



Cannabis

Available from:



# Certified Reference Materials (CRMs) for Cannabis Analysis

- Potency Testing
- Pesticides Residue Analysis
- Additional Pesticides of Interest
- Internal Standards
- Mycotoxins Analysis
- Residual Solvents Analysis
- Terpenes Profiling Analysis

Featuring  
the new  
**9-Component  
Cannabinoid  
Neutrals Mix**



**RESTEK**

Pure Chromatography

ThomasSci.com

# Potency Testing

## Streamline Cannabinoid Analyses with Our New Neutrals Mix

Our new nine-component cannabinoid mix streamlines cannabinoid analyses. By combining nine compounds into one ampul, calibration complexity has been simplified, enabling labs to minimize errors, save time, and reduce cost. A high concentration of 1000 µg/mL adds additional flexibility in constructing calibration curves and lowers solvent spiking volume for labs assessing potency recoveries.

Our cannabinoid neutrals mix is a certified reference material (CRM), manufactured and QC-tested in Restek's ISO-accredited labs. Verified composition and stability, with two independently produced lots available, help satisfy your ISO requirements.

### Compounds

- Cannabichromene (CBC)
- Cannabinol (CBN)
- Cannabicyclol (CBL)
- d8-Tetrahydrocannabinol (d8-THC)
- Cannabidiol (CBD)
- d9-Tetrahydrocannabinol (d9-THC)
- Cannabidivarin (CBDV)
- Tetrahydrocannabivarin (THCV)
- Cannabigerol (CBG)



### Cannabinoid Neutrals Mix

(9 components)

- Nine-component mix simplifies calibration complexity—saving time and reducing cost.
- High concentration of 1000 µg/mL adds additional flexibility in constructing calibration curves.
- Verified composition and stability.
- Two independently produced lots available.
- Restek has the products and expertise you need for cannabis analysis: [restek.com/cannabis](https://restek.com/cannabis)

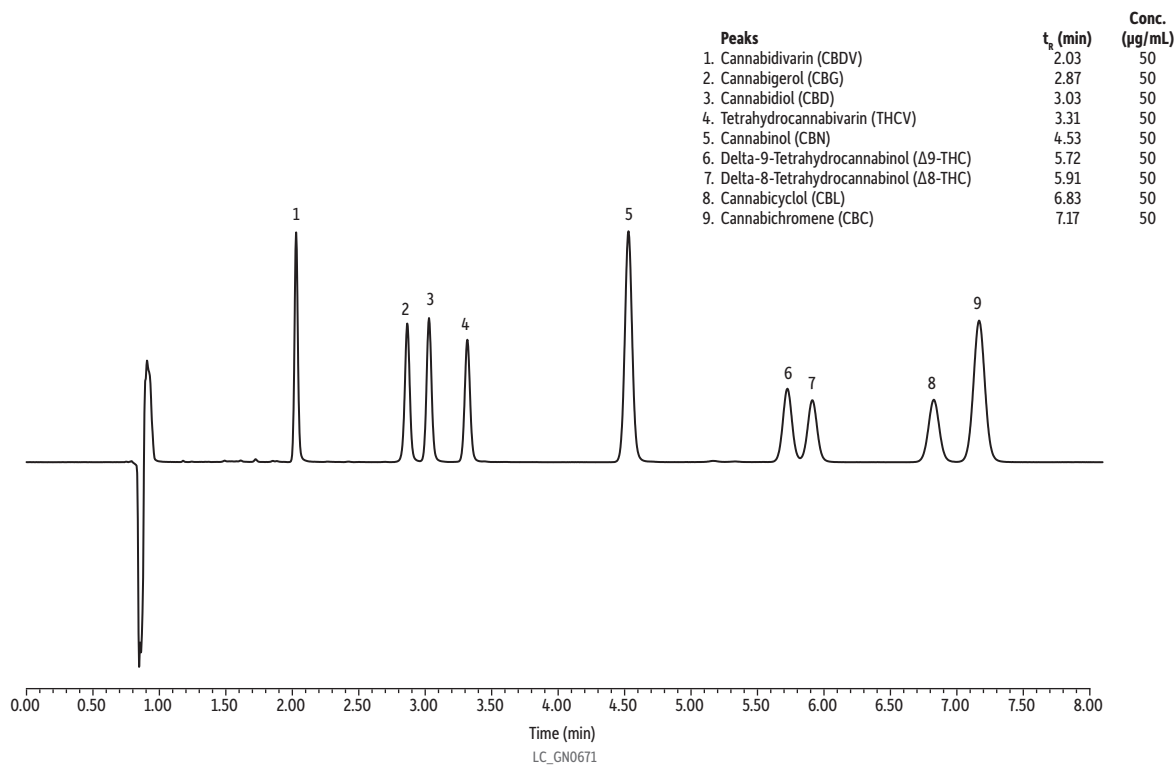
U.S. DEA-exempted formulation—no additional customer permits or licensing are required to purchase within the U.S.

Cannabichromene (CBC) (20675-51-8)  
 Cannabicyclol (CBL) (21366-63-2)  
 Cannabidiol (CBD) (13956-29-1)  
 Cannabidivarin (CBDV) (24274-48-4)  
 Cannabigerol (CBG) (25654-31-3)

Cannabinol (CBN) (521-35-7)  
 d8-Tetrahydrocannabinol (d8-THC) (5957-75-5)  
 d9-Tetrahydrocannabinol (d9-THC) (1972-08-3)  
 Tetrahydrocannabivarin (THCV) (31262-37-0)

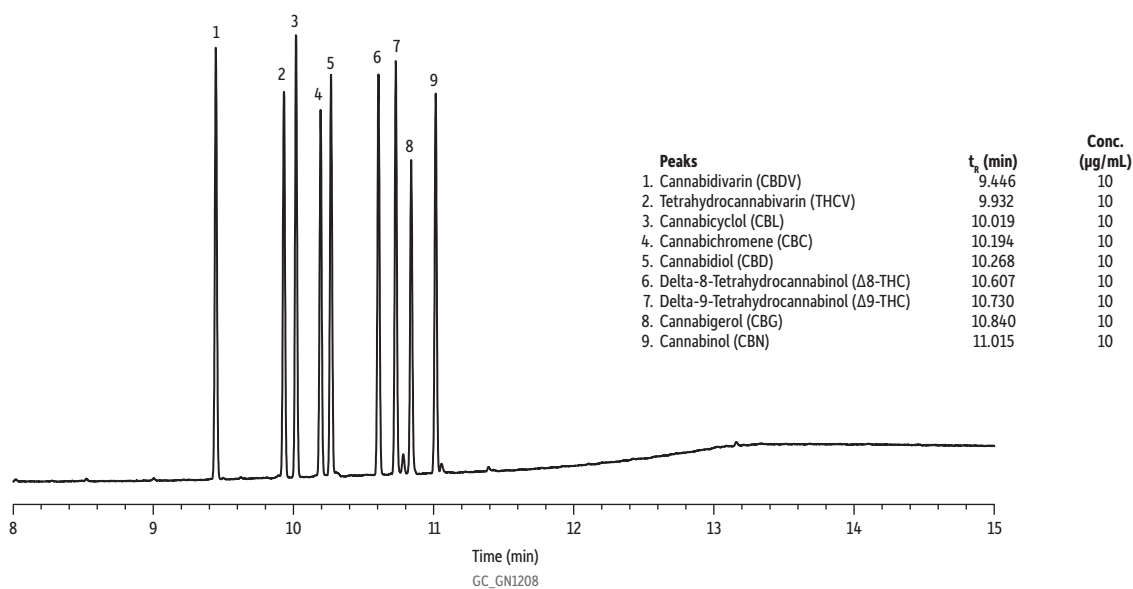
Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
1000 µg/mL, P&T Methanol, 1 mL/ampul	Yes	Exempt	C.T.K.# 003-004	6 months	24 months	On Ice	-20 °C or colder	ea.	34132

**Figure 1:** By including nine compounds in one ampul, lab operations can be streamlined while achieving a more comprehensive cannabinoid characterization via LC-UV.



**Column:** Raptor ARC-18 (cat.# 9314A65); Dimensions: 150 mm x 4.6 mm ID; Particle Size: 2.7  $\mu\text{m}$ ; Pore Size: 90  $\text{\AA}$ ; Guard Column: Raptor ARC-18 5 mm, 4.6 mm ID, 2.7  $\mu\text{m}$  (cat.# 9314A0250); Temp.: 30  $^{\circ}\text{C}$ ; **Sample:** Cannabinoids neutrals 9 mix (cat.# 34132); Diluent: Methanol; Conc.: 50 ppm; Inj. Vol.: 5  $\mu\text{L}$ ; **Mobile Phase:** A: Water, 5 mM ammonium formate, 0.1% formic acid; B: Acetonitrile, 0.1% formic acid; Isocratic (%B): 0.00 min (75%), 10.00 (75%); Flow: 1.5 mL/min; **Detector:** UV/Vis @ 228 nm; **Instrument:** UHPLC.

**Figure 2:** The advantages of this mix can also be experienced by labs using GC-FIDs.



**Column:** Rxi-35Sil MS, 15 m, 0.25 mm ID, 0.25  $\mu\text{m}$  (cat.# 13820); **Sample:** Cannabinoids neutrals 9 mix (cat.# 34132); Diluent: Methanol; Conc.: 10  $\mu\text{g/mL}$ ; **Injection:** Inj. Vol.: 1  $\mu\text{L}$  split (split ratio 10:1); **Liner:** Topaz 4.0 mm ID Precision inlet liner w/ wool (cat.# 23305); Inj. Temp.: 260  $^{\circ}\text{C}$ ; Split Vent Flow Rate: 3 mL/min; **Oven:** Oven Temp.: 80  $^{\circ}\text{C}$  (hold 1 min) to 320  $^{\circ}\text{C}$  at 20  $^{\circ}\text{C}/\text{min}$  (hold 3 min); **Carrier Gas:** He, constant flow; Flow Rate: 2.0 mL/min; **Detector:** FID @ 330  $^{\circ}\text{C}$ ; Make-up Gas Flow Rate: 15 mL/min; Make-up Gas Type:  $\text{N}_2$ ; Hydrogen flow: 30 mL/min; Air flow: 400 mL/min; Data Rate: 20 Hz; **Instrument:** Agilent 7890B GC.



## Potency Testing

### Multi-Component Mixes

#### Cannabinoids Standard

(3 components)

U.S. DEA-exempted formulation—no additional customer permits or licensing are required to purchase within the U.S.

Cannabidiol (CBD) (13956-29-1)  
Cannabinol (CBN) (521-35-7)

d9-Tetrahydrocannabinol (d9-THC) (1972-08-3)

Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
1000 µg/mL each in P&T methanol, 1 mL/ampul	Yes	Exempt	T.K.# 71-048	6 months	24 months	On Ice	10 °C or colder	ea.	34014

### Singles

#### Cannabidiol (CBD) Standard

Excluded from U.S. DEA Controlled Substances Act (CSA) regulatory controls—no customer permits or licensing required to purchase within the U.S.

Cannabidiol (CBD) (13956-29-1)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
13956-29-1	1000 µg/mL in P&T methanol, 1 mL/ampul	Yes	Not Controlled	T.K.# 71-047	6 months	24 months	On Ice	10 °C or colder	Cannabinoids	ea.	34011

#### Cannabidiolic Acid (CBDA) Standard

- Prepared in acetonitrile, instead of methanol, to maintain stability and prevent methylation of carboxylic acid groups.

Excluded from U.S. DEA Controlled Substances Act (CSA) regulatory controls—no customer permits or licensing required to purchase within the U.S.

Cannabidiolic Acid (CBDA) (1244-58-2)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
1244-58-2	1000 µg/mL in acetonitrile, 1 mL/ampul	Yes	Not Controlled	T.K.# 71-055	6 months	18 months	On Ice	-20 °C or colder	ea.	34094

### d8-Tetrahydrocannabinol (d8-THC) Standard

U.S. DEA-exempted formulation—no additional customer permits or licensing are required to purchase within the U.S.

d8-tetrahydrocannabinol (d8-THC) (5957-75-5)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
5957-75-5	1000 µg/mL in P&T methanol, 1 mL/ampul	Yes	Exempt	T.K.# 71-051	6 months	24 months	On Ice	10 °C or colder	Cannabinoids	ea.	34090



### d9-Tetrahydrocannabinol (d9-THC) Standard

U.S. DEA-exempted formulation—no additional customer permits or licensing are required to purchase within the U.S.

d9-tetrahydrocannabinol (d9-THC) (1972-08-3)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
1972-08-3	1000 µg/mL in methanol, 1 mL/ampul	Yes	Exempt	T.K.# 71-049	6 months	24 months	On Ice	10 °C or colder	Cannabinoids	ea.	34067

### d9-Tetrahydrocannabinolic Acid A (THCA-A) Standard

U.S. DEA-exempted formulation—no additional customer permits or licensing are required to purchase within the U.S.

d9-tetrahydrocannabinolic acid A (THCA-A) (23978-85-0)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	Data pack available?	qty.	cat.#
23978-85-0	1000 µg/mL in acetonitrile, 1 mL/ampul	Yes	Exempt	C.T.K.# 002-011	6 months	21 months	On Ice	-20 °C or colder	Cannabinoids	No	ea.	34111

### (±)11-Nor-9-carboxy-D9-THC

(±)11-Nor-9-carboxy-D9-THC (104874-50-2)

CAS #	Conc. in Solvent	CRM?	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
104874-50-2	100 µg/mL in methanol, 1 mL/ampul	No	T.K.# 71-050	6 months	24 months	On Ice	10 °C or colder	Cannabinoids	ea.	34068

## Tetrahydrocannabivarin (THCV) Standard

U.S. DEA-exempted formulation—no additional customer permits or licensing are required to purchase within the U.S.

Tetrahydrocannabivarin (THCV) (31262-37-0)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
31262-37-0	1000 µg/mL in methanol, 1 mL/ampul	Yes	Exempt	T.K.# 85-010	6 months	On Ice	-20 °C ± 10 °C	Cannabinoids	ea.	34100

## Cannabigerol (CBG) Standard

Excluded from U.S. DEA Controlled Substances Act (CSA) regulatory controls—no customer permits or licensing required to purchase within the U.S.

Cannabigerol (CBG) (25654-31-3)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
25654-31-3	1000 µg/mL in P&T methanol, 1 mL/ampul	Yes	Not Controlled	T.K.# 71-052	6 months	36 months	On Ice	10 °C or colder	Cannabinoids	ea.	34091



## Cannabigerolic Acid (CBGA) Standard

- Prepared in acetonitrile, instead of methanol, to maintain stability and prevent methylation of carboxylic acid groups.

Excluded from U.S. DEA Controlled Substances Act (CSA) regulatory controls—no customer permits or licensing required to purchase within the U.S.

CBGA is a precursor acidic cannabinoid for THCA, CBDA, and CBCA via enzymatic reactions. In the presences of heat, CBGA decarboxylates to form CBG. LC analysis of CBGA is highly recommended since this cannabinoid is considered temperature sensitive. Adding CBGA to the list of compounds measured in potency testing allows for a more comprehensive characterization of the cannabinoid content in a given cannabis product. Combine with Restek's other cannabinoid standards to create a multicomponent instrument calibration set per your specific requirements.

Cannabigerolic Acid (CBGA) (25555-57-1)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
25555-57-1	1000 µg/mL in acetonitrile, 1 mL/ampul	Yes	Not Controlled	C.T.K.# 003-006	6 months	18 months	On Ice	-20 °C or colder	Cannabinoids	ea.	34135



## Cannabicyclol (CBL) Standard

Excluded from U.S. DEA Controlled Substances Act (CSA) regulatory controls—no customer permits or licensing required to purchase within the U.S.

Cannabicyclol (CBL) (21366-63-2)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
21366-63-2	1000 µg/mL in P&T methanol, 1 mL/ampul	Yes	Not Controlled	C.T.K.# 3-003	6 months	24 months	On Ice	-20 °C or colder	Cannabinoids	ea.	34130



### Cannabinol (CBN) Standard

Excluded from U.S. DEA Controlled Substances Act (CSA) regulatory controls—no customer permits or licensing required to purchase within the U.S.

Cannabinol (CBN) (521-35-7)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
521-35-7	1000 µg/mL in P&T methanol, 1 mL/ampul	Yes	Not Controlled	T.K.# 71-046	6 months	24 months	On Ice	10 °C or colder	Cannabinoids	ea.	34010

### Cannabidivarin (CBDV) Standard

Excluded from U.S. DEA Controlled Substances Act (CSA) regulatory controls—no customer permits or licensing required to purchase within the U.S.

Cannabidivarin (CBDV) (24274-48-4)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
24274-48-4	1000 µg/mL in P&T methanol, 1 mL/ampul	Yes	Not Controlled	C.T.K.# 3-001	6 months	18 months	On Ice	-20 °C or colder	Cannabinoids	ea.	34123



## Cannabidivarinic Acid (CBDVA) Reference Standard

Excluded from U.S. DEA Controlled Substances Act (CSA) regulatory controls—no customer permits or licensing required to purchase within the U.S.

Cannabidivarinic Acid (CBDVA) (31932-13-5)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
31932-13-5	1000 µg/mL in acetonitrile, 1 mL/ampul	Yes	Not Controlled	C.T.K.# 003-005	6 months	18 months	On Ice	-20 °C or colder	Cannabinoids	ea.	34134



## Cannabichromene (CBC) Standard

Excluded from U.S. DEA Controlled Substances Act (CSA) regulatory controls—no customer permits or licensing required to purchase within the U.S.

Cannabichromene (CBC) (20675-51-8)

CAS #	Conc. in Solvent	CRM?	DEA Status	Canadian Test Kit Registration	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Type	qty.	cat.#
20675-51-8	1000 µg/mL in P&T methanol, 1 mL/ampul	Yes	Not Controlled	T.K.# 71-053	6 months	36 months	On Ice	10 °C or colder	Cannabinoids	ea.	34092

# Pesticides Residue Analysis

## California Pesticide Standards

(6 separate mixes)

- Meet specific cannabis analysis needs of California set forth by the Bureau of Cannabis Control for regulated category I and II residual pesticide reporting—and of states with similar regulations/programs.
- Ideal for creating multipoint (5-point minimum suggested) calibration curves for GC-MS/MS and LC-MS/MS.
- Verified composition and stability.
- 66 compounds in 6 x 1 mL ampuls at 100 µg/mL.
- Prepared stock product eliminates the need for in-house standards preparation.
- Restek has the products and expertise you need for cannabis analysis: [www.restek.com/cannabis](http://www.restek.com/cannabis)

Each ampul sold separately.

### Cat. # 34124: California Pesticide Standard #1 (12 components)

Acephate (30560-19-1)  
Chlorpyrifos (2921-88-2)  
Counmaphos (56-72-4)  
Diazinon (333-41-5)  
Dichlorvos (DDVP) (62-73-7)  
Dimethoate (60-51-5)  
Ethoprophos (13194-48-4)  
Malathion (121-75-5)  
Methyl parathion (298-00-0)  
Mevinphos (7786-34-7)  
Naled (300-76-5)  
Phosmet (732-11-6)

### Cat. # 34125: California Pesticide Standard #2 (11 components)

Abamectin (71751-41-2)  
Acequinocyl (57960-19-7)  
Bifenthrin (82657-04-3)  
Cyfluthrin (68359-37-5)  
Cypermethrin (52315-07-8)  
Etofenprox (80844-07-1)  
Permethrin (*cis* & *trans*) (52645-53-1)  
Prallethrin (23031-36-9)  
Pyrethrins (8003-34-7)  
Spinetoram (J&L) (935545-74-7)

Spinosad (168316-95-8)

### Cat. # 34126: California Pesticide Standard #3 (9 components)

Aldicarb (116-06-3)  
Bifenazate (149877-41-8)  
Carbaryl (Sevin) (63-25-2)  
Carbofuran (1563-66-2)  
Fenoxycarb (72490-01-8)  
Methiocarb (2032-65-7)  
Methomyl (16752-77-5)  
Oxamyl (23135-22-0)  
Propoxur (Baygon) (114-26-1)

### Cat. # 34127: California Pesticide Standard #4 (9 components)

Boscalid (188425-85-6)  
Captan (133-06-2)  
Chlorantraniliprole (500008-45-7)  
Daminozide (1596-84-5)  
Dimethomorph (110488-70-5)  
Fenhexamid (126833-17-8)  
Flonicamid (158062-67-0)  
Hexythiazox (78587-05-0)  
Pyridaben (96489-71-3)

### Cat. # 34128: California Pesticide Standard #5 (10 components)

Azoxystrobin (131860-33-8)

Chlorfenapyr (122453-73-0)  
Fenpyroximate (111812-58-9)  
Kresoxim methyl (143390-89-0)  
Metalaxyl (57837-19-1)  
Piperonyl butoxide (51-03-6)  
Spiromesifen (283594-90-1)  
Spirotetramat (203313-25-1)  
Spiroxamine (118134-30-8)  
Trifloxystrobin (141517-21-7)

### Cat. # 34129: California Pesticide Standard #6 (15 components)

Acetamiprid (135410-20-7)  
Chlordane (57-74-9)  
Clofentezine (74115-24-5)  
Etoxazole (153233-91-1)  
Fipronil (120068-37-3)  
Fludioxonil (131341-86-1)  
Imazalil (35554-44-0)  
Imidacloprid (138261-41-3)  
Myclobutanil (88671-89-0)  
Paclobutrazol (76738-62-0)  
Pentachloronitrobenzene (Quintozene) (82-68-8)  
Propiconazole (Tilt) (60207-90-1)  
Tebuconazole (107534-96-3)  
Thiacloprid (111988-49-9)  
Thiamethoxam (153719-23-4)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
<b>California Pesticide Standard #1</b>							
100 µg/mL, Acetonitrile, 1mL/ampul	Yes	6 months	14 months	Ambient	-20 °C or colder	ea.	34124
<b>California Pesticide Standard #2</b>							
100 µg/mL, Acetonitrile, 1mL/ampul	Yes	6 months	24 months	Ambient	-20 °C or colder	ea.	34125t
<b>California Pesticide Standard #3</b>							
100 µg/mL, Acetonitrile, 1mL/ampul	Yes	6 months	24 months	Ambient	0 °C or colder	ea.	34126
<b>California Pesticide Standard #4</b>							
100 µg/mL, Acetonitrile, 1mL/ampul	Yes	6 months	24 months	Ambient	0 °C or colder	ea.	34127
<b>California Pesticide Standard #5</b>							
100 µg/mL, Acetonitrile, 1mL/ampul	Yes	6 months	24 months	Ambient	0 °C or colder	ea.	34128
<b>California Pesticide Standard #6</b>							
100 µg/mL, Acetonitrile, 1mL/ampul	Yes	6 months	24 months	Ambient	0 °C or colder	ea.	34129

## Oregon Pesticide Standards

(6 separate mixes)

- Meet specific cannabis pesticide residue analysis needs of Oregon—and states with similar pesticide residue regulations/programs.
- Verified composition and stability.
- 59 compounds in 6 x 1 mL ampules at 600 µg/mL—resulting in a convenient 100 µg/mL solution when blended immediately before use.
- Prepared stock product eliminates the need for in-house standards preparation.



Oregon Cannabis Pesticide Standards meet the specific cannabis pesticide residue analysis needs of Oregon—and states with similar pesticide residue regulations/programs. Dissolved in acetonitrile and formulated for stability, the 59 compounds are separated into 6 x 1 mL solutions with individual analyte concentrations of 600 µg/mL—resulting in a convenient 100 µg/mL solution when blended immediately before use. Designed with quality and convenience in mind, this set of standards eliminates the need for in-house standards preparation. Restek's Oregon Pesticide Standards are certified reference materials (CRM) manufactured and QC-tested in ISO-accredited labs.

Each ampul sold separately.

### Cat.# 32586: Oregon Pesticide Standard #1 (6 components)

Abamectin (71751-41-2)  
Acequinocyl (57960-19-7)  
(E)-Fenpyroximate (134098-61-6)  
Imidacloprid (138261-41-3)  
Spinosad (168316-95-8)  
Spirotetramat (203313-25-1)

### Cat.# 32587: Oregon Pesticide Standard #2 (14 components)

Acetamiprid (135410-20-7)  
Azoxystrobin (131860-33-8)  
Bifenazate (149877-41-8)  
Boscalid (188425-85-6)  
Chlorfenapyr (122453-73-0)  
Etoxazole (153233-91-1)  
Fludioxonil (131341-86-1)  
Kresoxim methyl (143390-89-0)  
Metalaxyl (57837-19-1)  
MGK-264 (113-48-4)  
Piperonyl butoxide (51-03-6)  
Spiromesifen (283594-90-1)  
Spiroxamine (118134-30-8)

Trifloxystrobin (141517-21-7)

### Cat.# 32588: Oregon Pesticide Standard #3 (10 components)

Aldicarb (116-06-3)  
Fipronil (120068-37-3)  
Fonicamid (158062-67-0)  
Hexythiazox (78587-05-0)  
Methiocarb (2032-65-7)  
Methomyl (16752-77-5)  
Oxamyl (23135-22-0)  
Pyridaben (96489-71-3)  
Thiacloprid (111988-49-9)  
Thiamethoxam (153719-23-4)

### Cat.# 32589: Oregon Pesticide Standard #4 (12 components)

Carbaryl (Sevin) (63-25-2)  
Carbofuran (1563-66-2)  
Chlorantraniliprole (500008-45-7)  
Clofentezine (74115-24-5)  
Daminozide (1596-84-5)  
Fenoxycarb (72490-01-8)  
Imazalil (35554-44-0)  
Myclobutanil (88671-89-0)  
Paclobutrazol (76738-62-0)

Propiconazole (Tilt) (60207-90-1)  
Propoxur (Baygon) (114-26-1)  
Tebuconazole (107534-96-3)

### Cat.# 32590: Oregon Pesticide Standard #5 (7 components)

Bifenthrin (82657-04-3)  
Cyfluthrin (68359-37-5)  
Cypermethrin (52315-07-8)  
Etofenprox (80844-07-1)  
Permethrin (*cis* & *trans*) (52645-53-1)  
Prallethrin (23031-36-9)  
Pyrethrins (8003-34-7)

### Cat.# 32591: Oregon Pesticide Standard #6 (10 components)

Acephate (30560-19-1)  
Chlorpyrifos (2921-88-2)  
Diazinon (333-41-5)  
Dichlorvos (DDVP) (62-73-7)  
Dimethoate (60-51-5)  
Ethoprophos (13194-48-4)  
Malathion (121-75-5)  
Methyl parathion (298-00-0)  
Naled (300-76-5)  
Phosmet (732-11-6)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
<b>Oregon Pesticide Standard #1</b>							
600 µg/mL, Acetonitrile, 1 mL/ampul	Yes	6 months	18 months	Ambient	-20 °C or colder	ea.	32586
<b>Oregon Pesticide Standard #2</b>							
600 µg/mL, Acetonitrile, 1 mL/ampul	Yes	6 months	18 months	Ambient	-20 °C or colder	ea.	32587
<b>Oregon Pesticide Standard #3</b>							
600 µg/mL, Acetonitrile, 1 mL/ampul	Yes	6 months	18 months	Ambient	10 °C or colder	ea.	32588
<b>Oregon Pesticide Standard #4</b>							
600 µg/mL, Acetonitrile, 1 mL/ampul	Yes	6 months	18 months	Ambient	10 °C or colder	ea.	32589
<b>Oregon Pesticide Standard #5</b>							
600 µg/mL, Acetonitrile, 1 mL/ampul	Yes	6 months	18 months	Ambient	10 °C or colder	ea.	32590
<b>Oregon Pesticide Standard #6</b>							
600 µg/mL, Acetonitrile, 1 mL/ampul	Yes	6 months	14 months	Ambient	10 °C or colder	ea.	32591

## LC Multiresidue Pesticide Kit

- Accurately detect and quantify pesticides of global food safety concern in a wide range of fruits, vegetables, and other commodities by LC-MS/MS.
- Full kit contains 204 compounds of interest, covering many LC-determined pesticides listed by government agencies; individual ampuls also sold separately.



31971

### Cat. # 31972: LC Multiresidue Pesticide Standard #1 (13 components)

*Organophosphorus Compounds*  
100 µg/mL each in acetonitrile, 1 mL/ampul

Acephate (30560-19-1)  
Carbaryl (Sevin) (63-25-2)  
Dicrotophos (141-66-2)  
Dimethoate (60-51-5)  
Dimethomorph (110488-70-5)  
Isocarboxiphos (24353-61-5)  
Methamidophos (10265-92-6)  
Mevinphos (7786-34-7)  
Monocrotophos (6923-22-4)  
Omethoate (1113-02-6)  
Temephos (Abate) (3383-96-8)  
Trichlorfon (Dylox) (52-68-6)  
Vamidothion (Vamidoate) (2275-23-2)

### Cat. # 31973: LC Multiresidue Pesticide Standard #2 (16 components)

*Carbamate/Uron Compounds*  
100 µg/mL each in acetonitrile, 1 mL/ampul

Alanycarb (83130-01-2)  
Aldicarb (116-06-3)  
Aldicarb sulfone (1646-88-4)  
Aldicarb sulfoxide (1646-87-3)  
Benfuracarb (82560-54-1)  
Butocarboxim (34681-10-2)  
Butoxycarboxim (34681-23-7)  
Ethiofencarb (29973-13-5)  
Furathiocarb (65907-30-4)  
Methabenzthiazuron (18691-97-9)  
Methiocarb (2032-65-7)  
Methomyl (16752-77-5)  
Oxamyl (23135-22-0)  
Tebuthiuron (34014-18-1)  
Thidiazuron (51707-55-2)  
Thiophanate-methyl (23564-05-8)

### Cat. # 31974: LC Multiresidue Pesticide Standard #3 (38 components)

*Carbamate/Uron Compounds*  
100 µg/mL each in acetonitrile, 1 mL/ampul

Bendiocarb (22781-23-3)  
Bifenazate (149877-41-8)  
Carbofuran (1563-66-2)  
Chlorfluazuron (71422-67-8)  
Chloroxuron (1982-47-4)

Chlortoluron (15545-48-9)  
Cycluron (2163-69-1)  
Diethofencarb (87130-20-9)  
Diflubenzuron (35367-38-5)  
Dioxacarb (6988-21-2)  
Diuron (330-54-1)  
Fenobucarb (BPMC) (3766-81-2)  
Fenoxycarb (7490-01-8)  
Fenuron (101-42-8)  
Flufenoxuron (101463-69-8)  
Fluometuron (2164-17-2)  
Forchlorfenuron (68157-60-8)  
Hexaflumuron (86479-06-3)  
3-Hydroxycarbofuran (16655-82-6)  
Indoxacarb (173584-44-6)  
Iprovalicarb (140923-17-7)  
Isoprocab (2631-40-5)  
Isoproturon (34123-59-6)  
Linuron (330-55-2)  
Lufenuron (103055-07-8)  
Metobromuron (3060-89-7)  
Monolinuron (1746-81-2)  
Neburon (555-37-3)  
Novaluron (116714-46-6)  
Pirimicarb (23103-98-2)  
Promecarb (2631-37-0)  
Propham (122-42-9)  
Propoxur (Baygon) (114-26-1)  
Pyraclostrobin (175013-18-0)  
Siduron (1982-49-6)  
Teflubenzuron (83121-18-0)  
Thiobencarb (28249-77-6)  
Triflumuron (64628-44-0)

### Cat. # 31975: LC Multiresidue Pesticide Standard #4 (63 components)

*Organonitrogen Compounds*  
100 µg/mL each in acetonitrile, 1 mL/ampul

Abamectin (71751-41-2)  
Acetamidopir (135410-20-7)  
Ametryn (834-12-8)  
Amitraz (33089-61-1)  
Azoxystrobin (131860-33-8)  
Benalaxyl (71626-11-4)  
Benzoximate (29104-30-1)  
Boscalid (188425-85-6)  
Butafenacil (134605-64-4)  
Carbetamide (16118-49-3)  
Carfentrazone ethyl (128639-02-1)  
Chlorantraniliprole (500008-45-7)  
Clovefentazine (74115-24-5)  
Cymoxanil (57966-95-7)

Cyprodinil (121552-61-2)  
Cyromazine (66215-27-8)  
Dimoxystrobin (149961-52-4)  
Dinotefuran (165252-70-0)  
Doramectin (117704-25-3)  
Eprinomectin (123997-26-2)  
Famoxadon (131807-57-3)  
Fenazaquin (120928-09-8)  
Fenhexamid (126833-17-8)  
Fenpyroximate (111812-58-9)  
Flonicamid (158062-67-0)  
Fluazinam\*\* (79622-59-6)  
Fludioxonil (131341-86-1)  
Fluoxastrobin (361377-29-9)  
Flutolanil (66332-96-5)  
Furalaxyl (57646-30-7)  
Iprovalicarb (112226-61-6)  
Imazalil (35554-44-0)  
Imidacloprid (138261-41-3)  
Ivermectin (70288-86-7)  
Kresoxim methyl (143390-89-0)  
Mandipropamid (374726-62-2)  
Monolinuron (1746-81-2)  
Mepronil (55814-41-0)  
Metaflumizone (139968-49-3)  
Metalaxyl (57837-19-1)  
Methoxyfenozide (161050-58-4)  
Moxidectin (113507-06-5)  
Myclobutanil (88671-89-0)  
Nitenpyram (120738-89-8)  
Oxadixyl (77732-09-3)  
Picoxystrobin (117428-22-5)  
Piperonyl butoxide (51-03-6)  
Prochloraz (67747-09-5)  
Prometon (1610-18-0)  
Pymetrozine (123312-89-0)  
Pyracarbolid (24691-76-7)  
Pyrimethanil (53112-28-0)  
Pyriproxyfen (95737-68-1)  
Quinoxifen (124495-18-7)  
Rotenone (83-79-4)  
Sebumeeton (26259-45-0)  
Spiroxamine (118134-30-8)  
Tebufenozide (112410-23-8)  
Tebufenpyrad (119168-77-3)  
Terbumeton (33693-04-8)  
Triadimefon (43121-43-3)  
Trifloxystrobin (141517-21-7)  
Zoxamide (156052-68-5)

### Cat. # 31976: LC Multiresidue Pesticide Standard #5 (30 components)

*Organonitrogen Compounds*  
100 µg/mL each in acetonitrile, 1 mL/ampul

Acibenzolar-S-methyl (135158-

54-2)  
Bupirimate (41483-43-6)  
Buprofezin (69327-76-0)  
Carboxin (5234-68-4)  
Clethodim (99129-21-2)  
Clothianidin (210880-92-5)  
Cyazofamid (120116-88-3)  
Ethiprole (181587-01-9)  
Ethofumesate (26225-79-6)  
Fenamidone (161326-34-7)  
Fipronil (120068-37-3)  
Flubendiamide (272451-65-7)  
Flufenacet (Fluthiamide) (142459-58-3)  
Hexythiazox (78587-05-0)  
Mefenacet (73250-68-7)  
Mesotrione (104206-82-8)  
Methoprotetryne (841-06-5)  
Metribuzin (21087-64-9)  
Prometryne (7287-19-6)  
Propargite (2312-35-8)  
Prothioconazole (178928-70-6)  
Mepanipyrim (110235-47-7)  
Simetryn (1014-70-6)  
Sulfentrazone (122836-35-5)  
Terbutryn (886-50-0)  
Thiabendazole (148-79-8)  
Thiacloprid (111988-49-9)  
Thiamethoxam (153719-23-4)  
Thiofanox (39196-18-4)  
Tricyclazole (Beam) (41814-78-2)

### Cat. # 31977: LC Multiresidue Pesticide Standard #6 (28 components)

*Organonitrogen Compounds*  
100 µg/mL each in acetonitrile, 1 mL/ampul

Baycor (Bitertanol) (55179-31-2)  
Bromoconazole (116255-48-2)  
Cycroconazole (94361-06-5)  
Diclobutrazol (75736-33-3)  
Difenoconazole (119446-68-3)  
Diniconazole (83657-24-3)  
Epoconazole (133855-98-8)  
Etaconazole (60207-93-4)  
Ethirimol (23947-60-6)  
Etoazole (153233-91-1)  
Fenarimol (60168-88-9)  
Fenbuconazole (114369-43-6)  
Fluquinconazole (136426-54-5)  
Flusilazole (85509-19-9)  
Flutriafol (76674-21-0)  
Fuberidazole (3878-19-1)  
Hexaconazole (79983-71-4)  
Ipcnazole (125225-28-7)  
Metconazole (125116-23-6)

Nuarimol (63284-71-9)  
Paclobutrazol (76738-62-0)  
Penconazole (66246-88-6)  
Propiconazole (Tilt) (60207-90-1)  
Tebuconazole (107534-96-3)  
Tetraconazole (112281-77-3)  
Triadimenol (55219-65-3)  
Triflumizole (68694-11-1)  
Triticonazole (131983-72-7)

### Cat. # 31978: LC Multiresidue Pesticide Standard #7 (7 components)

*Organonitrogen Compounds*  
100 µg/mL each in acetonitrile, 1 mL/ampul

Emamectin-benzoate (155569-91-8)  
Fenpropimorph (67564-91-4)  
Spirodiclofen (148477-71-8)  
Spinosad (168316-95-8)  
Pyridaben (96489-71-3)  
Spinetoram (J&L) (935545-74-7)  
Spiromesifen (283594-90-1)

### Cat. # 31979: LC Multiresidue Pesticide Standard #8

*Organonitrogen Compounds*  
100 µg/mL each in acetonitrile, 1 mL/ampul

Hydramethylnon (67485-29-4)

### Cat. # 31980: LC Multiresidue Pesticide Standard #9 (7 components)

*Carbamate/Uron Compounds*  
100 µg/mL each in acetonitrile, 1 mL/ampul

Aminocarb (2032-59-9)  
Desmedipham (13684-56-5)  
Formetanate HCL (23422-53-9)  
Mexacarbate (Zectran) (315-18-4)  
Monceren (Pencycuron) (66063-05-6)  
Phenmedipham (13684-63-4)  
Propamocarb free base (24579-73-5)

### Cat. # 31981: LC Multiresidue Pesticide Standard #10

*Carbamate/Uron Compounds*  
100 µg/mL each in methanol, 1 mL/ampul

Carbendazim (10605-21-7)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
Contains 1 mL each of these mixtures.	Yes	6 months	Ambient	-20 °C or colder	kit	31971

\* Note: When combining a large number of compounds with different chemical functionalities, mix stability can be an issue. In formulating these standards, we extensively studied the 204 compounds involved, then grouped them into as few mixes as possible while still ensuring maximum long-term stability and reliability. For quantitative analysis, we recommend analyzing each mix separately to ensure accurate results for every compound.

\*\* Note: In this standard, fluzinam should only be used for qualitative analysis. A single-component standard (cat.# 31982) is available for quantitative analysis.

## GC Multiresidue Pesticide Kit

- Accurately identify and quantify pesticide residues by GC-MS/MS in fruits, vegetables, botanicals, and herbals such as tea, ginseng, ginger, echinacea, and dietary supplements.
- Comprehensive 203-compound kit covers food safety lists by the FDA, USDA, and other global governmental agencies; individual ampuls also sold separately.



32562

### Cat. # 32563: GC Multiresidue Pesticide Standard #1 (16 components)

*Organophosphorus Compounds*  
100 µg/mL each in toluene, 1 mL/ampul  
Azinphos ethyl (2642-71-9)  
Azinphos methyl (86-50-0)  
Chlorpyrifos (2921-88-2)  
Chlorpyrifos methyl (5598-13-0)  
Diazinon (333-41-5)  
EPN (2104-64-5)  
Fenitrothion (122-14-5)  
Isazophos (13457-18-6)  
Phosalone (2310-17-0)  
Phosmet (732-11-6)  
Pirimiphos ethyl (23505-41-1)  
Pirimiphos methyl (29232-93-7)  
Pyraclofos (89784-60-1)  
Pyrazophos (13457-18-6)  
Pyridaphenthion (119-12-0)  
Quinalphos (13593-03-8)

### Cat. # 32564: GC Multiresidue Pesticide Standard #2 (40 components)

*Organochlorine Compounds*  
100 µg/mL each in toluene, 1 mL/ampul  
Aldrin (309-00-2)  
α-BHC (319-84-6)  
β-BHC (319-85-7)  
δ-BHC (319-86-8)  
γ-BHC (Lindane) (58-89-9)  
Chlorbenside (103-17-3)  
cis-Chlordane (5103-71-9)  
trans-Chlordane (5103-74-2)  
Chlorfenson (Ovex) (80-33-1)  
Chloroneb (2675-77-6)  
2,4'-DDD (53-19-0)  
4,4'-DDD (72-54-8)  
2,4'-DDE (3424-82-6)  
4,4'-DDE (72-55-9)  
2,4'-DDT (789-02-6)  
4,4'-DDT (50-29-3)  
4,4'-Dichlorobenzophenone (90-98-2)  
Dieldrin (60-57-1)  
Endosulfan I (959-98-8)  
Endosulfan II (33213-65-9)  
Endosulfan ether (3369-52-6)  
Endosulfan sulfate (1031-07-8)  
Endrin (72-20-8)  
Endrin aldehyde (7421-93-4)  
Endrin ketone (53494-70-5)  
Ethylan (Perthane) (72-56-0)  
Fenson (80-38-6)

Heptachlor (76-44-8)  
Heptachlor epoxide (isomer B) (1024-57-3)  
Hexachlorobenzene (118-74-1)  
Isodrin (465-73-6)  
2,4'-Methoxychlor (30667-99-3)  
4,4'-Methoxychlor olefin (2132-70-9)  
Mirex (2385-85-5)  
cis-Nonachlor (5103-73-1)  
trans-Nonachlor (39765-80-5)  
Pentachloroanisole (1825-21-4)  
Pentachlorobenzene (608-93-5)  
Pentachlorothioanisole (1825-19-0)  
Tetradifon (116-29-0)

### Cat. # 32565: GC Multiresidue Pesticide Standard #3 (25 components)

*Organonitrogen Compounds*  
100 µg/mL each in toluene:acetonitrile (99:1), 1 mL/ampul  
Benfluralin (1861-40-1)  
Biphenyl (92-52-4)  
Chlorothalonil (1897-45-6)  
Dichlofluanid (1085-98-9)  
Dichloran (99-30-9)  
3,4-Dichloroaniline (95-76-1)  
2,6-Dichlorobenzonitrile (Dichlobenil) (1194-65-6)  
Diphenylamine (122-39-4)  
Ethalfuralin (55283-68-6)  
Fluchloralin (33245-39-5)  
Isopropalin (33820-53-0)  
Nitalin (4726-14-1)  
Nitrofen (1836-75-5)  
Oxyfluorfen (42874-03-3)  
Pendimethalin (40487-42-1)  
Pentachloroaniline (527-20-8)  
Pentachlorobenzonitrile (20925-85-3)  
Pentachloronitrobenzene (Quintozene) (82-68-8)  
Prodiamine (29091-21-2)  
Profluralin (26399-36-0)  
2,3,5,6-Tetrachloroaniline (3481-20-7)  
Tetrachloronitrobenzene (Tecnazene) (117-18-0)  
THPI (Tetrahydrophthalimide) (1469-48-3)  
Tolyfluanid (731-27-1)  
Trifluralin (1582-09-8)

### Cat. # 32566: GC Multiresidue Pesticide Standard #4

### (28 components)

*Organonitrogen Compounds*  
100 µg/mL each in toluene, 1 mL/ampul  
Acetochlor (34256-82-1)  
Alachlor (15972-60-8)  
Allidochlor (93-71-0)  
Clomazone (Command) (81777-89-1)  
Cycloate (1134-23-2)  
Diallate (cis & trans) (2303-16-4)  
Dimethachlor (50563-36-5)  
Diphenamid (957-51-7)  
Fenpropathrin (39515-41-8)  
Fluquinconazole (136426-54-5)  
Flutolanil (66332-96-5)  
Linuron (330-55-2)  
Metazachlor (67129-08-2)  
Methoxychlor (72-43-5)  
Metolachlor (51218-45-2)  
N-(2,4-Dimethylphenyl)formamide (60397-77-5)  
Norflurazon (27314-13-2)  
Oxadiazon (19666-30-9)  
Pebulate (1114-71-2)  
Pretilachlor (51218-49-6)  
Prochloraz (67747-09-5)  
Propachlor (1918-16-7)  
Propanil (709-98-8)  
Propisochlor (86763-47-5)  
Propyzamide (23950-58-5)  
Pyridaben (96489-71-3)  
Tebufenpyrad (119168-77-3)  
Triallate (2303-17-5)

### Cat. # 32567: GC Multiresidue Pesticide Standard #5 (34 components)

*Organonitrogen Compounds*  
100 µg/mL each in toluene, 1 mL/ampul  
Atrazine (1912-24-9)  
Bupirimate (41483-43-6)  
Captafol (2425-06-1)  
Captan (133-06-2)  
Chlorfenapyr (122453-73-0)  
Cyprodinil (121552-61-2)  
Etofenprox (80844-07-1)  
Etridiazole (2593-15-9)  
Fenarimol (60168-88-9)  
Fipronil (120068-37-3)  
Fludioxonil (131341-86-1)  
Fluridone (Sonar) (59756-60-4)  
Flusilazole (85509-19-9)  
Flutriafol (76674-21-0)  
Folpet (133-07-3)  
Hexazinone (Velpar) (51235-04-2)

Iprodione (36734-19-7)  
Lenacil (2164-08-1)  
MGK-264 (113-48-4)  
Myclobutanil (88671-89-0)  
Paclobutrazol (76738-62-0)  
Penconazole (66246-88-6)  
Procymidone (32809-16-8)  
Propargite (2312-35-8)  
Pyrimethanil (53112-28-0)  
Pyriproxyfen (95737-68-1)  
Triadimefon (43121-43-3)  
Terbacil (5902-51-2)  
Terbutylazine (5915-41-3)  
Triflumizole (68694-11-1)  
Triadimenol (55219-65-3)  
Tricyclazole (Beam) (41814-78-2)  
Linuron (330-55-2)  
Vinclozolin (50471-44-8)

### Cat. # 32568: GC Multiresidue Pesticide Standard #6 (18 components)

*Synthetic Pyrethroid Compounds*  
100 µg/mL each in toluene, 1 mL/ampul  
Acrinathrin (101007-06-1)  
Anthraquinone (84-65-1)  
Bifenthrin (82657-04-3)  
Bioallethrin (584-79-2)  
Cyfluthrin (68359-37-5)  
lambda-Cyhalothrin (91465-08-6)  
Cypermethrin (52315-07-8)  
Deltamethrin (52918-63-5)  
Fenvalerate (51630-58-1)  
Flucythrinate (70124-77-5)  
tau-Fluvalinate (102851-06-9)  
cis-Permethrin (61949-76-6)  
trans-Permethrin (61949-77-7)  
Phenothrin (cis & trans) (26002-80-2)  
Resmethrin (10453-86-8)  
Tefluthrin (79538-32-2)  
Tetramethrin (7696-12-0)  
Transfluthrin (118712-89-3)

### Cat. # 32569: GC Multiresidue Pesticide Standard #7 (10 components)

*Herbicide Methyl Esters*  
100 µg/mL each in toluene, 1 mL/ampul  
Acequinocyl (57960-19-7)  
Bromopropylate (18181-80-1)  
Carfentrazone ethyl (128639-02-1)  
Chlorobenzilate (510-15-6)  
Chlorpropham (101-21-3)  
Chlozolate (84332-86-5)

DCPA methyl ester (Chlorthal-dimethyl) (1861-32-1)  
Fluazifop-p-butyl (79241-46-6)  
Metalaxyl (57837-19-1)  
2-Phenylphenol (90-43-7)

### Cat. # 32570: GC Multiresidue Pesticide Standard #8 (24 components)

*Organophosphorus Compounds*  
100 µg/mL each in toluene, 1 mL/ampul  
Bromfenvinphos-methyl (13104-21-7)  
Bromfenvinphos (33399-00-7)  
Bromophos ethyl (4824-78-6)  
Bromophos methyl (2104-96-3)  
Carbophenothion (786-19-6)  
Chlorfenvinphos (470-90-6)  
Chlorthiophos (60238-56-4)  
Coumaphos (56-72-4)  
Edifenphos (17109-49-8)  
Ethion (563-12-2)  
Fenamiphos (22224-92-6)  
Fenchlorphos (Ronnel) (299-84-3)  
Fenthion (55-38-9)  
Iodofenphos (18181-70-9)  
Leptophos (21609-90-5)  
Malathion (121-75-5)  
Methacrifos (62610-77-9)  
Profenofos (41198-08-7)  
Prothiofos (34643-46-4)  
Sulfotepp (3689-24-5)  
Sulprofos (35400-43-2)  
Terbufos (13071-79-9)  
Tetrachlorvinphos (22248-79-9)  
Tolclofos-methyl (57018-04-9)

### Cat. # 32571: GC Multiresidue Pesticide Standard #9 (8 components)

*Organophosphorus Compounds*  
100 µg/mL each in toluene, 1 mL/ampul  
Disulfoton (298-04-4)  
Fonofos (944-22-9)  
Methyl parathion (298-00-0)  
Mevinphos (7786-34-7)  
Parathion (ethyl parathion) (56-38-2)  
Phorate (298-02-2)  
Piperonyl butoxide (51-03-6)  
Triazophos (24017-47-8)

Description	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
GC Multiresidue Pesticide Kit	Contains 1 mL each of these mixtures.	Yes	6 months	Ambient	10 °C or colder	kit	32562



## QuEChERS Performance Standards Kit

- Designed for use in all QuEChERS methods for pesticides in fruits and vegetables, including the original unbuffered method, AOAC 2007.01, and EN 15662.
- Kit contains organochlorine, organonitrogen, organophosphorus, and carbamate pesticides commonly used on fruits and vegetables.
- Volatile, polar, active, base-sensitive, and nonvolatile compounds are included to allow comprehensive evaluation of QuEChERS extraction and cleanup efficiencies, and optimization of GC and LC instrumental conditions.
- Ideal for initial method evaluations and ongoing method performance validations.
- Analytes are divided into three ampuls based on compatibility for maximum stability and shelf life.\*
- Precise formulations improve data quality and operational efficiency; spend more time running samples and less time sourcing and preparing standards.
- Quantitatively analyzed to confirm the composition and stability of each mixture.

\*When combining compounds with different functionalities, chemical stability can be an issue. The analytes in this kit are separated into three mixes to ensure maximum long-term storage stability. For analysis, a fresh working standard should be prepared by combining the three kit mixes in a 1:1:1 ratio to prepare a 100 µg/mL working standard solution. Once blended, Restek does not recommend storing working standards or subsequent dilutions for future use.

Contains 1 mL each of these mixtures; 31153: QuEChERS Performance Standard A 31154: QuEChERS Performance Standard B 31155: QuEChERS Performance Standard C.

### Cat.# 31153: QuEChERS Performance Standard A (16 components)

Acephate (30560-19-1)  
 Azinphos methyl (86-50-0)  
 Chlorpyrifos (2921-88-2)  
 Coumaphos (56-72-4)  
 Diazinon (333-41-5)  
 Dichlofluanid (1085-98-9)  
 Dichlorvos (DDVP) (62-73-7)  
 Dimethoate (60-51-5)  
 Fenthion (55-38-9)  
 Malathion (121-75-5)  
 Methamidophos (10265-92-6)  
 Mevinphos (7786-34-7)  
 Omethoate (1113-02-6)  
 Phosalone (2310-17-0)  
 Pirimiphos methyl (29232-93-7)  
 Propargite (2312-35-8)

### Cat.# 31154: QuEChERS Performance Standard B (7 components)

gamma-BHC (Lindane) (58-89-9)  
 Chlorothalonil (1897-45-6)  
 4,4'-DDT (50-29-3)

Dicofol (Kelthane) (115-32-2)  
 Endosulfan sulfate (1031-07-8)  
 Endrin (72-20-8)  
 2-Phenylphenol (90-43-7)

### Cat.# 31155: QuEChERS Performance Standard C (17 components)

Bifenthrin (82657-04-3)  
 Captan (133-06-2)  
 Carbaryl (Sevin) (63-25-2)  
 Cyprodinil (121552-61-2)  
 Deltamethrin (52918-63-5)  
 Fenhexamid (126833-17-8)  
 Fenpropathrin (39515-41-8)  
 Folpet (133-07-3)  
 Imazalil (35554-44-0)  
 Iprodione (36734-19-7)  
 Metalaxyl (57837-19-1)  
 Methiocarb (2032-65-7)  
 Myclobutanil (88671-89-0)  
 cis-Permethrin (61949-76-6)  
 trans-Permethrin (61949-77-7)  
 Thiabendazole (148-79-8)  
 Vinclozolin (50471-44-8)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
300 µg/mL each in acetonitrile/acetic acid (99.9:0.1), 1 mL/ampul. Blend equal volumes of all three ampuls for a 100 µg/mL final solution.	Yes	3 months	Ambient	10 °C or colder	kit	31152

## Additional Pesticides of Interest

### Glyphosate Standard

Glyphosate (N-(phosphonomethyl)glycine) (1071-83-6)

CAS #	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
1071-83-6	1000 µg/mL in DI water, 1 mL/ampul	Yes	6 months	36 months	Ambient	10 °C or colder	ea.	32426
1071-83-6	1000 µg/mL in DI water, 5 mL/ampul	Yes	6 months	36 months	Ambient	10 °C or colder	ea.	32427

### AMPA (glyphosate metabolite)

Aminomethyl phosphonic acid (AMPA) (1066-51-9)

CAS #	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
1066-51-9	100 µg/mL in DI water, 1 mL/ampul	No	6 months	18 months	Ambient	10 °C or colder	ea.	32428



## Internal Standards

### Linuron-d6 Standard

Isotopically labeled to provide the best approach for pesticide residue quantification.

Linuron-d6 (1219804-76-8)

CAS #	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
1219804-76-8	100 µg/mL in acetonitrile, 1 mL/ampul	Yes	6 months	31 months	Ambient	10 °C or colder	ea.	31990

### Diuron-d6 Standard

Isotopically labeled to provide the best approach for pesticide residue quantification.

Diuron-d6 (1007536-67-5)

CAS #	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
1007536-67-5	100 µg/mL in acetonitrile, 1 mL/ampul	Yes	6 months	31 months	Ambient	10 °C or colder	ea.	31989

### Dimethoate-d6 Standard

Isotopically labeled to provide the best approach for pesticide residue quantification.

Dimethoate-d6 (1219794-81-6)

CAS #	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
1219794-81-6	100 µg/mL in acetonitrile, 1 mL/ampul	Yes	6 months	36 months	Ambient	10 °C or colder	ea.	31988



### Dichlorvos-d6 Standard

Isotopically labeled to provide the best approach for pesticide residue quantification.

Dichlorvos-d6 (203645-53-8)

CAS #	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
203645-53-8	100 µg/mL in acetone, 1 mL/ampul	Yes	3 months	12 months	Ambient	10 °C or colder	ea.	31987

### Diazinon-d10 Standard

Isotopically labeled to provide the best approach for pesticide residue quantification.

Diazinon-d10 (diethyl-d10) (100155-47-3)

CAS #	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
100155-47-3	100 µg/mL in acetonitrile, 1 mL/ampul	Yes	6 months	36 months	Ambient	10 °C or colder	ea.	31986

### Carbaryl-d7 Standard

Isotopically labeled to provide the best approach for pesticide residue quantification.

Carbaryl-d7 (362049-56-7)

CAS #	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
362049-56-7	100 µg/mL in acetonitrile, 1 mL/ampul	Yes	6 months	31 months	Ambient	10 °C or colder	ea.	31985

### Atrazine-d5 Standard

Isotopically labeled to provide the best approach for pesticide residue quantification.

Atrazine-d5 (163165-75-1)

CAS #	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
163165-75-1	100 µg/mL in acetonitrile, 1 mL/ampul	Yes	6 months	36 months	Ambient	10 °C or colder	ea.	31984





# Mycotoxins Analysis

## Multi-Component Mixes

### Aflatoxins (B1, B2, G1, G2) Standard

(4 components)

Ideal for mycotoxin analyses in cannabis and food testing labs.

Aflatoxin B1 (1162-65-8)  
Aflatoxin B2 (7220-81-7)

Aflatoxin G1 (1165-39-5)  
Aflatoxin G2 (7241-98-7)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Data pack available?	qty.	cat.#
<b>Aflatoxins (B1, B2, G1, G2) Standard</b>								
10 µg/mL, Acetonitrile, 1 mL/ampul	Yes	6 months	36 months	On Ice	0 °C or colder	No	ea.	34121



## Singles

### Ochratoxin A Standard

Ideal for mycotoxin analyses in cannabis and food testing labs.

Ochratoxin A (303-47-9)

CAS #	Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	Data pack available?	qty.	cat.#
303-47-9	10 µg/mL, Acetonitrile, 1 mL/ampul	Yes	6 months	36 months	On Ice	0 °C or colder	No	ea.	34122

# Residual Solvents Analysis

### Residual Solvents #1

(20 components)

- Designed for cannabis labs testing residual solvents at different threshold limits by headspace GC.
- Contains 20 commonly analyzed solvents in one convenient solution.
- Verified composition and stability.
- In stock and available for immediate shipment.

Acetone (67-64-1)  
Acetonitrile (75-05-8)  
Benzene (71-43-2)  
Chloroform (67-66-3)  
Cyclohexane (110-82-7)  
1,2-Dichloroethane (107-06-2)  
Diethyl ether (ethyl ether) (60-29-7)  
Ethanol (64-17-5)  
Ethyl acetate (141-78-6)  
(C7) *n*-Heptane (142-82-5)

(C6) *n*-Hexane (110-54-3)  
Methanol (67-56-1)  
Methylene chloride (75-09-2)  
(C5) *n*-Pentane (109-66-0)  
2-Propanol (isopropanol) (67-63-0)  
Toluene (108-88-3)  
Trichloroethene (trichloroethylene) (79-01-6)  
*m*-Xylene (108-38-3)  
*o*-Xylene (95-47-6)  
*p*-Xylene (106-42-3)

Conc. in Solvent	CRM?	Min Shelf Life on Ship Date	Max Shelf Life on Ship Date	Shipping Conditions	Storage Temp.	qty.	cat.#
<b>Residual Solvents #1</b>							
3000 µg/mL in N,N-Dimethylacetamide, 1 mL/ampul	Yes	6 months	45 months	Ambient	10 °C or colder	ea.	34105



## Do you need state, region, or country specific cannabis reference standards?



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