



# Extraction of Pesticides from Tomato Using the QuEChERS Approach

(This method is applicable to all pigmented fruit and vegetables)

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## UCT Products:

**ECQUEU750CT-MP** 4000 mg magnesium sulfate anhydrous, 1000 mg sodium chloride, 500 mg sodium citrate dibasic sesquihydrate, 1000 mg sodium citrate tribasic dihydrate

**ECQUEU32CT** 2 mL micro-centrifuge tube with 150 mg magnesium sulfate anhydrous, 25 mg primary secondary amine bonded phase (PSA) and 2.5 mg graphitized carbon black (GCB)

**ECQUEU515CT** 15 mL centrifuge tube with 900 mg magnesium sulfate anhydrous, 150 mg primary secondary amine (PSA) bonded phase and 15 mg graphitized carbon black (GCB)

## 1. Sample Preparation

- Add 15g of homogenized and hydrated tomato product (> 80% moisture) to a centrifuge tube
- Add 15 mL acetonitrile including internal standard
- Shake or vortex for 30 seconds
- Add contents of a package of **ECQUEU750CT-MP** to centrifuge tube
- Immediately, shake vigorously for 2 minutes
- Centrifuge for 2 minutes at 3450 rcf
- Draw 1 or 6 mL of supernatant for clean-up

## 2. Clean-Up

- For 1 mL of supernatant, use product **ECQUEU32CT**
- For 6 mL of supernatant, use product **ECQUEU515CT**
- Add supernatant to centrifuge tube and shake vigorously for 1 minute
- Centrifuge for 2 minutes at 3450 rcf

## 3. Analysis by GC (suggested)

- Transfer an aliquot of supernatant from step 2 to a centrifuge tube
- Add TPP solution and 1 ml of toluene
- Evaporate using nitrogen at 50 C to approximately 0.3 to 0.6 ml.
- Bring to 1 ml final volume with toluene
- Inject 8 µL on LVI/GC/MS

## 4. Analysis by LC (suggested)

- Transfer 0.25 ml of supernatant from step 2 to a LC vial.
- Add TPP solution and 0.86 ml of 6.7 mM formic acid
- Analyze by LC/MS/MS

## References:

### QuEChERS AOAC Method 2007.01

Anastassiades, *et al* (2003) "Fast and Easy Multiresidue method employing acetonitrile extraction partitioning and dispersive solid-phase extraction for the determination of pesticide residues in product" Journal of AOAC International Vol 86 no. 2

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