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Cannabis Testing Standards – Cannabinoids and Common Pesticide Contaminants



Cannabinoid Standards

Research suggests the cannabis plant produces between 80-100 cannabinoids, primarily cannabidiol (CBD) and tetrahydrocannabinol (THC). The manufacture and sale of products derived from cannabis is regulated by a variety of state and federal laws due to the psychoactive effects associated with THC and medicinal claims related to CBD. High-purity native and stable isotope-labeled standards are necessary for quantification and qualification of a wide range of cannabinoid products, including textiles, pharmaceuticals, personal care products, and foods and beverages.

CIL has developed stable-isotope labeled and native standards of THC, CBD, and other cannabinoids to assist researchers with their testing needs.

Catalog No.	Description	Concentration	Amount
DLM-10854-1.2	Cannabichromene (CBC) (methyl-D ₃ , 98%)	100 µg/mL in methanol	1.2 mL
ULM-10878-1.2	Cannabichromene (CBC) (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-10855-1.2	Cannabidiol (CBD) (D ₃ , 98%)	100 µg/mL in methanol	1.2 mL
ULM-10876-1.2	Cannabidiol (CBD) (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-11140-1.2	Cannabidivarin (CBDV) (methyl-D ₃ , 98%)	100 µg/mL in methanol	1.2 mL
ULM-11132-1.2	Cannabidivarin (CBDV) (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-10853-1.2	Cannabigerol (CBG) (methyl-D ₃ , 98%)	100 µg/mL in methanol	1.2 mL
ULM-10877-1.2	Cannabigerol (CBG) (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-10847-1.2	Cannabinol (CBN) (methyl-D ₃ , 98%)	100 µg/mL in methanol	1.2 mL
ULM-10875-1.2	Cannabinol (CBN) (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-10915-1.2	Cannabivarin (CBV) (methyl-D ₃ , 98%) CP 97%	100 µg/mL in methanol	1.2 mL
ULM-10916-1.2	Cannabivarin (CBV) (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-10846-1.2	(-)-δ-9-Tetrahydrocannabinol (THC) (methyl-D ₃ , 98%)	100 µg/mL in methanol	Inquire
ULM-10874-1.2	(-)-δ-9-Tetrahydrocannabinol (THC) (unlabeled)	1000 µg/mL in methanol	Inquire

CIL cannabinoid standards are excluded from or exempted under the US DEA Controlled Substances Act (CSA). International shipment restrictions may apply. Contact your local distributor or CIL customer service for more information.

Chemical purity (CP) is 98% or greater, unless otherwise specified. For research use only. Not for use in diagnostic procedures.

References

Nie, B., Henion, J., Ryona, I. **2019**. The role of mass spectrometry in the cannabis industry. *J Am Soc Mass Spectrom*, 20, 719-730.

Meng, Q., Buchanan, B., Zuccolo, J., et al. **2018**. A reliable and validated LC-MS/MS method for the simultaneous quantification of 4 cannabinoids in 40 consumer products. *PLoS One*, 13(5), 1-16.



Common Pesticide Contaminants

To support the growing cannabis industry, CIL also offers individual stable isotope-labeled and native standards of common pesticides that are required for cannabis testing in the US and Canada. Additional pesticide standards available from CIL can be accessed at isotope.com.

Catalog No.	Description	Concentration	Amount
DLM-6000-1.2	Acephate (methoxy-D ₃ , thiomethoxy-D ₃ , 98%)	100 µg/mL in acetonitrile-D ₃	1.2 mL
ULM-7263-1.2	Acephate (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-9653-1.2	Acetamiprid (pyridylmethyl- ¹³ C ₆ , 99%)	100 µg/mL in methanol	1.2 mL
ULM-9734-1.2	Acetamiprid (unlabeled)	100 µg/mL in methanol	1.2 mL
CDLM-9820-1.2	Aldicarb (¹³ C ₂ , 98%; D ₃ , 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9823-1.2	Aldicarb (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-3737-1.2	Atrazine (ring- ¹³ C ₃ , 99%)	100 µg/mL in nonane	1.2 mL
CLM-3737-MT-1.2	Atrazine (ring- ¹³ C ₃ , 99%)	100 µg/mL in methyl <i>t</i> -butyl ether	1.2 mL
DLM-1149-E-1.2	Atrazine (ethylamine-D ₅ , 98%)	500 µg/mL in ethanol	1.2 mL
DLM-1149-1.2	Atrazine (ethylamine-D ₅ , 98%)	100 µg/mL in nonane	1.2 mL
ULM-7235-E-1.2	Atrazine (unlabeled)	500 µg/mL in ethanol	1.2 mL
ULM-7235-1.2	Atrazine (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-10041-1.2	Bifenthrin (D ₆ , 98%) CP 95%	100 µg/mL in nonane	1.2 mL
ULM-10034-1.2	Bifenthrin (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4682-1.2	Carbaryl (ring- ¹³ C ₆ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-8096-1.2	Carbaryl (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-1911-1.2	Carbofuran (ring- ¹³ C ₆ , 99%)	100 µg/mL in 1,4-dioxane	1.2 mL
ULM-7419-1.2	Carbofuran (unlabeled)	100 µg/mL in 1,4-dioxane	1.2 mL
CLM-8087-1.2	<i>cis</i> -Chlordane (¹³ C ₁₀ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-2419-1.2	<i>cis</i> -Chlordane (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4792-1.2	<i>trans</i> -Chlordane (¹³ C ₁₀ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-2420-1.2	<i>trans</i> -Chlordane (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-4360-1.2	Chlorpyrifos (diethyl-D ₁₀ , 99%) CP 97%	100 µg/mL in nonane	1.2 mL
ULM-7489-1.2	Chlorpyrifos (unlabeled)	100 µg/mL in nonane	1.2 mL
CNLM-9940-1.2	Clothianidin (methylene- ¹³ C, 99%; thiazole- ¹³ C ₃ , 99%; ¹⁵ N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9941-1.2	Clothianidin (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-7293-1.2	Cyfluthrin (phenoxy- ¹³ C ₆ , 99%) (mix of stereoisomers)	100 µg/mL in nonane	1.2 mL
DLM-10043-1.2	Cyfluthrin (D ₆ , 98%) (mix of stereoisomers)	100 µg/mL in nonane	1.2 mL
ULM-7454-1.2	Cyfluthrin (unlabeled) (mix of stereoisomers)	100 µg/mL in nonane	1.2 mL
CLM-7292-1.2	Cypermethrin (phenoxy- ¹³ C ₆ , 99%) (mix of stereoisomers)	100 µg/mL in nonane	1.2 mL
DLM-10042-1.2	Cypermethrin (D ₆ , 98%) (mix of stereoisomers)	100 µg/mL in nonane	1.2 mL
ULM-7453-1.2	Cypermethrin (unlabeled) (mix of stereoisomers)	100 µg/mL in nonane	1.2 mL
DLM-10040-1.2	Deltamethrin (D ₆ , 98%) (mix of isomers)	100 µg/mL in nonane	1.2 mL
ULM-10033-1.2	Deltamethrin (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-1148-A-1.2	Diazinon (diethyl-D ₁₀ , 98%)	100 µg/mL in acetonitrile	1.2 mL
DLM-1148-1.2	Diazinon (diethyl-D ₁₀ , 98%)	100 µg/mL in nonane	1.2 mL
ULM-6575-A-1.2	Diazinon (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-6575-S-10X-1.2	Diazinon (unlabeled)	1000 µg/mL in nonane	1.2 mL
DLM-2829-1.2	Dichlorvos (dimethyl-D ₆ , 98%)	100 µg/mL in nonane	1.2 mL
ULM-7217-1.2	Dichlorvos (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-7151-1.2	Dimethoate (<i>O,O</i> -dimethyl-D ₆ , 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7972-1.2	Dimethoate (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-9594-1.2	Dinotefuran (furylmethyl- ¹³ C ₅ , 99%)	100 µg/mL in methanol	1.2 mL
ULM-9732-1.2	Dinotefuran (unlabeled)	100 µg/mL in methanol	1.2 mL

Catalog No.	Description	Concentration	Amount
DLM-7116	Diuron (dimethyl-D ₆ , 98%)		Inquire
CLM-6025-1.2	Endosulfan I (¹³ C ₉ , 99%) CP 95%	100 µg/mL in nonane	1.2 mL
DLM-2862-1.2	Endosulfan I (D ₄ , 97%) CP 95%	100 µg/mL in nonane	1.2 mL
ULM-7447-1.2	Endosulfan I (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-6026-1.2	Endosulfan II (¹³ C ₉ , 99%) CP 95%	100 µg/mL in nonane	1.2 mL
ULM-7448-1.2	Endosulfan II (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-7531-1.2	Endosulfan sulfate (¹³ C ₉ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-7990-1.2	Endosulfan sulfate (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-10035-1.2	Fenvalerate (D ₆ , 98%)	100 µg/mL in nonane	1.2 mL
ULM-10022-1.2	Fenvalerate (unlabeled)	100 µg/mL in nonane	1.2 mL
CNLM-9636-MT-1.2	Fipronil (3-cyano,pyrazole-3,4,5- ¹³ C ₄ , 99%; 3-cyano,5- ¹⁵ N ₂ , 98%)	100 µg/mL in methyl <i>tert</i> -butyl ether	1.2 mL
ULM-9635-MT-1.2	Fipronil (unlabeled)	100 µg/mL in methyl <i>tert</i> -butyl ether	1.2 mL
NOLM-10860-1.2	Flonicamid (¹⁸ O, 96%; amide- ¹⁵ N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-10861-1.2	Flonicamid (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-10767-1.2	Imidacloprid (pyridylmethyl- ¹³ C ₆ , 99%)	100 µg/mL in methanol	1.2 mL
DLM-8512-1.2	Imidacloprid (4,4,5,5-D ₄ , 98%)	100 µg/mL in methanol	1.2 mL
ULM-8513-1.2	Imidacloprid (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-4476-1.2	Malathion (D ₁₀ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-8122-1.2	Malathion (unlabeled)	100 µg/mL in nonane	1.2 mL
CNLM-7148-1.2	Methomyl (acetohydroxamate- ¹³ C ₂ , 99%; ¹⁵ N, 98%) CP 97%	100 µg/mL in methanol	1.2 mL
ULM-8639-1.2	Methomyl (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-1955-1.2	Pentachloronitrobenzene (¹³ C ₆ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-7597-1.2	Pentachloronitrobenzene (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-7322-1.2	<i>cis</i> -Permethrin (phenoxy- ¹³ C ₆ , 99%)	50 µg/mL in nonane	1.2 mL
ULM-8526-1.2	<i>cis</i> -Permethrin (unlabeled)	50 µg/mL in nonane	1.2 mL
CLM-7323-1.2	<i>trans</i> -Permethrin (phenoxy- ¹³ C ₆ , 99%)	50 µg/mL in nonane	1.2 mL
ULM-8527-1.2	<i>trans</i> -Permethrin (unlabeled)	50 µg/mL in nonane	1.2 mL
DLM-10036-1.2	Permethrin (<i>cis/trans</i> mix) (D ₆ , 98%)	100 µg/mL in nonane	1.2 mL
ULM-10018-1.2	Permethrin (<i>cis/trans</i> mix) (unlabeled) CP 95%	100 µg/mL in nonane	1.2 mL
DLM-4667-1.2	Phosmet (dimethyl-D ₆ , 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8454-1.2	Phosmet (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-7141-1.2	Propoxur (isopropyl-D ₇ , 98%)	100 µg/mL in nonane	1.2 mL
ULM-9765-1.2	Propoxur (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-9880	Tetrachlorvinphos (TCVP) (ring- ¹³ C ₆ , 99%)		Inquire
ULM-9991	Tetrachlorvinphos (TCVP) (unlabeled)		Inquire
CLM-9652-1.2	Thiacloprid (pyridylmethyl- ¹³ C ₆ , 99%)	100 µg/mL in methanol	1.2 mL
ULM-9733-1.2	Thiacloprid (unlabeled)	100 µg/mL in methanol	1.2 mL
CNLM-9860-1.2	Thiamethoxam (methylene- ¹³ C, 99%; thiazole- ¹³ C ₃ , 99%; ¹⁵ N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9939-1.2	Thiamethoxam (unlabeled)	100 µg/mL in methanol	1.2 mL

Please visit isotope.com for a complete list of isotope-labeled compounds.



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