



Extraction and Dispersive Kits User Guide



roQTM

QuEChERS Kits

QuEChERS Kits Selection Chart.....	p. 3
AOAC 2007.01 Method Protocol	p. 4
EN 15662 Method Protocol.....	p. 5
Original Non-Buffered Protocol	p. 6
Ordering Information.....	p. 7

QuEChERS Kits Selection Chart

roQ™ Extraction and Dispersive SPE (dSPE)

Extraction Method	Sample Size	Fruit and Vegetable Type					
		Sample Size	General	Fats and Waxes	Pigmented	Highly Pigmented	Pigments and Fats
AOAC 2007.01 Method	15 g Part No. KS0-8911	1 mL	KS0-8920	KS0-8918	KS0-8919	–	KS0-8917
	15 g Part No. KS0-8912 to be used in combination with AOAC 2007.01 dSPE procedure						
Original Non-Buffered Method	or	1 mL	KS0-8916	KS0-8913	KS0-8914	KS0-8915	–
	10 g Part No. KS0-8910 to be used in combination with EN 15662 dSPE procedure						
EN 15662 Method	10 g Part No. KS0-8909	6 mL	KS0-8924	KS0-8921	KS0-8922	KS0-8923	–

AOAC 2007.01 Method

When performing the AOAC QuEChERS Method, two extraction methods can be followed; the buffered AOAC 2007.01 Method or the Original Non-Buffered Method. The buffered AOAC 2007.01 procedure stabilizes sample pH and helps to minimize degradation of pH sensitive pesticide residues (e.g. pymetrozine and sethoxydim).

Step 1: Extraction

roQ Extraction Kits

Part numbers:

KS0-8911 (Buffered AOAC 2007.01 Method)

KS0-8912 (Original Non-buffered Method)

1. **HOMOGENIZE** sample using a blender or similar apparatus.
2. **WEIGH** 15 g of homogenized sample into a clean 50 mL tube (provided in roQ Extraction Kits).
3. **ADD** 15 mL of Acetic acid/Acetonitrile (1:99) and internal standard.
4. **DISPENSE** contents of the included packet into the 50 mL tube containing homogenized sample.
5. **SHAKE** vigorously by hand for 1 minute.
6. **CENTRIFUGE** for 5 minutes @ 4000 rpm, making sure that the solid material is at the bottom of the tube and a liquid layer forms on top of the solid material.

The sample is now ready for further cleanup by dispersive SPE (dSPE) (see part numbers and procedures on right). If no further cleanup is desired, the top liquid layer can be removed and analyzed.

Step 2: Dispersive SPE (dSPE)

roQ dSPE Kits

Part numbers:

KS0-8917 KS0-8925

KS0-8918 KS0-8926

KS0-8919 KS0-8927

KS0-8920 KS0-8928

1. **TRANSFER** 1 or 8 mL of the supernatant from Step 6 of the extraction process into a 2 mL or 15 mL tube, respectively (provided in roQ dSPE Kits).
2. **SHAKE** vigorously by hand for 30 seconds.
3. **CENTRIFUGE** for 5 minute @ 4000 rpm to separate solid material from the liquid layer.
4. **TRANSFER** desired supernatant to an autosampler vial and analyze via GC or LC methods.

References

1. Anastassiades et al. J. AOAC International. Vol. 86, No 2, 2003.
2. AOAC Official Method 2007.01, Pesticide Residues in Foods by Acetonitrile Extraction and Partitioning with Magnesium Sulfate.

EN 15662 Method

When performing the EN 15662 QuEChERS Method, two extraction methods can be followed; the buffered EN 15662 Method or the Original Non-Buffered Method. The buffered EN 15662 Method utilizes a combination of four salts to provide partitioning and buffering of the sample. This buffered procedure stabilizes sample pH and helps to minimize degradation of pH sensitive pesticide residues (e.g. pymetrozine and sethoxydim).

Step 1: Extraction

roQ Extraction Kits

Part numbers:

KSO-8909 (Buffered EN 15662 Method)

KSO-8910 (Original Non-buffered Method)

1. **HOMOGENIZE** sample using a blender or similar apparatus.
2. **WEIGH** 10 g of homogenized sample into a clean 50 mL tube (provided in roQ Extraction Kits).
3. **ADD** 10 mL of Acetonitrile and internal standard.
4. **DISPENSE** contents of the included packet into the 50 mL tube containing homogenized sample.
5. **SHAKE** vigorously by hand for 1 minute.
6. **CENTRIFUGE** for 5 minutes @ 4000 rpm, making sure that the solid material is at the bottom of the tube and a liquid layer forms on top of the solid material.

The sample is now ready for further cleanup by dispersive SPE (dSPE) (see part numbers and procedures on right). If no further cleanup is desired, the top liquid layer can be removed and analyzed.

Step 2: Dispersive SPE (dSPE)

roQ dSPE Kits

Part numbers:

KSO-8913

KSO-8921

KSO-8914

KSO-8922

KSO-8915

KSO-8923

KSO-8916

KSO-8924

1. **TRANSFER** 1 or 6 mL of supernatant from Step 6 of the extraction process into a 2 mL or 15 mL tube, respectively (provided in roQ dSPE Kits).
2. **SHAKE** vigorously by hand for 30 seconds.
3. **CENTRIFUGE** for 5 minutes @ 4000 rpm to separate solid material from the liquid layer.
4. **TRANSFER** desired supernatant to an autosampler vial and analyze via GC or LC methods.

References

1. European Standard EN 15662, Foods of Plant Origin- Determination of Pesticide Residues Using GC-MS and/or LC-MS/MS Following Acetonitrile Extraction/Partitioning and Clean-up by Dispersive SPE (QuEChERS method).

Original Non-Buffered Method

The Original Non-Buffered QuEChERS Method can be used in combination with AOAC 2007.01 or EN 15662 dSPE procedures. The Non-Buffered Method is an extraction procedure that does not utilize buffering agents and is not recommended for use with pesticides that are pH sensitive (e.g. pymetrozine and sethoxydim).

Step 1: Extraction

roQ Extraction Kits

Part numbers:

KSO-8910 (to be used in combination with EN 15662 dSPE procedure)

KSO-8912 (to be used in combination with AOAC 2007.01 dSPE procedure)

1. **HOMOGENIZE** sample using a blender or similar apparatus.
2. **PART NO. KSO-8910**
 - a. Weigh 10 g of homogenized sample into a clean 50 mL tube (provided in roQ Extraction Kits).
 - b. Add 10 mL of Acetonitrile and internal standard.
- PART NO. KSO-8912**
 - a. Weigh 15 g of homogenized sample into a clean 50 mL tube (provided in roQ Extraction Kits).
 - b. Add 15 mL of Acetic acid/Acetonitrile (1:99) and internal standard.
4. **DISPENSE** contents of the included packet into the 50 mL tube containing homogenized sample.
5. **SHAKE** vigorously by hand for 1 minute.
6. **CENTRIFUGE** for 5 minutes @ 4000 rpm, making sure that the solid material is at the bottom of the tube and a liquid layer forms on top of the solid material.

The sample is now ready for further cleanup by dispersive SPE (dSPE) (see part numbers and procedures on right). If no further cleanup is desired, the top liquid layer can be removed and analyzed.

Step 2: Dispersive SPE (dSPE)

roQ dSPE Kits

Part numbers:

AOAC 2007.01 Method

KSO-8917 KSO-8925

KSO-8918 KSO-8926

KSO-8919 KSO-8927

KSO-8920 KSO-8928

1. **TRANSFER** 1 or 8 mL of the supernatant from Step 6 of the extraction process into a 2 mL or 15 mL tube, respectively (provided in roQ dSPE Kits).
2. **SHAKE** vigorously by hand for 30 seconds.
3. **CENTRIFUGE** for 5 minutes @ 4000 rpm to separate solid material from the liquid layer.
4. **TRANSFER** desired supernatant to an autosampler vial and analyze via GC or LC methods.

EN 15662 Method

KSO-8913 KSO-8921

KSO-8914 KSO-8922

KSO-8915 KSO-8923

KSO-8916 KSO-8924

1. **TRANSFER** 1 or 6 mL of the supernatant from Step 6 of the extraction process into a 2 mL or 15 mL tube, respectively (provided in roQ dSPE Kits).
2. **SHAKE** vigorously by hand for 30 seconds.
3. **CENTRIFUGE** for 5 minutes @ 4000 rpm to separate solid material from the liquid layer.
4. **TRANSFER** desired supernatant to an autosampler vial and analyze via GC or LC methods.

Ordering Information

roQ Extraction Kits

Description	Unit	Part No.
AOAC 2007.01 Method Extraction Kits		
6.0 g MgSO ₄ , 1.5 g NaOAc	50/PK	KSO-8911
EN 15662 Method Extraction Kits		
4.0 g MgSO ₄ , 1.0 g NaCl, 1.0 g SCTD, 0.5 g SCDS	50/PK	KSO-8909
Original Non-Buffered Method Extraction Kits		
4.0 g MgSO ₄ , 1.0 g NaCl	50/PK	KSO-8910
6.0 g MgSO ₄ , 1.5 g NaCl	50/PK	KSO-8912

roQ Extraction Kits contain fifty easy-pour salt packets and fifty 50mL stand-alone centrifuge tubes

roQ dSPE Kits

Description	Unit	Part No.
2 mL dSPE Kits		
150 mg MgSO ₄ , 25 mg PSA, 25 mg C18E	100/PK	KSO-8913
150 mg MgSO ₄ , 25 mg PSA, 2.5 mg GCB	100/PK	KSO-8914
150 mg MgSO ₄ , 25 mg PSA, 7.5 mg GCB	100/PK	KSO-8915
150 mg MgSO ₄ , 25 mg PSA	100/PK	KSO-8916
150 mg MgSO ₄ , 50 mg PSA, 50 mg C18E, 50 mg GCB	100/PK	KSO-8917
150 mg MgSO ₄ , 50 mg PSA, 50 mg C18E	100/PK	KSO-8918
150 mg MgSO ₄ , 50 mg PSA, 50 mg GCB	100/PK	KSO-8919
150 mg MgSO ₄ , 50 mg PSA	100/PK	KSO-8920

15 mL dSPE Kits

900 mg MgSO ₄ , 150 mg PSA, 150 mg C18E	50/PK	KSO-8921
900 mg MgSO ₄ , 150 mg PSA, 15 mg GCB	50/PK	KSO-8922
900 mg MgSO ₄ , 150 mg PSA, 45 mg GCB	50/PK	KSO-8923
900 mg MgSO ₄ , 150 mg PSA	50/PK	KSO-8924
1200 mg MgSO ₄ , 400 mg PSA, 400 mg C18E, 400 mg GCB	50/PK	KSO-8925
1200 mg MgSO ₄ , 400 mg PSA, 400 mg C18E	50/PK	KSO-8926
1200 mg MgSO ₄ , 400 mg PSA, 400 mg GCB	50/PK	KSO-8927
1200 mg MgSO ₄ , 400 mg PSA	50/PK	KSO-8928

roQ dSPE Kits contain pre-weighed sorbents / salts inside 2mL or 15mL centrifuge tubes

Bulk roQ QuEChERS Sorbents

Phase	10 g	100 g
C18-E	—	04G-4348
GCB (Graphitized Carbon Black)	04D-4615	04G-4615
PSA	—	04G-4610

roQ Extraction Salt Packets*

Description	Unit	Part No.
AOAC 2007.01 Method Extraction Packets		
6.0 g MgSO ₄ , 1.5 g NaOAc	50/Pk	AHO-9043
EN 15662 Method Extraction Packets		
4.0 g MgSO ₄ , 1.0 g NaCl, 1.0 g SCTD, 0.5 g SCDS	50/Pk	AHO-9041
Original Non-Buffered Method Extraction Packets		
4.0 g MgSO ₄ , 1.0 g NaCl	50/Pk	AHO-9042
6.0 g MgSO ₄ , 1.5 g NaCl	50/Pk	AHO-9044

* Salt packets only, do not include centrifuge tubes

guarantee

If roQ QuEChERS Kits do not perform as well or better than your current QuEChERS product, return the product with your comparative data within 45 days for a FULL REFUND.

Terms and Conditions

Subject to Phenomenex Standard Terms and Conditions, which may be viewed at www.phenomenex.com/TermsAndConditions.

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