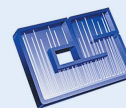


Non-dispersive QuEChERS-Method à la LCTech

October 2021



**CHROMATOGRAPHIC
SPECIALTIES INC.**



1-800-267-8103 • www.chromspec.com • tech@chromspec.com

- **Quick, Easy, Cheap, Effective, Rugged, and Safe**
 - Within the years this has gotten many variations and laboratory staff has to do a lot of work
- Manual steps involved for clean-up, laboratories need faster and less labor intense and solvent-consuming method
- Conventional QuEChERS method is a standard method in all food and feed labs, but not yet applicable for “difficult matrices” such as tea, spices, and TCM
- Conventional QuEChERS method leads to contamination of MS units due to matrix residues
- Laboratories need a secured working clean-up around the clock to optimize analysis capacities

LCTech offers now:

- Even more straightforward method than conventional QuEChERS method
➡ Less manual work, faster, cheaper
- Special miniaturized SPE-columns for non-dispersive clean-up step
➡ Reduced matrix burden, improved chromatography, and less downtime in LC-MS and GC-MS

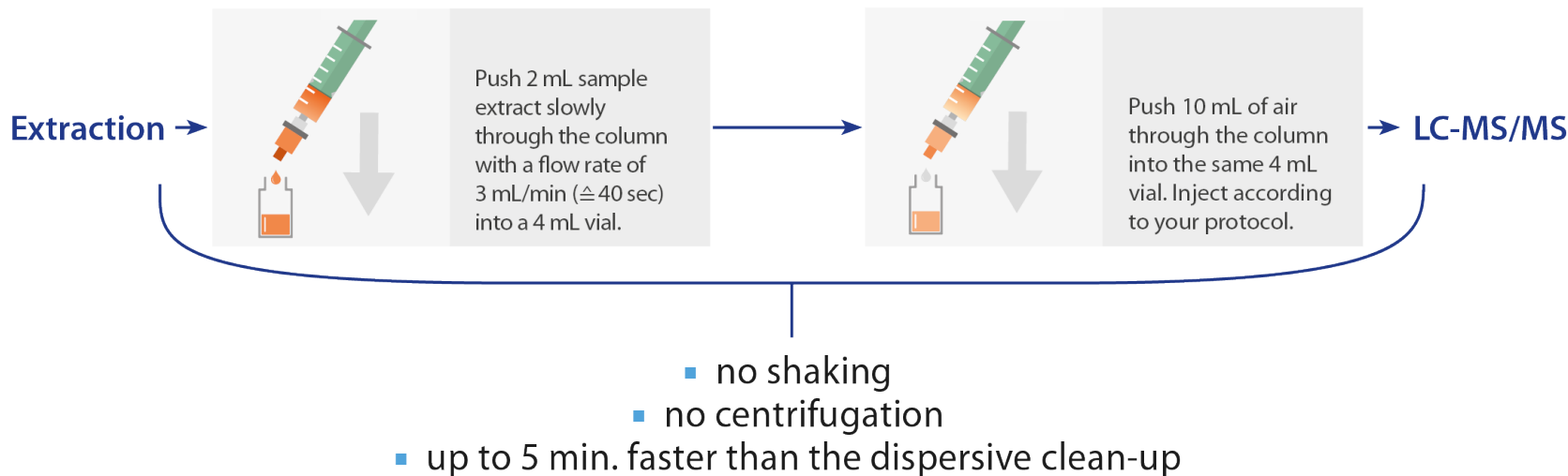
LCTech Specific Cartridges – 3 Different Versions

- Pesticide I: **Classic QuEChERS Column** (P/N 19853)
➔ For fruits and vegetables
- Pesticide II: **Special QuEChERS Column** (P/N 19854)
➔ For tea, spices and hops
- Pesticide III: **Extra QuEChERS Column** (P/N 19855)
➔ For matrices with high content of fat (> 10 %)

Just ask us for trial columns

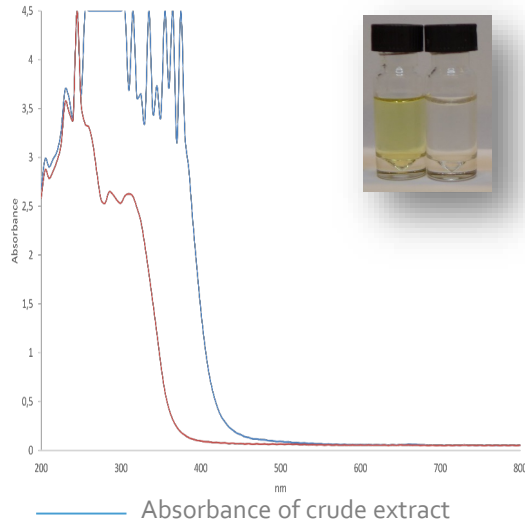


Quick and Easy Push through SPE clean-up

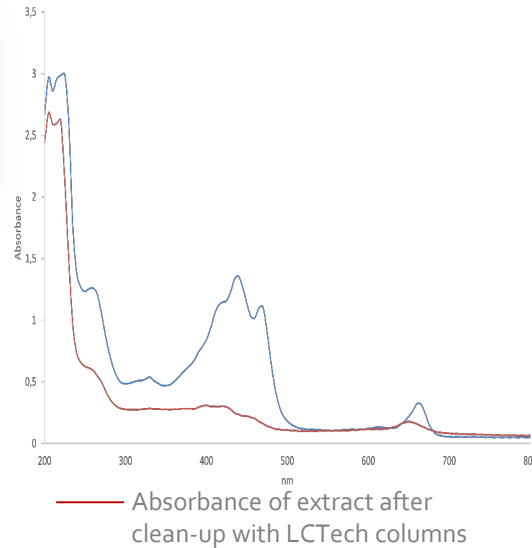


Matrix Burden of Extracts – Clean-up Efficiency

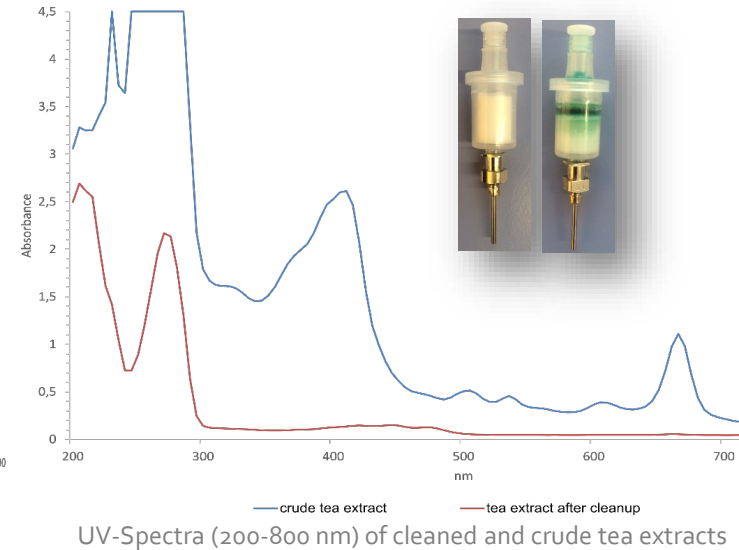
Lemon



Lettuce



Tea



UV-Spectra (200-800 nm) of cleaned and crude tea extracts

Matrix Reduction with non-dispersive Pesticide III

No freezing out!

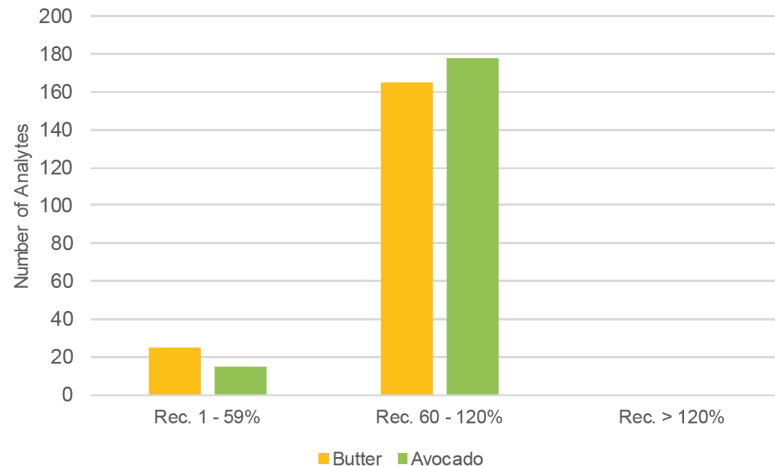


Matrix reduction: Avocado: 95 %; Butter: 99 %

Left: Extract after addition of Mix I

Middle: Extract after dispersive SPE clean-up

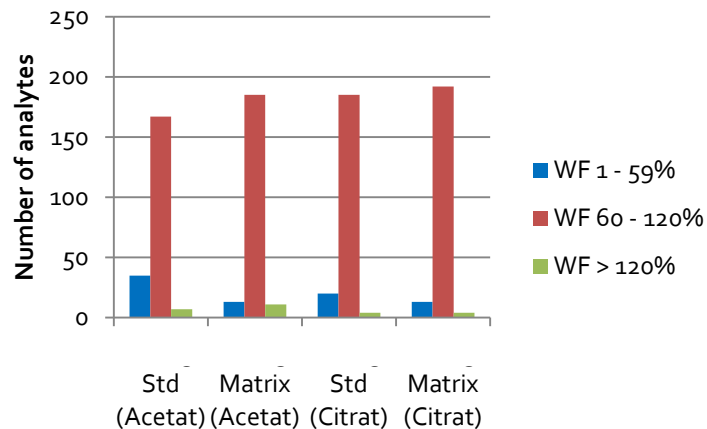
Right: Extract after non-dispersive automated clean-up via FREESTYLE and Pesticide III QuEChERS column



Number of analytes out of a standard mixture with 200 Pesticides

Results – Fruits and Vegetables

Matrix Apple



Acetate buffer



Citrate buffer



Acetate buffer



Citrate buffer

Advantages

- Better results
 - Non-dispersive clean-up ➡ better chromatography due to reduced matrix ion suppression
 - Very good recoveries at very high reproducibility - much lower standard deviation
 - Even some pesticides reproducible detectable that were not giving reliable signals before
 - Longer lifetime of GC-MS or LC-MS before cleaning downtime is required
- Automated Version available based on Freestyle SPE
- Applicable for LC-MS and GC-MS analysis

Thanks for Your Attention!



www.LCTech.de



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