

# Standards for Cannabis Testing



**AccuStandard<sup>®</sup>**

# Cannabis Standards

AccuStandard offers standards for testing cannabinoids, terpenes, pesticide contaminants and residual solvents. Since the requirements differ by state, we have developed standards specific to state requirements. For additional information, contact our Technical Service Department.

## Cannabis Terpenes

### Cannabis Terpenes

#### SOLUTIONS at 100 µg/mL in PT Methanol

Compound	CAS	Cat. No.	Unit
(-)-alpha-Bisabolol	23089-26-1	<a href="#">CP-TER-001S</a>	1 mL
beta-Pinene	18172-67-3	<a href="#">CP-TER-002S</a>	1 mL
(-)-Borneol	464-45-9	<a href="#">CP-TER-003S</a>	1 mL
(-)-Caryophyllene oxide	1139-30-6	<a href="#">CP-TER-004S</a>	1 mL
(-)-Guaiaol	489-86-1	<a href="#">CP-TER-005S</a>	1 mL
(-)-Isopulegol	89-79-1	<a href="#">CP-TER-006S</a>	1 mL
(+)-Borneol	464-43-7	<a href="#">CP-TER-007S</a>	1 mL
(+)-Fenchone	4695-62-9	<a href="#">CP-TER-008S</a>	1 mL
Eucalyptol	470-82-6	<a href="#">CP-TER-009S</a>	1 mL
alpha-Humulene	6753-98-6	<a href="#">CP-TER-010S</a>	1 mL
alpha-Pinene	80-56-8	<a href="#">CP-TER-011S</a>	1 mL
alpha-Terpinene	99-86-5	<a href="#">CP-TER-012S</a>	1 mL
beta-Caryophyllene	87-44-5	<a href="#">CP-TER-013S</a>	1 mL
beta-Myrcene	123-35-3	<a href="#">CP-TER-014S</a>	1 mL
Camphene	79-92-5	<a href="#">CP-TER-015S</a>	1 mL
Camphor	76-22-2	<a href="#">CP-TER-016S</a>	1 mL
3-Carene	13466-78-9	<a href="#">CP-TER-017S</a>	1 mL
(R)-Limonene	5989-27-5	<a href="#">CP-TER-018S</a>	1 mL
gamma-Terpinene	99-85-4	<a href="#">CP-TER-019S</a>	1 mL
Geraniol	106-24-1	<a href="#">CP-TER-020S</a>	1 mL
(1R)-(-)-Fenchone	7787-20-4	<a href="#">CP-TER-021S</a>	1 mL
Linalool	78-70-6	<a href="#">CP-TER-022S</a>	1 mL
Nerolidol	7212-44-4	<a href="#">CP-TER-023S</a>	1 mL
Ocimene	13877-91-3	<a href="#">CP-TER-024S</a>	1 mL
p-Cymene	99-87-6	<a href="#">CP-TER-025S</a>	1 mL
Terpinolene	586-62-9	<a href="#">CP-TER-026S</a>	1 mL
Valencene (Tech)	4630-07-3	<a href="#">CP-TER-027S</a>	1 mL
Terpineol	8000-41-7	<a href="#">CP-TER-028S</a>	1 mL
Farnesene (mixture of isomers)		<a href="#">CP-TER-029S</a>	1 mL

### Cannabis Terpene Mix Set

CP-TER-MIX-SET

2 x 1 mL  
CP-TER-MIX-001, CP-TER-MIX-002

### Cannabis Terpene Mix 1

CP-TER-MIX-001

100 µg/mL each in PT Methanol

1 mL  
14 comps.

(-)-alpha-Bisabolol	Camphene
(-)-Caryophyllene oxide	Camphor
(-)-Isopulegol	Linalool
(+)-Fenchone	Nerolidol
Eucalyptol	Ocimene
beta-Caryophyllene	Valencene (Tech)
beta-Myrcene	3-Carene

### Cannabis Terpene Mix 2

CP-TER-MIX-002

100 µg/mL each in PT Methanol

1 mL  
14 comps.

beta-Pinene	(R)-Limonene
(-)-Guaiaol	gamma-Terpinene
(+)-Borneol	Geraniol
(-)-Borneol	(1R)-(-)-Fenchone
alpha-Humulene	p-Cymene
alpha-Pinene	Terpinolene
alpha-Terpinene	Terpineol

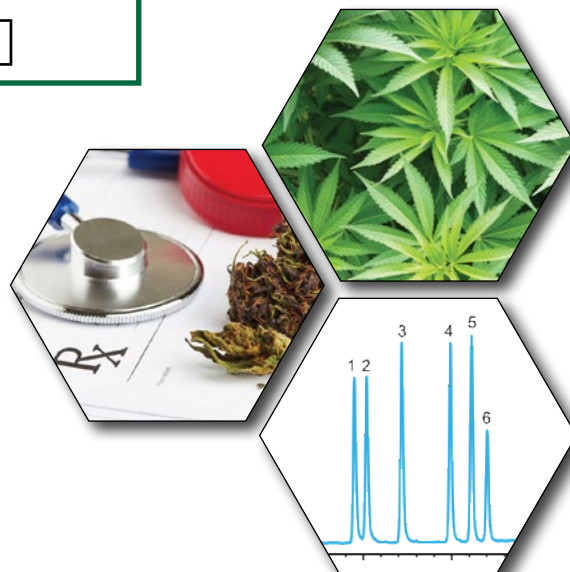
## Cannabinoid Standards

#### Solutions at 1000 µg/mL in PT Methanol

Compound	CAS	Cat. No.	Unit
Cannabidiol (CBD)	13956-29-1	<a href="#">CP-CBD-01S</a>	1 mL
Delta-8-Tetrahydrocannabinol (THC-8)	5957-75-5	<a href="#">CP-8-THC-01S</a>	1 mL
Delta-9-Tetrahydrocannabinol (THC-9)	1972-08-3	<a href="#">CP-9-THC-01S</a>	1 mL
Delta-9-Tetrahydrocannabinolic acid A (THCA-A)	23978-85-0	<a href="#">CP-THCA-A-01S</a>	1 mL
Cannabigerol (CBG)	25654-31-3	<a href="#">CP-CBG-01S</a>	1 mL
Cannabichromene (CBC)	20675-51-8	<a href="#">CP-CBC-01S</a>	1 mL

Restrictions may apply, contact us for information.

Independently prepared lots available



## California Cannabis Residual Pesticides

### California Category I Residual Pesticide Mix

CP-CA-01 1 mL  
20 µg/mL each in Acetonitrile 20 comps.

Alar	Dichlorvos	Methiocarb
Aldicarb	Dimethoate	Mevinphos
Baygon	Ethoprop	Paclobutrazol
Carbofuran	Etofenprox	Parathion-methyl
Chlorfenapyr	Fenoxycarb	Spiroxamine
Coumaphos	Fipronil	Thiacloprid
Dursban	Imazalil	

### California Category II Residual Pesticide (Single) (Chlordane tech)

CP-CA-02 1 mL  
100 µg/mL in Methanol  
Chlordane (tech)

### California Category III Residual Pesticide Mix

CP-CA-03 1 mL  
100 µg/mL each in Acetonitrile 29 comps.

Acetamidrid	Fenpyroximate	Oxamyl
Azoxystrobin	Fonicamid	Pyridaben
Bifenazate	Fludioxonil	Spinetoram
Boscalid	Etoazole	Spinosad
Captan	Hexythiazox	Spirotetramat
Carbaryl	Imidacloprid	Tebuconazol
Chlorantraniliprole	Kresoxim-methyl	Thiamethoxam
Clofentezine	Metalaxyl	Tilt
Dimethomorph	Methomyl	Trifloxystrobin
Fenhexamid	Myclobutanil	

### California Category IV Residual Pesticide Mix

CP-CA-04 1 mL  
100 µg/mL each in Acetonitrile 16 comps.

Abamectin	Diazinon	Permethrin
Acequinocyl	Imidan	Piperonyl butoxide
Acephate	Malathion	Prallethrin
Bifenthrin	Naled	Pyrethrins
Cyfluthrin	Pentachloro-nitrobenzene	Spiromesifen
Cypermethrin		

## California Cannabis Residual Solvents

### California Residual Solvent Category I Mix

CP-CA-RS-01 1 mL  
5000 µg/mL each in Methanol 5 comps.

1,2-Dichloroethane	Chloroform	Trichloroethene
Benzene	Dichloromethane	

### California Residual Solvent Category II (Single)

CP-CA-RS-02 1 mL  
5000 µg/mL in Water  
Ethylene oxide

### California Residual Solvent Category III Mix

CP-CA-RS-03 1 mL  
5000 µg/mL each in Water 7 comps.

Acetone	Ethyl acetate	Isopropanol
Acetonitrile	Diethyl ether	Methyl alcohol
Ethanol		

### California Residual Solvent Category IV Mix

CP-CA-RS-04 1 mL  
5000 µg/mL each in Ethanol 7 comps.

n-Heptane	Toluene	p-Xylene
n-Hexane	o-Xylene	m-Xylene
n-Pentane		

### California Residual Solvent Category V (gasses) Mix

CP-CA-RS-05 1 mL  
5000 µg/mL each in Ethanol 2 comps.  
n-Butane n-Propane

## Colorado Cannabis Residual Pesticides

### Colorado Cannabis Residual Pesticide Mix

CP-CO-01 1 mL  
100 µg/mL each in Acetonitrile 13 comps.

Abamectin	Imidacloprid	Spinosad
Azoxystrobin	Malathion	Spiromesifen
Bifenazate	Myclobutanil	Spirotetramat
Etoazole	Permethrin	Tebuconazol
Imazalil		

## Maryland Cannabis Residual Pesticides

### Maryland Cannabis Residual Pesticide Set

CP-MD-SET 3 x 1 mL  
CP-MD-01, CP-MD-02, CP-MD-03

### Maryland Cannabis Residual Pesticide Mix 1

CP-MD-01 1 mL  
100 µg/mL each in Acetonitrile 29 comps.

Acetamidrid	Clofentezine	Methomyl
Alar	Etoazole	Myclobutanil
Aldicarb	(E)-Fenpyroximate	Oxamyl
Ancymidol	Fonicamid	Spinosad
Azoxystrobin	Flurprimidol	Spirotetramat
Bifenazate	Hexythiazox	Thiacloprid
Bonzi	Imidacloprid	Thiamethoxam
Boscalid	Kresoxim-methyl	Tilt
Carbaryl	Metalaxyl	Trifloxystrobin
Carbofuran	Methiocarb	

### Maryland Cannabis Residual Pesticide Mix 2

CP-MD-02 1 mL  
100 µg/mL each in Acetonitrile 7 comps.

Bifenthrin	cis-Permethrin	Piperonyl butoxide
Cyfluthrin	trans-Permethrin	Pyrethrins
Cypermethrin		

### Maryland Cannabis Residual Pesticide Mix 3

CP-MD-03 1 mL  
100 µg/mL each in Acetonitrile 8 comps.

Abamectin	Dursban	Malathion
Diazinon	Ethephon	Spiromesifen
Dimethoate	Imidan	

## Massachusetts Cannabis Residual Pesticides

### Massachusetts Cannabis Residual Pesticide Mix

CP-MA-01 1 mL  
100 µg/mL each in Acetonitrile 9 comps.

Bifenazate	Etoazole	Myclobutanil
Bifenthrin	Imazalil	Spiromesifen
Cyfluthrin	Imidacloprid	Trifloxystrobin

## Nevada Cannabis Residual Pesticides

### Nevada Cannabis Residual Pesticide Mix

CP-NV-PEST 1 mL  
100 µg/mL each in Acetonitrile 25 comps.

Abamectin	Etoazole	Pyrethrins
Acequinocyl	Fenhexamid	Quintozene
Alar	Fonicamid	Spinetoram
Bifenazate	Fludioxonil	Spinosad
Bifenthrin	Imazalil	Spirotetramat
Captan	Imidacloprid	Thiamethoxam
Cyfluthrin	Myclobutanil	Thiophanate-methyl
Cypermethrin	Piperonyl butoxide	Trifloxystrobin
Dimethomorph		

Independently prepared lots available

## Oregon Cannabis Residual Pesticides

The Oregon Health Association (OHA) has classified and submitted three prioritized groupings of residue cannabis pesticides:

• **Fungicides** • **Pyrethroids** • **Organophosphates**

In June of 2015, a white paper titled "Pesticide Use on Cannabis" published by the Cannabis Safety Institute originally contained 188 active compounds.

From the targeted 188 active compounds, a working group with the OHA had numerous analytical laboratories study the toxicological effects and the historical natural application of each of the compounds for crop and human ingestion. The results reduced the original number of targeted compounds to 59 pesticides. These pesticides remain on the State of Oregon list. AccuStandard, Inc. offers three individual mixes of these 59 compounds.

### Oregon Cannabis Residual Pesticide Set

CP-ORE-SET

3 x 1 mL

CP-ORE-01, CP-ORE-02, CP-ORE-03

### Oregon Cannabis Residual Pesticide Mix 1

CP-ORE-01

1 mL

100 µg/mL each in Acetonitrile

20 comps.

Abamectin	Daminozide	Methomyl
Acequinocyl	(E)-Fenpyroximate	Oxamyl
Aldicarb	Fenoxycarb	Propoxur
Carbaryl	Fonicamid	Spinosad
Carbofuran	Hexythiazox	Spirotetramat
Chlorantraniliprole	Imidacloprid	Thiamethoxam
Clofentezine	Methiocarb	

### Oregon Cannabis Residual Pesticide Mix 2

CP-ORE-02

1 mL

100 µg/mL each in Acetonitrile

16 comps.

Acephate	Dursban	Naled
Bifenthrin	Ethoprop	Permethrin
Cyfluthrin	Etofenprox	Phosmet
Cypermethrin	Malathion	Prallethrin
Diazinon	Methyl parathion	Pyrethrins
Dimethoate		

### Oregon Cannabis Residual Pesticide Mix 3

CP-ORE-03

1 mL

100 µg/mL each in Acetonitrile

23 comps.

Acetamiprid	Fludioxonil	Propiconazole
Azoxystrobin	Imazalil	Pyridaben
Bifenazate	Kresoxim-methyl	Spiromesifen
Boscalid	Metalaxyl	Spiroxamine
Chlorfenapyr	MGK-264	Tebuconazol
Dichlorvos	Myclobutanil	Thiacloprid
Etoazole	Paclobutrazol	Trifloxystrobin
Fipronil	Piperonyl butoxide	

Independently prepared lots available



## Oregon Cannabis Residual Solvents

### Oregon Cannabis Residual Solvent Mix 1

CP-ORE-RS-01

1 mL

1000 µg/mL each in Water

11 comps.

Acetone	2-Ethoxyethanol	Isopropyl acetate
Acetonitrile	Ethyl acetate	Methanol
sec-Butanol	Ethyl ether	Isopropanol
1,4-Dioxane	Ethylene glycol	

### Oregon Cannabis Residual Solvent Mix 2

CP-ORE-RS-02

1 mL

1000 µg/mL each in Ethanol

18 comps.

Benzene	n-Heptane	n-Pentane
Cumene	Hexane	Tetrahydrofuran
Cyclohexane	Ethylbenzene	Toluene
Dichloromethane	Isopentane	o-Xylene
2,2-Dimethylbutane	2-Methylpentane	p-Xylene
2,3-Dimethylbutane	3-Methylpentane	m-Xylene

### Oregon Cannabis Residual Solvent Mix 3

CP-ORE-RS-03

1 mL

1000 µg/mL each in Ethanol

4 comps.

sec-Butanol	Isobutane
n-Propane	Neopentane

### Oregon Cannabis Residual Solvent (Single)

CP-ORE-RS-04 \*

1 mL

1000 µg/mL in Water

Ethylene oxide

\* ColdPAK required to maintain integrity of product.

## Heavy Metals

Element	1000 µg/mL		
Starting Material	Matrix	Cat. No.	Unit
<b>Arsenic (As)</b>	2-5% Nitric acid	ICP-03N-1	100 mL
		ICP-03N-5	500 mL
<b>Cadmium (Cd)</b>	2-5% Nitric acid	ICP-08N-1	100 mL
		ICP-08N-5	500 mL
<b>Chromium (Cr)</b> (NH <sub>4</sub> ) <sub>2</sub> Cr <sub>2</sub> O <sub>7</sub>	2-5% Nitric acid	ICP-13N-R-1	100 mL
		ICP-13N-R-5	500 mL
<b>Lead (Pb)</b> Pb(NO <sub>3</sub> ) <sub>2</sub>	2-5% Nitric acid	ICP-29N-1	100 mL
		ICP-29N-5	500 mL
<b>Mercury (Hg)</b>	10% Nitric acid	ICP-34N-1	100 mL
		ICP-34N-5	500 mL
<b>Nickel (Ni)</b>	2-5% Nitric acid	ICP-37N-1	100 mL
		ICP-37N-5	500 mL
<b>Thallium (Tl)</b>	2-5% Nitric acid	ICP-60N-1	100 mL
		ICP-60N-5	500 mL

## Canada Cannabis Regulatory Standards

Starting January 2019, Canada will require Licensed Producers (LPs) to submit samples of all cultivated cannabis products to independent laboratories for testing of almost 100 pesticides. The Pesticide Management Regulatory Agency (PMRA) has maintained a database that includes 22 registered pesticides for use on cannabis products. Due to the launch of nationwide use of recreational cannabis for Canada, Health Canada (HC) will be testing these products for assurance of a healthy product for the end user. Below is the current published listing of regulated pesticides that have been approved by the Government of Canada, for both recreational and medicinal usage.



### Canada Cannabis Residual Pesticides

#### Canada Cannabis Residual Pesticide Set

**CP-CAN-R1-SET** **5 x 1 mL**  
 CP-CAN-01-R1, CP-CAN-02, CP-CAN-03, CP-CAN-04, P-711S

#### Canada Cannabis Pesticide Mix 1

**CP-CAN-01-R1** **1 mL**  
 100 µg/mL each in Acetonitrile **36 comps.**

Allethrin	Endosulfan II	Phenothrin
Benzovindiflupyr	Endosulfan sulfate	Pirimicarb
Buprofezin	Etridiazole	Pyraclostrobin
Clothianidin	Fensulfothion	Quintozene
Coumaphos	Fenthion	Resmethrin
Cyantraniliprole	Fenvalerate	Spinetoram
Cyprodinil	Fluopyram	Spirodiclofen
Deltamethrin	Iprodione	Tebufenozide
Dinotefuran	Kinoprene	Teflubenzuron
Dimethomorph	Methoprene	Tetrachlorvinphos
Dodemorph	Mevinphos	Tetramethrin
Endosulfan I	Novaluron	Thiophanate-methyl

#### Technical Note

The original Canada Cannabis Residual Pesticide Set has been revised to include Benzovindiflupyr which is a fungicide being monitored by Canada. This added analyte can be found in part no. CP-CAN-01-R1 and is included in the revised SET.

#### Canada Cannabis Pesticide Mix 2

**CP-CAN-02** **1 mL**  
 100 µg/mL each in Acetonitrile **20 comps.**

Abamectin	Daminozide	Methomyl
Acequinocyl	Fenoxycarb	Oxamyl
Carbaryl	(E)-Fenpyroximate	Propoxur
Carbofuran	Fonicamid	Spinosad
Chlorantraniliprole	Hexythiazox	Spirotetramat
Clofentezine	Imidacloprid	Thiamethoxam
Clofentezine	Methiocarb	

#### Canada Cannabis Pesticide Mix 3

**CP-CAN-03** **1 mL**  
 100 µg/mL each in Acetonitrile **23 comps.**

Acetamidprid	Fludioxonil	Propiconazole
Azoxystrobin	Imazalil	Pyridaben
Bifenazate	Kresoxim-methyl	Spiromesifen
Boscalid	Metalaxyl	Spiroxamine
Chlorfenapyr	MGK-264	Tebuconazol
Dichlorvos	Myclobutanil	Thiacloprid
Etoazazole	Paclobutrazol	Trifloxystrobin
Fipronil	Piperonyl butoxide	

#### Canada Cannabis Pesticide Mix 4

**CP-CAN-04** **1 mL**  
 100 µg/mL each in Acetonitrile **16 comps.**

Acephate	Dursban	Naled
Bifenthrin	Ethoprop	Permethrin
Cyfluthrin	Etofenprox	Phosmet
Cypermethrin	Malathion	Prallethrin
Diazinon	Methyl parathion	Pyrethrins
Dimethoate		

#### Azadirachtin

**P-711S** **1 mL**  
 100 µg/mL in Methanol

### Canada Cannabis Residual Solvents

#### Canada Cannabis Residual Solvent Mix 1

**CP-CAN-RS-01** **1 mL**  
 5000 µg/mL each in Methanol **24 comps.**

Acetic acid	Ethyl ether	2-Methyl-1-propanol
Anisole	Ethyl formate	MtBE
1-Butanol	Formic acid	Pentane
2-Butanol	Isobutyl acetate	1-Pentanol
Butyl acetate	Isopropyl acetate	1-Propanol
DMSO	Heptane	2-Propanol
Ethanol	Methyl acetate	Propyl acetate
Ethyl acetate	3-Methyl-1-butanol	Triethylamine

#### Canada Cannabis Residual Solvent Mix 2

**CP-CAN-RS-02** **1 mL**  
 5000 µg/mL each in Methanol **2 comps.**

Acetone	Methyl ethyl ketone
---------	---------------------

#### Canada Cannabis Residual Solvent Mix 3 (Gases)

**CP-CAN-RS-03** **1 mL**  
 500 µg/mL each in Methanol **3 comps.**

n-Butane	Propane
Isobutane	

#### RESIDUAL SOLVENTS MINIMUM 12 MONTH EXPIRATION DATE



#### PESTICIDES MINIMUM 6 MONTH EXPIRATION DATE

Independently prepared lots available



**AccuStandard®**

125 Market Street  
New Haven, CT 06513 USA

[www.AccuStandard.com](http://www.AccuStandard.com)

Rev. 8/2020