120	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Water	15
2	Extraction Solvent	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of PAH's From Yerba Mate

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Options:  
(50:50) Hexane: Acetone  
Dichloromethane  
Acetone

## Sample Weight

0.5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	10	120-150	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Solvent used in extraction	10
2	Solvent used in extraction	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Total Fat From Protein Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup. Gently mix the sample and sand in the Q-Cup.

## Notes

None

## Sorbents

Sand (6 g)

## Solvents

Petroleum Ether

## Sample Weight

2 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	10	120	02:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Petroleum Ether	10
2	Petroleum Ether	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

## Personal Care Products

# Extraction

## From Mouthwash

### Procedure

1. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sorbent into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup layering on top of the sorbent. No mixing is needed.

### Notes

None

### Sorbents

Options:  
-Sodium Polyacrylate (5 g)  
-Diatomaceous Earth (5 g)

### Solvents

Hexane

### Sample Weight

5 g

### Equipment

EDGE  
40 mL collection vials - clear

### Q-Disc™

C9 + G1 + C9

### Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	40	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

### Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

### General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Toothpaste

## Procedure

1. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sorbent/sand into the Q-Cup. Spread evenly across the base of the Q-Cup by gentle tapping.
3. Weigh the sample into the Q-Cup\*.

## Notes

- \* for sand- mix into sample
- \* for Diatomaceous Earth- layer under sample, do not mix.

## Sorbents

Options:  
Sand (15 g)  
Diatomaceous Earth (5 g)

## Solvents

Hexane

## Sample Weight

5 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	40	03:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Hexane	10
2	Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

## Plastics, Polymers, & Oils



# Extraction of Film Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

Dichloromethane

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	0	*40-70	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	10
2	Cyclohexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Pigments From Plastics

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

Dichloromethane

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	15	5	0	*40-80	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dichloromethane	10
2	Cyclohexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Additives From PET

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

(40:60) Acetone: Hexane

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	25	10	5	115*	05:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Acetone	15
2	Hexane	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Additives From Pigment

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

None

## Sorbents

N/A

## Solvents

Dimethylformamide

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	100	01:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Dimethylformamide	10
2	Dimethylformamide	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Additives From Polyethylene Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Layer the C9 Q-Disc on top of the M1 Q-Disc.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

Isopropanol

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

M1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	30	10	0	*90	15:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Isopropanol	15
2	Isopropanol	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Chemical Modifier From Polyethylene Resin

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

None

## Solvents

(40:60) Acetone:Hexane

## Sample Weight

0.1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	10	*60	15:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(40:60) Acetone:Hexane	10
2	(40:60) Acetone:Hexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Additives From Polypropylene Powder

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™. Sandwich the G1 disc between the two C9 discs.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

Isopropanol

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C9 + G1 + C9

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	30	10	0	120	15:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	Isopropanol	15
2	Isopropanol	15

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.

# Extraction of Phthalates From Polyvinyl Chloride

## Procedure

1. Homogenize, mill or cryomill the sample. Assemble the Q-Cup™ with the Q-Disc™.
2. Weigh the sample into the Q-Cup.

## Notes

\*Plastics and polymers should only be extracted at temperatures below melting point range.

Expansion of the sample during extraction is common during polymer based extraction.

## Sorbents

N/A

## Solvents

(50:50) Isopropanol: Cyclohexane

## Sample Weight

1 g

## Equipment

EDGE  
40 mL collection vials - clear

## Q-Disc™

C1

## Heating Program

Stage	Top Add (mL)	Bottom Add (mL)	Rinse (mL)	Temp (°C)	Hold (mm:ss)
1	20	10	0	*80	10:00

Note: Temperature and hold times may vary depending on the sample and analytes of interest.

## Wash Program

Stage	Solvent	Volume (mL)
1	(50:50) Isopropanol: Cyclohexane	10
2	(50:50) Isopropanol: Cyclohexane	10

## General Guidelines

- a) This procedure is a reference point for sample extraction using a CEM system and may need to be modified or changed to obtain required results on your sample.
- b) Wear hand, eye, and body protection when handling organic solvents.
- c) Any of CEM's collection vials/centrifuge tubes in the correct size for the rack owned may be used.
- d) Verify needed solvents are loaded onto the system with sufficient volume. Load the sample rack into the EDGE. Select position and load method. Press play and add any any sample ID's, etc. as needed.
- e) Bring to volume or evaporate as necessary for analysis.