

Kinesis TELOS® QuEChERS Sample Preparation Products

- Extraction and Cleanup Kits for all sample types
- Full AOAC 2007.1 and EN15662 method compatibility
- User-friendly salt packs for easy transfer to centrifuge tube
- Homogenizer beads for complex matrices
- Custom kit manufacturing



Introduction

QuEChERS

QuEChERS (Quick, Easy, Cheap, Effective, Rugged and Safe) is a commonly used sample preparation technique that supports the determination of pesticides in vegetable, fruit and grain, and drug or antibiotic analysis in animal tissue.

TELOS QuEChERS

TELOS QuEChERS Extraction and Cleanup Kits provide the complete sample preparation solution to solid sample matrices. Developed to conform with documented AOAC 2007.1 and EN15662 protocols, TELOS QuEChERS offer the complete solution for both salt-assisted sample extraction and dispersive SPE (Solid Phase Extraction).

TELOS QuEChERS Extraction Kits

Salt-assisted extraction kits are the first stage cleanup for many samples types. This initial crude extraction and partitioning step uses organic solvent and salt solution to extract the required analytes into solution. This initial step often extracts a range of interferences that are removed during the subsequent cleanup stage (see TELOS QuEChERS Cleanup Kits).

The extraction kits are also available with homogenizer beads to facilitate the break-up of complex sample matrices.



Extraction protocols outlined by AOAC and EN legislation are comparative, while at the same time having specific differences:

AOAC 2007.01 Methodology

15g homogenized sample + 15ml 1% Acetic Acid in ACH in 50ml tube; add internal standard and shake.

Add 6g Anhydrous MgSO₄ and 1.5g Anhydrous NaAc, shake vigorously for 1 min.

Centrifuge, >1500rpm for 1 min

Transfer supernatant to clean tube with Anhydrous MgSO₄, PSA, C18 and GCB and shake.

Centrifuge, >1500rpm for 1 min

GC-MS analysis: dilute the extract with methylbenzene. LC-MS/MS analysis: dilute the extract with 6.7 mM formic acid.

EN 15662 Methodology

10g homogenized sample + 10ml Methanol in 50ml tube; add internal standard and shake.

Add 4g Anhydrous MgSO₄, 1g Anhydrous NaAc, 1g Sodium Citrate, 0.5g Disodium Citrate Sesquihydrate, shake vigorously.

Centrifuge, > 3000rpm

Transfer supernatant to clean tube with 150mg Anhydrous MgSO₄, 25mg PSA, 2.5mg or 7.5mg GCB (remove pigments/optional), shake.

Centrifuge, > 3000rpm

GC-MS or LC-MS/MS analysis: dilute the extract with 5% Acetic Acid in ACH.

The range of TELOS QuEChERS Extraction Kits ensure all aspects of AOAC and EN requirements are met.

To facilitate the extraction process, we have developed a user-friendly salt pack, making the transfer of the salt to the required centrifuge tube rapid, easy and with minimal waste.

There are six different TELOS QuEChERS Extraction Kits, supporting all AOAC 2007.1 and EN15662 methodologies. The Extraction Kits are available with or without 50mL centrifuge tubes, with the latter also available with homogenizer beads for the break-up of more complex sample types.

TELOS QuEChERS Cleanup Kits

TELOS QuEChERS Cleanup Kits are optimized for the cleanup of the sample. Having performed the initial sample prep with a TELOS QuEChERS Extraction Kit, more advanced cleanup is often required for the removal of interferences such as pigments, organic acids and fats. The removal of these interferences, which is matrix dependent, is carried out using a combination of three different SPE sorbents:

- **TELOS PestiCarb:** removes pigments, including chlorophyll and carotenoids
- **TELOS PSA:** removes organic acids
- **TELOS C18:** removes non-polar interferences, including fats

In addition to the above, anhydrous magnesium sulphate is present to remove any excess water.

The TELOS Cleanup Kits are available with 2- and 15mL centrifuge tubes, depending on the sample volume and methodology followed.

TELOS QuEChERS Extraction Kits

PART NUMBER	DESCRIPTION	PACK SIZE	METHODOLOGY
6g MgSO ₄ (Anhydrous), 1.5g NaAc (Anhydrous)			
ML-06478-89	TELOS QuEChERS Extraction Kit without Tube, 6g MgSO ₄ (Anhydrous), 1.5g NaAc (Anhydrous)	50	AOAC 2007.01
ML-06478-88	TELOS QuEChERS Extraction Kit with 50mL Centrifuge Tube, 6g MgSO ₄ (Anhydrous), 1.5g NaAc (Anhydrous)	50	AOAC 2007.01
ML-06478-90	TELOS QuEChERS Extraction Kit with 50mL Centrifuge Tube, Homogenizer Glass Beads, 6g MgSO ₄ (Anhydrous), 1.5g NaAc (Anhydrous)	50	AOAC 2007.01
4g MgSO ₄ (Anhydrous), 1g NaAc (Anhydrous)			
ML-06478-96	TELOS QuEChERS Extraction Kit without Tube, 4g MgSO ₄ (Anhydrous), 1g NaAc (Anhydrous)	50	AOAC 2007.01
ML-06478-95	TELOS QuEChERS Extraction Kit with 50mL Centrifuge Tube, 4g MgSO ₄ (Anhydrous), 1g NaAc (Anhydrous)	50	AOAC 2007.01
ML-06478-97	TELOS QuEChERS Extraction Kit with 50mL Centrifuge Tube, Glass Homogenizer Beads, 4g MgSO ₄ (Anhydrous), 1g NaAc (Anhydrous)	50	AOAC 2007.01
1g NaCl, 4g MgSO ₄ (Anhydrous), 0.5g Disodium Citrate Sesquihydrate (TSCD), 1g Sodium Citrate (DHS)			
ML-06479-01	TELOS QuEChERS Extraction Kit without Tube, 1g NaCl, 4g MgSO ₄ (Anhydrous), 0.5g Disodium Citrate Sesquihydrate (TSCD), 1g Sodium Citrate (DHS)	50	EN 15662
ML-06479-00	TELOS Extraction Kit with 50mL Centrifuge Tube 1g NaCl 4g MgSO ₄ (Anhydrous) 0.5g Disodium Citrate Sesquihydrate (TSCD), 1g Sodium Citrate (DHS), 50mL	50	EN 15662
ML-06479-02	TELOS QuEChERS Extraction Kit with 50mL Centrifuge Tube, Homogenizer Glass Beads, 1g NaCl, 4g MgSO ₄ (Anhydrous), 0.5g Disodium Citrate Sesquihydrate (TSCD), 1g Sodium Citrate (DHS)	50	EN 15662
4g MgSO ₄ (Anhydrous), 1g NaCl			
ML-06478-93	TELOS QuEChERS Extraction Kit without Tube, 4g MgSO ₄ (Anhydrous), 1g NaCl	50	—
ML-06478-92	TELOS QuEChERS Extraction Kit with 50mL Centrifuge Tube, 4g MgSO ₄ (Anhydrous), 1g NaCl	50	—
ML-06478-94	TELOS QuEChERS Extraction Kit with 50mL Centrifuge Tube, Homogenizer Glass Beads, 4g MgSO ₄ (Anhydrous), 1g NaCl	50	—
6g MgSO ₄ (Anhydrous), 1.5g NaCl			
ML-06478-86	TELOS QuEChERS Extraction Kit without Tube, 6g MgSO ₄ (Anhydrous), 1.5g NaCl	50	—
ML-06478-85	TELOS QuEChERS Extraction Kit with 50mL Centrifuge Tube, 6g MgSO ₄ (Anhydrous), 1.5g NaCl	50	—
ML-06478-87	TELOS QuEChERS Extraction Kit with 50mL Centrifuge Tube, Homogenizer Glass Beads, 6g MgSO ₄ (Anhydrous), 1.5g NaCl	50	—
6g MgSO ₄ (Anhydrous), 1.5g NaAc.3H ₂ O			
ML-06478-83	TELOS QuEChERS Extraction Kit without Tube, 6g MgSO ₄ (Anhydrous), 1.5g NaAc.3H ₂ O	50	AOAC 2007.01
ML-06478-82	TELOS QuEChERS Extraction Kit with 50mL Centrifuge Tube, 6g MgSO ₄ (Anhydrous), 1.5g NaAc.3H ₂ O	50	AOAC 2007.01
ML-06478-84	TELOS QuEChERS Extraction Kit with 50mL Centrifuge Tube, Homogenizer Glass Beads, 6g MgSO ₄ (Anhydrous), 1.5g NaAc.3H ₂ O	50	AOAC 2007.01

TELOS QuEChERS Cleanup Kits

PART NUMBER	DESCRIPTION	PACK SIZE	METHODOLOGY
Simple, General Cleanup			
ML-06479-04	TELOS QuEChERS Cleanup Kit, AOAC 2007.01, 150mg MgSO ₄ & 50mg PSA, 2mL	100	AOAC 2007.01
ML-06479-07	TELOS QuEChERS Cleanup Kit, EN 15662, 150mg PSA, 15mg PestiCarb, 900mg MgSO ₄ (Anhydrous), 15mL	50	AOAC 2007.01
ML-06479-05	TELOS QuEChERS Cleanup Kit, EN 15662, 150mg MgSO ₄ & 25mg PSA, 2mL	100	EN 15662
ML-06479-06	TELOS QuEChERS Cleanup Kit, EN 15662, 150mg PSA 900mg MgSO ₄ (Anhydrous), 15mL	50	EN 15662
Removal of Fats and Proteins			
ML-06478-65	TELOS QuEChERS Cleanup Kit, AOAC 2007.01, 150mg MgSO ₄ , 50mg PSA & 50mg C18, 2mL	100	AOAC 2007.01
ML-06478-68	TELOS QuEChERS Cleanup Kit, AOAC 2007.01, 400mg C18, 400mg PSA, 1.2g MgSO ₄ (anhydrous), 15mL	50	AOAC 2007.01
ML-06478-66	TELOS QuEChERS Cleanup Kit, EN 15662, 150mg MgSO ₄ , 25mg PSA & 25mg C18, 2mL	100	EN 15662
ML-06478-77	TELOS QuEChERS Cleanup Kit, EN 15662, 150mg C18, 150mg PSA, 900mg MgSO ₄ (anhydrous), 15mL	50	EN 15662
ML-06478-67	TELOS QuEChERS Cleanup Kit, NYT 1380-2007, 100mg PSA, 100mg C18, 300mg MgSO ₄ (Anhydrous), 15mL	50	NYT 1380-2007
Removal of Pigments			
ML-06479-10	TELOS QuEChERS Cleanup Kit, EN 15662, 150mg MgSO ₄ , 25mg PSA & 2.5mg PestiCarb, 2mL	100	EN 15662
ML-06479-13	TELOS QuEChERS Cleanup Kit, EN 15662, 150mg PSA, 15mg PestiCarb, 900mg MgSO ₄ (Anhydrous), 15mL	50	EN 15662
ML-06479-11	TELOS QuEChERS Cleanup Kit, EN 15662, 150mg MgSO ₄ , 25mg PSA & 7.5mg PestiCarb, 2mL	100	EN 15662
ML-06479-09	TELOS QuEChERS Cleanup Kit, AOAC 2007.01, 150mg MgSO ₄ 50mg PSA 50mg PestiCarb, 2mL	100	AOAC 2007.01
ML-06479-12	TELOS QuEChERS Cleanup Kit, EN 15662, 50mg PestiCarb, 900g MgSO ₄ (Anhydrous), 15mL	50	EN 15662
ML-06479-14	TELOS QuEChERS Cleanup Kit, AOAC 2007.01, 400mg PSA, 400mg PestiCarb, 1.2g MgSO ₄ (Anhydrous), 15mL	50	AOAC 2007.01
Removal of Fats, Proteins and Pigments			
ML-06478-78	TELOS QuEChERS Cleanup Kit, AOAC 2007.1, 150mg MgSO ₄ , 50mg PSA, 50mg C18 & 50mg PestiCarb, 2mL	100	AOAC 2007.1
ML-06478-80	TELOS QuEChERS Cleanup Kit, AOAC 2007.01, 400mg PSA, 400mg C18, 400mg PestiCarb, 1.2g MgSO ₄ (Anhydrous), 15mL	50	AOAC 2007.1
ML-06478-79	TELOS QuEChERS Cleanup Kit, 150mg PSA, 150mg PestiCarb, 150mg C18, 900mg MgSO ₄ (Anhydrous), 15mL	50	—

TELOS QuEChERS Accessories

PART NUMBER	DESCRIPTION	PACK SIZE
Empty Centrifuge Tubes		
ML-06478-59	TELOS QuEChERS Empty Centrifuge Tube, 2mL	100
ML-06478-61	TELOS QuEChERS Empty Centrifuge Tube, 15mL	50
ML-06478-63	TELOS QuEChERS Empty Centrifuge Tube, 50mL	50
Homogenizer Beads		
ML-06478-57	TELOS QuEChERS Glass Homogenizer Beads	50
ML-06478-58	TELOS QuEChERS Glass Homogenizer Beads	500

Additional Sample Prep and Analysis Products

In addition to the range of TELOS QuEChERS Sample Preparation Products, we offer a comprehensive range of TELOS SPE Columns & Plates, KX Syringe Filters and Kinesis Vials & Caps.

Please contact Instrument Solutions for more information.



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