

## TECHNICAL INFORMATION OF J.G. FINNERAN'S QuEChERS

QuEChERS (Quick, Easy, Cheap, Effective, Rugged & Safe) offer a convenient and effective approach for determining pesticide residues in fruits, vegetables, and other foods.

The J.G. Finneran QuEChERS Extraction and Dispersive SPE Kits enable you to work with specific methods, including:

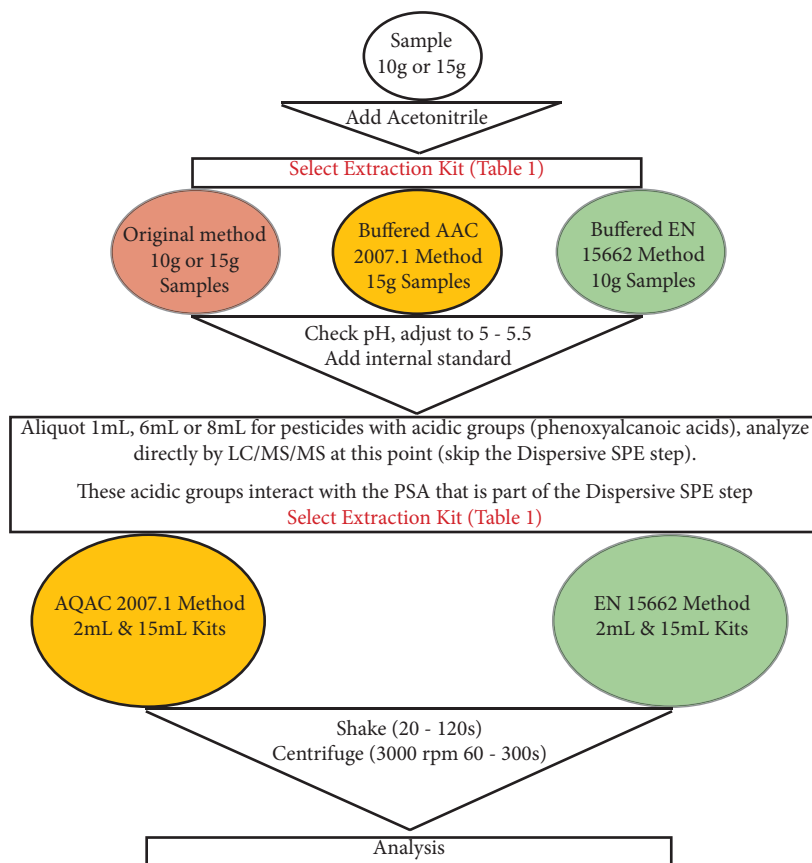
1. **European EN 15662 Method** - Foods and Plant Origin - Determination of Pesticide Residues using GC-MS and/or LC-MS/MS following Acetonitrile Extraction/Partitioning and Clean-up by Dispersive SPE - QuEChERS method.
2. **AOAC Official 2007.01 Method** - Pesticide Residues in Food by Acetonitrile Extraction and Partitioning with Magnesium Sulfate.
3. **Mini-multiresidue Method** - Method for the Analysis of Pesticide Residues in Low-Fat Products.

Our products make it simple to prepare your food samples for analysis with:

- High recoveries
- Accurate results
- High sample throughput
- Minimal solvent use
- Less labor
- Lower costs

We offer QuEChERS Extraction and Dispersive SPE products in a variety of standard sizes and formats.

- Extraction kits contain preweighed salts, so you can add them after the Acetonitrile Extraction step, protecting the integrity of your sample.
- Dispersive SPE kits are assembled in 2mL and 15mL sizes, they are preweighed and premixed with the right mix of salts and sorbents for your aliquot volume.



# QuEChERS

## PHASE 1: Extraction

Select the Extraction Kit depending on the type of food and the method to be used. Add solvent and salts to a small (10 or 15g) fruit or vegetable sample, enabling the extraction of the pesticide into an organic layer. (Table 1).

### PHASE 1 Extraction Kit 50mL Centrifuge Tubes for Sample Extraction

Table 1

Part No.	Description	Qty.	Recommended Application
JGF00150P	4g MgSO <sub>4</sub> , 1g NaCl, 1g trisodium citrate dihydrate, 0.5g disodium hydrogencitrate sesquihydrate	50	European EN-15662
JGF00250P	4g MgSO <sub>4</sub> , 1g NaCl	50	Mini-Multiresidue (10g sample)
JGF00350P	6g MgSO <sub>4</sub> , 1.5g NaCl, 1.5g sodium citrate dibasic, 0.75g disodium citrate dibasic sesquihydrate	50	
JGF00450P	6g MgSO <sub>4</sub> , 1.5g NaOAc	50	AOAC 2007.01
JGF00550P	6g MgSO <sub>4</sub> , 1.5g NaOAc, 0.75g disodium citrate sesquihydrate	50	
JGF00650P	6g MgSO <sub>4</sub> , 1.5g NaCl	50	Mini-Multiresidue (15g sample)

### Sachets

Part No.	Description	Qty.	Recommended Application
JGF00150S	4g MgSO <sub>4</sub> , 1g NaCl, 1g trisodium citrate dihydrate, 0.5g disodium hydrogencitrate sesquihydrate	50	European EN-15662
JGF00250S	4g MgSO <sub>4</sub> , 1g NaCl	50	Mini-Multiresidue (10g sample)
JGF00350S	6g MgSO <sub>4</sub> , 1.5g NaCl, 1.5g sodium citrate dibasic, 0.75g disodium citrate dibasic sesquihydrate	50	
JGF00450S	6g MgSO <sub>4</sub> , 1.5g NaOAc	50	AOAC 2007.01
JGF00550S	6g MgSO <sub>4</sub> , 1.5g NaOAc, 0.75g disodium citrate sesquihydrate	50	
JGF00650S	6g MgSO <sub>4</sub> , 1.5g NaCl	50	Mini-Multiresidue (15g sample)

PSA= Primary and secondary exchange material

GCB= Graphitized carbon blank



QuEChERS Sachets

## QuEChERS

### PHASE 2: Dispersive SPE Clean-up

Select the Extraction Kit depending on the type of food and the method to be used. One aliquot (\*) of sample extract from Phase 1 is added to either the 2mL or 15mL centrifuge tube that contains a small quantity of SPE sorbent and MgSO<sub>4</sub>.

### PHASE 2 Dispersive SPE Kit

#### 2mL Micro-centrifuge tubes

Part No.	Description	Qty.	*Aliquot (mL)	Recommended Application
JGF00102P	150mg MgSO <sub>4</sub> , 25mg PSA	100	1	European EN-15662 Mini-Multiresidue
JGF00202P	150mg MgSO <sub>4</sub> , 25mg PSA, 25mg C18	100	1	European EN-15662 Mini-Multiresidue
JGF00302P	150mg MgSO <sub>4</sub> , 25mg PSA, 2.5mg GCB	100	1	European EN-15662 Mini-Multiresidue
JGF00402P	150mg MgSO <sub>4</sub> , 25mg PSA, 7.5mg GCB	100	1	European EN-15662 Mini-Multiresidue
JGF00502P	150mg MgSO <sub>4</sub> , 50mg PSA	100	1	AOAC 2007.01
JGF00602P	150mg MgSO <sub>4</sub> , 50mg PSA, 50mg C18	100	1	AOAC 2007.01
JGF00702P	150mg MgSO <sub>4</sub> , 50mg PSA, 50mg GCB	100	1	AOAC 2007.01
JGF00802P	150mg MgSO <sub>4</sub> , 50mg PSA, 50mg C18, 50mg GCB	100	1	AOAC 2007.01
JGF00902P	150mg MgSO <sub>4</sub> , 25mg C18	100	1	AOAC 2007.01

### PHASE 2 Dispersive SPE Kit

#### 15mL Centrifuge tubes

Part No.	Description	Qty.	*Aliquot (mL)	Recommended Application
JGF00115P	1200mg MgSO <sub>4</sub> , 400mg PSA	50	8	AOAC 2007.01
JGF00215P	1200mg MgSO <sub>4</sub> , 400mg PSA, 400mg C18	50	8	AOAC 2007.01
JGF00315P	1200mg MgSO <sub>4</sub> , 400mg PSA, 400mg GCB	50	8	AOAC 2007.01
JGF00415P	1200mg MgSO <sub>4</sub> , 400mg PSA, 400mg C18, 400mg GCB	50	8	AOAC 2007.01
JGF00515P	900mg MgSO <sub>4</sub> , 150mg PSA	50	6	European EN-15662
JGF00615P	900mg MgSO <sub>4</sub> , 150mg PSA, 15mg GCB	50	6	European EN-15662
JGF00715P	900mg MgSO <sub>4</sub> , 150mg PSA, 45mg GCB	50	6	European EN-15662
JGF00815P	900mg MgSO <sub>4</sub> , 150mg PSA, 150mg C18	50	6	European EN-15662
JGF00915P	900mg MgSO <sub>4</sub> , 150mg PSA, 150mg GCB	50	6	European EN-15662
JGF01015P	900mg MgSO <sub>4</sub> , 300mg PSA, 150mg C18	50	6	European EN-15662
JGF01115P	900mg MgSO <sub>4</sub> , 150mg C18	50	6	AOAC 2007.01
JGF01215P	750mg MgSO <sub>4</sub> , 250mg PSA, 250mg C18, 250mg GCB	50		

### PHASE 2 Dispersive SPE Kit

#### Sachets

Part No.	Description	Qty.	Recommended Application
JGF00115S	1200mg MgSO <sub>4</sub> , 400mg PSA	50	AOAC 2007.01
JGF00215S	1200mg MgSO <sub>4</sub> , 400mg PSA, 400mg C18	50	AOAC 2007.01
JGF00315S	1200mg MgSO <sub>4</sub> , 400mg PSA, 400mg GCB	50	AOAC 2007.01
JGF00415S	1200mg MgSO <sub>4</sub> , 400mg PSA, 400mg C18, 400mg GCB	50	AOAC 2007.01
JGF00515S	900mg MgSO <sub>4</sub> , 150mg PSA	50	European EN-15662
JGF00615S	900mg MgSO <sub>4</sub> , 150mg PSA, 15mg GCB	50	European EN-15662
JGF00715S	900mg MgSO <sub>4</sub> , 150mg PSA, 45mg GCB	50	European EN-15662
JGF00815S	900mg MgSO <sub>4</sub> , 150mg PSA, 150mg C18	50	European EN-15662
JGF00915S	900mg MgSO <sub>4</sub> , 150mg PSA, 150mg GCB	50	European EN-15662
JGF01015S	900mg MgSO <sub>4</sub> , 300mg PSA, 150mg C18	50	European EN-15662
JGF01115S	900mg MgSO <sub>4</sub> , 150mg C18	50	AOAC 2007.01
JGF01215S	750mg MgSO <sub>4</sub> , 250mg PSA, 250mg C18, 250mg GCB	50	
JGF01315S	1200mg MgSO <sub>4</sub> , 400mg PSA, 400mg C18, 60mg GCB	50	



# QuEChERS

## Selection Guide for Dispersive Kits. Phase 2

## Methods



Types	Quantity per pack	EN 15662	AOAC 2007.1	Mini Multiresidue	Others
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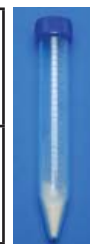
**General Fruits and Vegetables:** Removes polar organic acids, some sugars and lipids

	100 tubes, 2mL	25mg PSA 150mg MgSO4 Part No. JGF00102P	50mg PSA 150mg MgSO4 Part No. JGF00502P	25mg PSA 150mg MgSO4 Part No. JGF00102P	
	50 tubes, 15mL	150mg PSA 900mg MgSO4 Part No. JGF00515P	400mg PSA 1200mg MgSO4 Part No. JGF00115P		





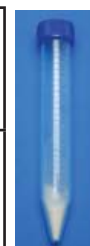
**Fruits and Vegetables with Fats and Waxes:** Removes polar organic acids, some sugars, more lipids and sterols

	100 tubes, 2mL	25mg PSA 25mg C18 150 mg MgSO4 Part No. JGF00202P	50mg PSA 50mg C18 150mg MgSO4 Part No. JGF00602P	25mg PSA 25mg C18 150mg MgSO4 Part No. JGF00202P	
	50 tubes, 15mL	150mg PSA 150mg C18 900mg MgSO4 Part No. JGF00815P	400mg PSA 400mg C18 1200mg MgSO4 Part No. JGF00215P		150mg C18 900mg MgSO4 Part No. JGF00815P





**Pigmented Fruits and Vegetables:** Removes polar organic acids, some sugars and lipids, and carotinoides and chlorophyll; not for use with planar pesticides

	100 tubes, 2mL	25mg PSA 2.5mg GCB 150mg MgSO4 Part No. JGF00302P	50mg PSA 50mg GCB 150mg MgSO4 Part No. JGF00702P	25mg PSA 2.5mg GCB 150mg MgSO4 Part No. JGF00302P	50mg PSA 50mg GCB 150mg MgSO4 Part No. JGF00702P
	50 tubes, 15mL	150mg PSA 15mg GCB 900mg MgSO4 Part No. JGF00615P	400mg PSA 400mg GCB 1200mg MgSO4 Part No. JGF00315P		





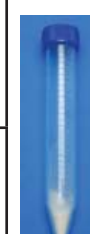
**Highly Pigmented Fruits and Vegetables:** Removes polar organic acids, some sugars and lipids, plus high levels of carotinoides and chlorophyll; not for use with planar pesticides

	100 tubes, 2mL	25mg PSA 7.5mg GCB 150mg MgSO4 Part No. JGF00402P	50mg PSA 50mg C18 50mg GCB 150mg MgSO4 Part No. JGF00802P	25mg PSA 7.5mg GCB 150mg MgSO4 Part No. JGF00402P	
	50 tubes, 15mL	150mg PSA 45mg GCB 900mg MgSO4 Part No. JGF00715P			300mg PSA 150mg GCB 900mg MgSO4 Part No. JGF00915P



**Fruits and Vegetables with Pigments and Fats:** Removes polar organic acids, some sugars and lipids, plus carotinoides and chlorophyll; not for use with planar pesticides

	100 tubes, 2mL		50mg PSA 50mg C18 50mg GCB 150mg MgSO4 Part No. JGF00802P		
	50 tubes, 15mL		400mg PSA 400mg C18 400mg GCB 1200mg MgSO4 Part No. JGF00415P		



**Other Food Methods:** Removes biological matrix interferences, including hydrophobic substances (fats, lipids) and proteins

	100 tubes, 2mL		25mg C18 150mg MgSO4 Part No. JGF00902P		
	50 tubes, 15mL		150mg C18 900mg MgSO4 Part No. JGF01115P		

