



Cambridge Isotope Laboratories, Inc.  
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ENVIRONMENTAL STANDARDS

# Herbicide, Insecticide, and Pesticide Standards



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## Introduction

Herbicides, insecticides, and pesticides are essential to agricultural productivity and general pest control, though the effects of using these chemicals can be of high concern for environmental contamination and human exposure impacts. Many pesticides have been found to be toxic to humans and animals and, as such, have been banned from use in numerous countries. Human exposure studies have been focusing on studying metabolic pathways, as well as exposure effects of primary pesticide compounds.

Cambridge Isotope Laboratories, Inc. (CIL) continues to develop its already extensive inventory of stable isotope-labeled and native pesticide standards, with a recent focus on producing new metabolite standards for human exposure studies.

Throughout this catalog, we have identified primary compounds and their corresponding metabolite(s) for new-use pesticides by indenting the relevant metabolite(s) directly below the primary compound listing. For legacy pesticides, such as organophosphates, carbamates, and organochlorines, we have gathered all primary compounds and metabolites in one listing to avoid cross-referencing, as many primary compounds in these categories share the same metabolites.

In addition to the focus on producing pesticide metabolites, more multicomponent mixtures are also being developed to provide further comprehensive screening capabilities.

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*Chemical purity for unlabeled/native compounds is 97-99% or greater unless otherwise specified; chemical purity for labeled compounds is 95-99% or greater unless otherwise specified.*



### Standards for Environmental Analysis

Through our collaborations with environmental testing laboratories, regulatory agencies, and research institutions around the world, CIL has developed numerous products to assist a wide range of testing applications. You will find more than 3,000 products developed specifically for trace and ultratrace analysis by isotope dilution mass spectrometry (IDMS). As new technology and methodologies advance, CIL maintains a leadership role in developing new standards and standard mixtures to keep pace with these new procedures. You will find throughout this catalog many new products developed in various solvents for use in not only new GC-MS applications, but also LC-MS methods that continue to gain importance as an integral part of the environmental testing laboratory.

## Herbicides

Crop-protection herbicides such as dicamba, glufosinate, and glyphosate are widely used in agriculture to protect certain crops from the negative impacts of weed overgrowth. Glyphosate was one of the original widely used options, but as more weeds develop resistance to it, alternate options such as dicamba and glufosinate have become more popular. Other herbicides are routinely used in various settings to control weed overgrowth, including agriculture, recreational, and home use. In this section, primary herbicides are listed with their corresponding metabolite(s) listed directly below with an indentation for ease of visibility. Read more about CIL's crop-protection herbicides [here](#).

### Herbicide and Metabolite Standards

Catalog No.	Description	Concentration	Amount
CLM-4546-1.2	Acetochlor (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9824-1.2	Acetochlor (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-3727-1.2	Alachlor (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in nonane	1.2 mL
ULM-10027-1.2	Alachlor (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-3687-1.2	Alachlor acetylcysteine adduct (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-6868-1.2	Alachlor acetylcysteine adduct (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-3741-1.2	Bromoxynil (ring- <sup>13</sup> C <sub>6</sub> , 99%)	50 µg/mL in nonane	2 × 1.2 mL
ULM-6205-1.2	Bromoxynil (unlabeled)	50 µg/mL in nonane	1.2 mL
DLM-3760-1.2	Chlortoluron (N,N-dimethyl-D <sub>6</sub> , 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9825-1.2	Chlortoluron (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9819-1.2	Dalapon (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-9914-1.2	Dicamba (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in methanol	1.2 mL
ULM-9911-1.2	Dicamba (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-10494-1.2	Dicamba methyl ester (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9917-1.2	3,6-Dichlorogentisic acid (DCGA) (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in methanol	1.2 mL
ULM-9913-1.2	3,6-Dichlorogentisic acid (DCGA) (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9916-A-1.2	3,6-Dichlorosalicylic acid (DCSA) (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-9910-A-1.2	3,6-Dichlorosalicylic acid (DCSA) (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-9915-1.2	5-Hydroxydicamba (2-methoxy-3,6-dichloro-5-hydroxy benzoic acid) (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in methanol	1.2 mL
ULM-9912-1.2	5-Hydroxydicamba (2-methoxy-3,6-dichloro-5-hydroxy benzoic acid) (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-1858-1.2	2,4-Dichlorophenoxyacetic acid (2,4-D) (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
DLM-1146-5	2,4-Dichlorophenoxyacetic acid (2,4-D) (ring-D <sub>3</sub> , 98%)	neat	5 mg
ULM-7418-1.2	2,4-Dichlorophenoxyacetic acid (2,4-D) (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-3722-1.2	Dichlorprop (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in nonane	1.2 mL
ULM-7313-1.2	Dichlorprop (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-11078-1.2	DL-Glufosinate-HCl (2,3,3,4,4-D <sub>5</sub> , methyl-D <sub>3</sub> , 98%)	100 µg/mL in water	1.2 mL
ULM-11153-1.2	Glufosinate, ammonium salt (unlabeled)	100 µg/mL in water	1.2 mL
CNLM-6792-1.2	Glyphosate ( <sup>13</sup> C <sub>3</sub> , 99%; <sup>15</sup> N, 98%)	100 µg/mL in water	1.2 mL
CNLM-4666-1.2	Glyphosate (2- <sup>13</sup> C, 99%; <sup>15</sup> N, 98%)	100 µg/mL in water	1.2 mL
CNLM-4666-10	Glyphosate (2- <sup>13</sup> C, 99%; <sup>15</sup> N, 98%)	100 µg/mL in water	10 mL
CNLM-4666-10X-1.2	Glyphosate (2- <sup>13</sup> C, 99%; <sup>15</sup> N, 98%)	1000 µg/mL in water	1.2 mL
ULM-6876-1.2	Glyphosate (unlabeled)	100 µg/mL in water	1.2 mL
CDNLM-6786-1.2	Aminomethylphosphonic acid (AMPA) ( <sup>13</sup> C, 99%; <sup>15</sup> N, 98%; methylene-D <sub>2</sub> , 98%)	100 µg/mL in water	1.2 mL
CDNLM-6786-10	Aminomethylphosphonic acid (AMPA) ( <sup>13</sup> C, 99%; <sup>15</sup> N, 98%; methylene-D <sub>2</sub> , 98%)	100 µg/mL in water	10 mL
ULM-10880-1.2	Aminomethylphosphonic acid (AMPA) (unlabeled)	100 µg/mL in water	1.2 mL
CLM-3712-1.2	Metolachlor (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in nonane	1.2 mL
ULM-7314-1.2	Metolachlor (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-513-1	2,4,5-Trichlorophenol ( <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in methanol	1 mL
CLM-513-SI-1.2	2,4,5-Trichlorophenol ( <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in isoctane	1.2 mL
DLM-2143-0.1	2,4,5-Trichlorophenol (ring-D <sub>2</sub> , 97-98%)	neat	0.1 g
ULM-7525-1.2	2,4,5-Trichlorophenol (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-7525-SI-1.2	2,4,5-Trichlorophenol (unlabeled)	100 µg/mL in isoctane	1.2 mL
CLM-4551-1.2	2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in MeCl	1.2 mL
ULM-7213-1.2	2,4,5-Trichlorophenoxyacetic acid (2,4,5-T) (unlabeled)	100 µg/mL in MeCl	1.2 mL
DLM-4479-1.2	Trifluralin (di-n-propyl-D <sub>14</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-7236-1.2	Trifluralin (unlabeled)	100 µg/mL in nonane	1.2 mL

## Triazine Herbicides

Atrazine is one of the most widely used herbicides in the world. In recent years, studies on the correlation of physical and reproductive disorders in frogs with atrazine exposure have been a controversial topic. With CIL's comprehensive collection of carefully purified and prepared standards of atrazine and its many metabolites, researchers should have some powerful tools to refine their investigations. In this section, primary triazine herbicides are listed with their corresponding metabolite(s) directly below with an indentation for ease of visibility.

### Triazine Herbicide and Metabolite Standards

Catalog No.	Description	Concentration	Amount
CLM-3737-1.2	Atrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in nonane	1.2 mL
DLM-1149-1.2	Atrazine (ethylamine-D <sub>5</sub> , 98%)	100 µg/mL in nonane	1.2 mL
DLM-1149-5	Atrazine (ethylamine-D <sub>5</sub> , 98%)	neat	5 mg
ULM-7235-1.2	Atrazine (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-8316-1.2	Ammeline (desethyl-desisopropylhydroxyatrazine) (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
ULM-8323-1.2	Ammeline (desethyl-desisopropylhydroxyatrazine) (unlabeled)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
CLM-3894-1.2	Atrazine mercapturate (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7346-1.2	Atrazine mercapturate (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-8313-1.2	Desethylatrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8320-1.2	Desethylatrazine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-7528-1.2	Desethyl desisopropyl atrazine ( <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8001-1.2	Desethyl desisopropyl atrazine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-8315-1.2	Desethylhydroxyatrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
ULM-8322-1.2	Desethylhydroxyatrazine (unlabeled)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
CLM-8312-1.2	Desisopropylatrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8319-1.2	Desisopropylatrazine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-8314-1.2	Desisopropylhydroxyatrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
ULM-8321-1.2	Desisopropylhydroxyatrazine (unlabeled)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
CLM-8310-1.2	Hydroxyatrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
ULM-8317-1.2	Hydroxyatrazine (unlabeled)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
CLM-8311-1.2	Atrazinethiol (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8318-1.2	Atrazinethiol (unlabeled)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
CLM-3738-1.2	Propazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in methanol	1.2 mL
ULM-8304-1.2	Propazine (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-8316-1.2	Ammeline (desethyl-desisopropylhydroxyatrazine) (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
ULM-8323-1.2	Ammeline (desethyl-desisopropylhydroxyatrazine) (unlabeled)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
CLM-8313-1.2	Desethylatrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8320-1.2	Desethylatrazine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-8315-1.2	Desethylhydroxyatrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
ULM-8322-1.2	Desethylhydroxyatrazine (unlabeled)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
CLM-8312-1.2	Desisopropylatrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8319-1.2	Desisopropylatrazine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-3739-1.2	Simazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in methanol	1.2 mL
CLM-3739-A-1.2	Simazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7893-1.2	Simazine (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-7893-A-1.2	Simazine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-8316-1.2	Ammeline (desethyl-desisopropylhydroxyatrazine) (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
ULM-8323-1.2	Ammeline (desethyl-desisopropylhydroxyatrazine) (unlabeled)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
CLM-8312-1.2	Desisopropylatrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8319-1.2	Desisopropylatrazine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-8314-1.2	Desisopropylhydroxyatrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
ULM-8321-1.2	Desisopropylhydroxyatrazine (unlabeled)	100 µg/mL in 80:20 water:diethylamine	1.2 mL
CLM-7528-1.2	Desethyl desisopropyl atrazine ( <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8001-1.2	Desethyl desisopropyl atrazine (unlabeled)	100 µg/mL in acetonitrile	1.2 mL

## Fungicides

Fungicides provide plant protection by killing or preventing the growth of potentially harmful fungi and their spores. While some fungicides may be used as healthcare treatments in humans and animals at appropriate doses, others can be dangerous and even fatal at high doses or long-term exposures.

### Fungicide Standards

Catalog No.	Description	Concentration	Amount
DLM-2134	Carbazole (ring-D <sub>8</sub> , 98%)		Inquire
DLM-3016	<i>o</i> -Cresol (D <sub>8</sub> , 98%)		Inquire
DLM-3017	<i>p</i> -Cresol (D <sub>8</sub> , 98%)		Inquire
DLM-3033	Imidazole (D <sub>4</sub> , 98%)		Inquire
CLM-3373	Meptyldinocap (ring- <sup>13</sup> C <sub>6</sub> , 99%)		Inquire
CLM-1955-1.2	Pentachloronitrobenzene ( <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in nonane	1.2 mL
ULM-7597-1.2	Pentachloronitrobenzene (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-6944-1.2	Sulfamethoxazole (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7527-1.2	Sulfamethoxazole (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-8370-1.2	Thiabendazole (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-8371-1.2	Thiabendazole (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-7988-A-1.2	Trimethoprim (pyrimidine-4,5,6- <sup>13</sup> C <sub>3</sub> , 99%)	50 µg/mL in methanol	1.2 mL
ULM-7989-A-1.2	Trimethoprim (unlabeled)	50 µg/mL in methanol	1.2 mL

## Pyrazole Insecticides

Fipronil is not a neonicotinoid, but like many neonicotinoids, it is often used as an acaricide to control ticks and mites, as well as other insects. Contact with pets treated with fipronil is one of the primary reasons for elevated levels of fipronil in indoor environments and elevated levels of human exposure in nonagricultural workers. In this section, primary pyrazole insecticides are listed with their corresponding metabolite(s) directly below with an indentation for ease of visibility.

### Pyrazole Insecticide and Metabolite Standards

Catalog No.	Description	Concentration	Amount
CNLM-9636-MT-1.2	Fipronil (3-cyano, pyrazole-3,4,5- <sup>13</sup> C <sub>4</sub> , 99%; 3-cyano, 5- <sup>15</sup> N <sub>2</sub> , 98%)	100 µg/mL in MTBE	1.2 mL
ULM-9635-MT-1.2	Fipronil (unlabeled)	100 µg/mL in MTBE	1.2 mL
CNLM-9647-1.2	Fipronil desulfinyl (3-cyano, pyrazole-3,4,5- <sup>13</sup> C <sub>4</sub> , 99%; 3-cyano, 5- <sup>15</sup> N <sub>2</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-9646-1.2	Fipronil desulfinyl (unlabeled)	100 µg/mL in methanol	1.2 mL
CNLM-9650-1.2	Fipronil detrifluoromethyl sulfinyl ( <sup>13</sup> C <sub>4</sub> , 99%; <sup>15</sup> N <sub>2</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-9649-1.2	Fipronil detrifluoromethyl sulfinyl (unlabeled)	100 µg/mL in methanol	1.2 mL
CNLM-9645-1.2	Fipronil sulfide (3-cyano, pyrazole-3,4,5- <sup>13</sup> C <sub>4</sub> , 99%; 3-cyano, 5- <sup>15</sup> N <sub>2</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-9644-1.2	Fipronil sulfide (unlabeled)	100 µg/mL in methanol	1.2 mL
CNLM-9643-1.2	Fipronil sulfone (3-cyano, pyrazole-3,4,5- <sup>13</sup> C <sub>4</sub> , 99%; 3-cyano, 5- <sup>15</sup> N <sub>2</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-9642-1.2	Fipronil sulfone (unlabeled)	100 µg/mL in methanol	1.2 mL

## Neonicotinoid Pesticides

Neonicotinoids are a class of contact insecticides that target the insect's nervous system by interfering with the enzyme acetylcholinesterase, disrupting nerve impulses and killing or paralyzing the insect. Neonicotinoids have received a lot of attention in the mainstream press as a possible cause of colony collapse disorder (CCD) in honeybees, which are critical pollinators in many agricultural environments where their viability enables billions of dollars of commerce each year. In this section, primary neonicotinoid pesticides are listed with their corresponding metabolite(s) directly below with an indentation for ease of visibility. Read more about CIL's neonicotinoid standards [here](#).

### Neonicotinoid Pesticide and Metabolite Standards

Catalog No.	Description	Concentration	Amount
CLM-9653-1.2	Acetamiprid (pyridylmethyl- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in methanol	1.2 mL
ULM-9734-1.2	Acetamiprid (unlabeled)	100 µg/mL in methanol	1.2 mL
CNLM-10862-1.2	Acetamiprid- <i>N</i> -desmethyl (acetimidamide- <sup>13</sup> C <sub>2</sub> , 99%; amine- <sup>15</sup> N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-10863-1.2	Acetamiprid- <i>N</i> -desmethyl (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9598-1.2	6-Chloronicotinic acid ( <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in MTBE	1.2 mL
ULM-9604-1.2	6-Chloronicotinic acid (unlabeled)	100 µg/mL in MTBE	1.2 mL
CNLM-9940-1.2	Clothianidin (methylene- <sup>13</sup> C, 99%; thiazole- <sup>13</sup> C <sub>3</sub> , 99%; <sup>15</sup> N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9941-1.2	Clothianidin (unlabeled)	100 µg/mL in methanol	1.2 mL
CNLM-10864-1.2	Clothianidin-desmethyl (guanidine- <sup>13</sup> C, 99%; 1,3- <sup>15</sup> N <sub>2</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-10865-1.2	Clothianidin-desmethyl (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9594-1.2	Dinotefuran (furylmethyl- <sup>13</sup> C <sub>5</sub> , 99%)	100 µg/mL in methanol	1.2 mL
ULM-9732-1.2	Dinotefuran (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9690-1.2	3-Tetrahydrofuroic acid ( <sup>13</sup> C <sub>5</sub> , 99%)	100 µg/mL in MTBE	1.2 mL
ULM-9691-1.2	3-Tetrahydrofuroic acid (unlabeled)	100 µg/mL in MTBE	1.2 mL
NOLM-10860-1.2	Fonicamid ( <sup>18</sup> O, 96%; amide- <sup>15</sup> N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-10861-1.2	Fonicamid (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-10767-1.2	Imidacloprid (pyridylmethyl- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in methanol	1.2 mL
DLM-8512-1.2	Imidacloprid (4,4,5,5-D <sub>4</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-8513-1.2	Imidacloprid (unlabeled)	100 µg/mL in methanol	1.2 mL
CNLM-11069-1.2	4-Hydroxy-imidacloprid (2- <sup>13</sup> C, 99%; 3- <sup>15</sup> N, 2-amino- <sup>15</sup> N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-11070-1.2	4-Hydroxy-imidacloprid (unlabeled)	100 µg/mL in methanol	1.2 mL
CNLM-11067-1.2	5-Hydroxy-imidacloprid (2- <sup>13</sup> C, 99%; 3- <sup>15</sup> N, 2-amino- <sup>15</sup> N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-11068-1.2	5-Hydroxy-imidacloprid (unlabeled)	100 µg/mL in methanol	1.2 mL
CNLM-10866-1.2	Imidacloprid-olefin (imidazol-1- <sup>15</sup> N, 98%; 2- <sup>13</sup> C, 99%; 2-amino- <sup>15</sup> N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-10867-1.2	Imidacloprid-olefin (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9598-1.2	6-Chloronicotinic acid ( <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in MTBE	1.2 mL
ULM-9604-1.2	6-Chloronicotinic acid (unlabeled)	100 µg/mL in MTBE	1.2 mL
CNLM-10545-1.2	Nitenpyram (methyl- <sup>13</sup> C, ethyl- <sup>13</sup> C <sub>2</sub> , 99%; ethenediamine- <sup>15</sup> N <sub>2</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-10670-1.2	Nitenpyram (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9598-1.2	6-Chloronicotinic acid ( <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in MTBE	1.2 mL
ULM-9604-1.2	6-Chloronicotinic acid (unlabeled)	100 µg/mL in MTBE	1.2 mL
CDNLM-10884-1.2	Sulfoxaflor (2-methyl- <sup>13</sup> C, 99%; D <sub>3</sub> , 98%; cyanamide- <sup>15</sup> N <sub>2</sub> , 98%; <sup>13</sup> C, 98%)	100 µg/mL in methanol	1.2 mL
CNLM-9869-1.2	Sulfoxaflor (cyano- <sup>13</sup> C, 99%; cyano- <sup>15</sup> N, imine- <sup>15</sup> N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9870-1.2	Sulfoxaflor (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9652-1.2	Thiacloprid (pyridylmethyl- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in methanol	1.2 mL
ULM-9733-1.2	Thiacloprid (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-10868-1.2	Thiacloprid-amide (pyridylmethyl- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in methanol	1.2 mL
ULM-10869-1.2	Thiacloprid-amide (unlabeled)	100 µg/mL in methanol	1.2 mL
CLM-9598-1.2	6-Chloronicotinic acid ( <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in MTBE	1.2 mL
ULM-9604-1.2	6-Chloronicotinic acid (unlabeled)	100 µg/mL in MTBE	1.2 mL
CNLM-9860-1.2	Thiamethoxam (methylene- <sup>13</sup> C, 99%; thiazole- <sup>13</sup> C <sub>3</sub> , 99%; <sup>15</sup> N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9939-1.2	Thiamethoxam (unlabeled)	100 µg/mL in methanol	1.2 mL

## Neonicotinoid Mixtures

Catalog No.	Description	Amount
ES-5634	JECS Labeled Neonicotinoid Mixture	1.2 mL in methanol

Labeled	(ng/mL)
Acetamiprid (pyridylmethyl- <sup>13</sup> C <sub>6</sub> , 99%)	20
Clothianidin (methylene- <sup>13</sup> C, 99%; thiazole- <sup>13</sup> C <sub>3</sub> , 99%; <sup>15</sup> N, 98%)	200
Dinotefuran (furylmethyl- <sup>13</sup> C <sub>5</sub> , 99%)	200
Flonicamid ( <sup>18</sup> O, 96%; amide- <sup>15</sup> N, 98%)	800
Imidacloprid (pyridylmethyl- <sup>13</sup> C <sub>6</sub> , 99%)	200
Nitenpyram (methyl- <sup>13</sup> C, ethyl- <sup>13</sup> C <sub>2</sub> , 99%; ethenediamine- <sup>15</sup> N <sub>2</sub> , 98%)	200
Sulfoxaflor (2-methyl- <sup>13</sup> C, 99%; D <sub>3</sub> , 98%; cyanamide- <sup>15</sup> N <sub>2</sub> , 98%; <sup>13</sup> C, 98%)	40
Thiacloprid (pyridylmethyl- <sup>13</sup> C <sub>6</sub> , 99%)	20
Thiamethoxam (methylene- <sup>13</sup> C, 99%; thiazole- <sup>13</sup> C <sub>3</sub> , 99%; <sup>15</sup> N, 98%)	80
Acetamiprid- <i>N</i> -desmethyl (acetimidamide- <sup>13</sup> C <sub>2</sub> , 99%; amine- <sup>15</sup> N, 98%)	400
Clothianidin-desmethyl (guanidine- <sup>13</sup> C, 99%; guanidine-1,3- <sup>15</sup> N <sub>2</sub> , 98%)	1600
Imidacloprid-olefin (imidazol-1- <sup>15</sup> N, 98%; 2- <sup>13</sup> C, 99%; 2-amino- <sup>15</sup> N, 98%)	4000
Thiacloprid-amide (pyridylmethyl- <sup>13</sup> C <sub>6</sub> , 99%)	40

ES-5627	JECS Native Neonicotinoid Mixture	1.2 mL in methanol
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Unlabeled	(ng/mL)
Acetamiprid	100
Clothianidin	1000
Dinotefuran	1000
Flonicamid	2000
Imidacloprid	1000
Nitenpyram	1000
Sulfoxaflor	200
Thiacloprid	100
Thiamethoxam	400
Acetamiprid- <i>N</i> -desmethyl	1000
Clothianidin-desmethyl	4000
Imidacloprid-olefin	20,000
Thiacloprid-amide	200

## Pyrethroid Insecticides

Pyrethroid insecticides are synthetic relatives to pyrethrins, which are naturally occurring pesticides that can be found in certain members of chrysanthemum flowers that were historically used to repel insects and other pests. Use of pyrethroids has been increasing as they are significantly less persistent and less toxic than OC and OP pesticides. In this section, primary pyrethroid insecticides are listed with their corresponding metabolite(s) directly below with an indentation for ease of visibility. Read more about CIL's pyrethroid standards [here](#).

### Pyrethroid Insecticide and Metabolite Standards

Catalog No.	Description	Concentration	Amount
DLM-10041-1.2	Bifenthrin (D <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-10034-1.2	Bifenthrin (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-7293-1.2	Cyfluthrin, mix of stereoisomers (phenoxy- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in nonane	1.2 mL
DLM-10043-1.2	Cyfluthrin, mix of stereoisomers (D <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-7454-1.2	Cyfluthrin, mix of stereoisomers (unlabeled)	100 µg/mL in nonane	1.2 mL
CDLM-9205-1.2	<i>cis</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in acetonitrile-D <sub>3</sub>	1.2 mL
CDLM-9205-MT-1.2	<i>cis</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in MTBE	1.2 mL
ULM-9176-1.2	<i>cis</i> -DCCA (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9176-MT-1.2	<i>cis</i> -DCCA (unlabeled)	100 µg/mL in MTBE	1.2 mL
CDLM-9206-1.2	<i>trans</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in acetonitrile-D <sub>3</sub>	1.2 mL
CDLM-9206-MT-1.2	<i>trans</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in MTBE	1.2 mL
ULM-9175-1.2	<i>trans</i> -DCCA (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9175-MT-1.2	<i>trans</i> -DCCA (unlabeled)	100 µg/mL in MTBE	1.2 mL
CLM-7389-1.2	4-Fluoro-3-phenoxybenzoic acid ( <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7391-1.2	4-Fluoro-3-phenoxybenzoic acid (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-10039-1.2	Cyhalothrin (D <sub>6</sub> , 98%) CP 90%	100 µg/mL in nonane	1.2 mL
ULM-10032-1.2	Cyhalothrin (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-7292-1.2	Cypermethrin, mix of stereoisomers (phenoxy- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in nonane	1.2 mL
DLM-10042-1.2	Cypermethrin, mix of stereoisomers (D <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-7453-1.2	Cypermethrin, mix of stereoisomers (unlabeled)	100 µg/mL in nonane	1.2 mL
CDLM-9205-1.2	<i>cis</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in acetonitrile-D <sub>3</sub>	1.2 mL
CDLM-9205-MT-1.2	<i>cis</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in MTBE	1.2 mL
ULM-9176-1.2	<i>cis</i> -DCCA (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9176-MT-1.2	<i>cis</i> -DCCA (unlabeled)	100 µg/mL in MTBE	1.2 mL
CDLM-9206-1.2	<i>trans</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in acetonitrile-D <sub>3</sub>	1.2 mL
CDLM-9206-MT-1.2	<i>trans</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in MTBE	1.2 mL
ULM-9175-1.2	<i>trans</i> -DCCA (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9175-MT-1.2	<i>trans</i> -DCCA (unlabeled)	100 µg/mL in MTBE	1.2 mL
DLM-10040-1.2	Deltamethrin (D <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-10033-1.2	Deltamethrin (unlabeled)	100 µg/mL in nonane	1.2 mL
CDLM-10692-1.2	<i>cis</i> -DBCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 96%)	100 µg/mL in acetonitrile	1.2 mL
CDLM-10692-MT-1.2	<i>cis</i> -DBCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 96%)	100 µg/mL in MTBE	1.2 mL
ULM-10693-1.2	<i>cis</i> -DBCA (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-10693-MT-1.2	<i>cis</i> -DBCA (unlabeled)	100 µg/mL in MTBE	1.2 mL
DLM-10037-1.2	Fenpropathrin (D <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-10023-1.2	Fenpropathrin (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-10035-1.2	Fenvalerate (D <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-10022-1.2	Fenvalerate (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-7322-1.2	<i>cis</i> -Permethrin (phenoxy- <sup>13</sup> C <sub>6</sub> , 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- <sup>13</sup> C <sub>6</sub> , 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

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## Pyrethroid Insecticide and Metabolite Standards (continued)

Catalog No.	Description	Concentration	Amount
DLM-10036-1.2	Permethrin ( <i>cis/trans</i> mix) (D <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-10018-1.2	Permethrin ( <i>cis/trans</i> mix) (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4542-1.2	3-Phenoxybenzoic acid (phenoxy- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in nonane	1.2 mL
CLM-4542-SA-1.2	3-Phenoxybenzoic acid (phenoxy- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-6781-1.2	3-Phenoxybenzoic acid (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-6781-SA-1.2	3-Phenoxybenzoic acid (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CDLM-9205-1.2	<i>cis</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in acetonitrile-D <sub>3</sub>	1.2 mL
CDLM-9205-MT-1.2	<i>cis</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in MTBE	1.2 mL
ULM-9176-1.2	<i>cis</i> -DCCA (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9176-MT-1.2	<i>cis</i> -DCCA (unlabeled)	100 µg/mL in MTBE	1.2 mL
CDLM-9206-1.2	<i>trans</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in acetonitrile-D <sub>3</sub>	1.2 mL
CDLM-9206-MT-1.2	<i>trans</i> -DCCA (1, carboxyl- <sup>13</sup> C <sub>2</sub> , 99%; 1-D, 97%)	100 µg/mL in MTBE	1.2 mL
ULM-9175-1.2	<i>trans</i> -DCCA (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-9175-MT-1.2	<i>trans</i> -DCCA (unlabeled)	100 µg/mL in MTBE	1.2 mL
DLM-10038-1.2	Tefluthrin (D <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-10031-1.2	Tefluthrin (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-11204-1.2	2,3,5,6-Tetrafluorobenzyl alcohol (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-11205-1.2	2,3,5,6-Tetrafluorobenzyl alcohol (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CDLM-11206-1.2	2,3,5,6-Tetrafluoro-4-methylbenzyl alcohol (methyl- <sup>13</sup> C, 99%; methyl-D <sub>3</sub> , 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-11207-1.2	2,3,5,6-Tetrafluoro-4-methylbenzyl alcohol (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CDLM-11208-MT-1.2	2,3,5,6-Tetrafluoro-4-methylbenzoic acid (methyl- <sup>13</sup> C, 99%; methyl-D <sub>3</sub> , 98%)	100 µg/mL in MTBE	1.2 mL
ULM-11209-MT-1.2	2,3,5,6-Tetrafluoro-4-methylbenzoic acid (unlabeled)	100 µg/mL in MTBE	1.2 mL
CDLM-11210-1.2	2,3,5,6-Tetrafluoro-1,4-benzenedimethanol (bisbenzyl- <sup>13</sup> C <sub>2</sub> ; bisbenzyl-D <sub>4</sub> , 95%)	100 µg/mL in acetonitrile	1.2 mL
ULM-11211-1.2	2,3,5,6-Tetrafluoro-1,4-benzenedimethanol (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CDLM-11212-1.2	4-Methoxymethyl-2,3,5,6-tetrafluorobenzyl alcohol (methyl- <sup>13</sup> C, 99%; methyl-D <sub>3</sub> , 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-11213-1.2	4-Methoxymethyl-2,3,5,6-tetrafluorobenzyl alcohol (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-11214-1.2	2-Methyl-3-phenylbenzoic acid (phenyl- <sup>13</sup> C <sub>6</sub> , 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-11215-1.2	2-Methyl-3-phenylbenzoic acid (unlabeled) (contains ~2% water)	100 µg/mL in acetonitrile	1.2 mL
CDLM-11258-1.2	Chrysanthemum dicarboxylic acid (propenyl-3- <sup>13</sup> C, 99%; 3,3,3-D <sub>3</sub> , 98%)	100 µg/mL in acetonitrile	1.2 mL
CDLM-11258-MT-1.2	Chrysanthemum dicarboxylic acid (propenyl-3- <sup>13</sup> C, 99%; 3,3,3-D <sub>3</sub> , 98%)	100 µg/mL in MTBE	1.2 mL
ULM-11259-1.2	Chrysanthemum dicarboxylic acid (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
ULM-11259-MT-1.2	Chrysanthemum dicarboxylic acid (unlabeled)	100 µg/mL in MTBE	1.2 mL

## Cannabis Pesticide Standards

To support the growing cannabis industry, CIL offers individual stable isotope-labeled and native standards of common pesticides that are required for cannabis testing in the United States and Canada. The product listing below includes CIL's offerings of standards for compounds included in the California, Colorado, Florida, Maryland, Massachusetts, Nevada, Oregon, Pennsylvania, and Canada screening lists. CIL has also recently developed cannabinoid standard solutions; full details can be accessed in our focused product brochure [here](#). If there are any additional target compounds you may be looking for, please feel free to reach out to us to discuss your standards needs.

### Cannabis Pesticide Standards

Catalog No.	Description	Concentration	Amount
DLM-6000-1.2	Acephate (methoxy-D <sub>3</sub> , thiomethoxy-D <sub>3</sub> , 98%)	100 µg/mL in acetonitrile-D <sub>3</sub>	1.2 mL
ULM-7263-1.2	Acephate (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-9653-1.2	Acetamiprid (pyridylmethyl- <sup>13</sup> C <sub>6</sub> , 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 ( <sup>13</sup> C <sub>2</sub> , 98%; D <sub>3</sub> , 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- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in nonane	1.2 mL
CLM-3737-MT-1.2	Atrazine (ring- <sup>13</sup> C <sub>3</sub> , 99%)	100 µg/mL in MTBE	1.2 mL
DLM-1149-1.2	Atrazine (ethylamine-D <sub>5</sub> , 98%)	100 µg/mL in nonane	1.2 mL
DLM-1149-E-1.2	Atrazine (ethylamine-D <sub>5</sub> , 98%)	500 µg/mL in ethanol	1.2 mL
ULM-7235-1.2	Atrazine (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-7235-E-1.2	Atrazine (unlabeled)	500 µg/mL in ethanol	1.2 mL
DLM-10041-1.2	Bifenthrin (D <sub>6</sub> , 98%)	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- <sup>13</sup> C <sub>6</sub> , 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- <sup>13</sup> C <sub>6</sub> , 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 ( <sup>13</sup> C <sub>10</sub> , 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 ( <sup>13</sup> C <sub>10</sub> , 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 <sub>10</sub> , 99%)	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- <sup>13</sup> C, 99%; thiazole- <sup>13</sup> C <sub>3</sub> , 99%; <sup>15</sup> 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- <sup>13</sup> C <sub>6</sub> , 99%) (mix of stereoisomers)	100 µg/mL in nonane	1.2 mL
DLM-10043-1.2	Cyfluthrin (D <sub>6</sub> , 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- <sup>13</sup> C <sub>6</sub> , 99%) (mix of stereoisomers)	100 µg/mL in nonane	1.2 mL
DLM-10042-1.2	Cypermethrin (D <sub>6</sub> , 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 <sub>6</sub> , 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-1148-1.2	Diazinon (diethyl-D <sub>10</sub> , 98%)	100 µg/mL in nonane	1.2 mL
DLM-1148-A-1.2	Diazinon (diethyl-D <sub>10</sub> , 98%)	100 µg/mL in acetonitrile	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 <sub>6</sub> , 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 <sub>6</sub> , 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- <sup>13</sup> C <sub>5</sub> , 99%)	100 µg/mL in methanol	1.2 mL
ULM-9732-1.2	Dinotefuran (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-7116	Diuron (dimethyl-D <sub>6</sub> , 98%)		Inquire

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## Cannabis Pesticide Standards (continued)

Catalog No.	Description	Concentration	Amount
CLM-6025-1.2	Endosulfan I ( <sup>13</sup> C <sub>9</sub> , 99%)	100 µg/mL in nonane	1.2 mL
DLM-2862-1.2	Endosulfan I (D <sub>4</sub> , 97%)	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 ( <sup>13</sup> C <sub>9</sub> , 99%)	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 ( <sup>13</sup> C <sub>9</sub> , 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 <sub>6</sub> , 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- <sup>13</sup> C <sub>4</sub> , 99%; 3-cyano,5- <sup>15</sup> N <sub>2</sub> , 98%)	100 µg/mL in MTBE	1.2 mL
ULM-9635-MT-1.2	Fipronil (unlabeled)	100 µg/mL in MTBE	1.2 mL
NOLM-10860-1.2	Flonicamid ( <sup>18</sup> O, 96%; amide- <sup>15</sup> 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- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in methanol	1.2 mL
DLM-8512-1.2	Imidacloprid (4,4,5,5-D <sub>4</sub> , 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 <sub>10</sub> , 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- <sup>13</sup> C <sub>2</sub> , 99%; <sup>15</sup> N, 98%)	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 ( <sup>13</sup> C <sub>6</sub> , 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- <sup>13</sup> C <sub>6</sub> , 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- <sup>13</sup> C <sub>6</sub> , 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 <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-10018-1.2	Permethrin ( <i>cis/trans</i> mix) (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-4667-1.2	Phosmet (dimethyl-D <sub>6</sub> , 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 <sub>7</sub> , 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- <sup>13</sup> C <sub>6</sub> , 99%)		Inquire
ULM-9991	Tetrachlorvinphos (TCVP) (unlabeled)		Inquire
CLM-9652-1.2	Thiacloprid (pyridylmethyl- <sup>13</sup> C <sub>6</sub> , 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- <sup>13</sup> C, 99%; thiazole- <sup>13</sup> C <sub>3</sub> , 99%; <sup>15</sup> N, 98%)	100 µg/mL in methanol	1.2 mL
ULM-9939-1.2	Thiamethoxam (unlabeled)	100 µg/mL in methanol	1.2 mL

## Organophosphate (OP) and Carbamate Insecticides

Organophosphates are a large class of contact insecticides that target the insect's nervous system by interfering with the enzyme acetylcholinesterase, disrupting nerve impulses and killing or disabling the insect. Carbamates feature the carbamate ester functional group and kill insects by reversibly inactivating acetylcholinesterase. Organophosphates have a cumulative toxic effect to wildlife, whereas carbamates are much less stable in the environment and break down rapidly.

### Organophosphate (OP) Pesticide and Metabolite Standards

Catalog No.	Description	Concentration	Amount
DLM-6000-1.2	Acephate (methoxy-D <sub>3</sub> , thiomethoxy-D <sub>3</sub> , 98%)	100 µg/mL in acetonitrile-D <sub>3</sub>	1.2 mL
ULM-7263-1.2	Acephate (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-9401-N-1.2	Azinphos-methyl (D <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-9399-1.2	Azinphos-methyl (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-7152-1.2	Bensulide (isopropoxy-D <sub>14</sub> , 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-10222-1.2	Bensulide (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-4360-1.2	Chlorpyrifos (diethyl-D <sub>10</sub> , 99%)	100 µg/mL in nonane	1.2 mL
ULM-7489-1.2	Chlorpyrifos (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-7153-1.2	Chlorpyrifos-methyl (dimethyl-D <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
ULM-9538-1.2	Chlorpyrifos-methyl (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-1148-1.2	Diazinon (diethyl-D <sub>10</sub> , 98%)	100 µg/mL in nonane	1.2 mL
DLM-1148-5	Diazinon (diethyl-D <sub>10</sub> , 98%)	neat	5 mg
DLM-1148-A-1.2	Diazinon (diethyl-D <sub>10</sub> , 98%)	100 µg/mL in acetonitrile	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 <sub>6</sub> , 98%)	100 µg/mL in nonane	1.2 mL
DLM-2829-0.01	Dichlorvos (dimethyl-D <sub>6</sub> , 98%)	neat	0.01 g
ULM-7217-1.2	Dichlorvos (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-4851-M-1.2	O,O-Diethylphosphoric acid, potassium salt (DEP) (diethyl-D <sub>10</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-9287-M-1.2	O,O-Diethylphosphoric acid, potassium salt (DEP) (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-4852-1.2	O,O-Diethyl thiophosphate, potassium salt (DETP) (diethyl-D <sub>10</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-6075-1.2	O,O-Diethylphosphorothioate, potassium salt (DETP) (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-9003-1.2	O,O-Diethyl dithiophosphate, potassium salt (DEDTP) (diethyl-D <sub>10</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-9002-1.2	O,O-Diethyl dithiophosphate, potassium salt (DEDTP) (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-9898-1.2	Diisopropyl methylphosphonate (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-7151-1.2	Dimethoate (O,O-dimethyl-D <sub>6</sub> , 98%)	100 µg/mL in acetonitrile	1.2 mL
ULM-7972-1.2	Dimethoate (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
DLM-8868-1.2	O,O-Dimethylphosphoric acid, potassium salt (DMP) (dimethyl-D <sub>6</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-8867-1.2	O,O-Dimethylphosphoric acid, potassium salt (DMP) (unlabeled)	100 µg/mL in methanol	1.2 mL
DLM-8904-1.2	O,O-Dimethyl thiophosphate, potassium salt (DMTP) (dimethyl-D <sub>6</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-8905-1.2	O,O-Dimethyl thiophosphate, potassium salt (DMTP) (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-4541-M-1.2	O,O-Dimethyl dithiophosphate, potassium salt (DMDTP) (dimethyl-D <sub>6</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-9004-1.2	O,O-Dimethyl dithiophosphate, potassium salt (DMDTP) (unlabeled)	100 µg/mL in methanol	1.2 mL
ULM-9899-1.2	Dipinacolyl methylphosphonate (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-7183	Disulfoton (O,O-diethyl-D <sub>10</sub> , 98%)		Inquire
ULM-6091-1.2	N,N-Dimethylphosphoramidic acid, monoethyl ester, sodium salt (unlabeled) CP 90%	1000 µg/mL in methanol	1.2 mL
DLM-6098-1.2	Ethyl hydrogen methylphosphonate (ethyl-D <sub>5</sub> , 98%)	100 µg/mL in methanol	1.2 mL
ULM-6099-1.2	Methylphosphonic acid, monoethyl ester (unlabeled)	1000 µg/mL in methanol	1.2 mL
DLM-2878-0.01	Fenitrothion (O,O-dimethyl-D <sub>6</sub> , 98%)	neat	0.01 g
CLM-4545-1.2	Fonofos (ring- <sup>13</sup> C <sub>6</sub> , 99%)	100 µg/mL in nonane	1.2 mL
ULM-6694-1.2	Fonofos (unlabeled)	100 µg/mL in nonane	1.2 mL
DLM-4476-1.2	Malathion (D <sub>10</sub> , 99%)	100 µg/mL in nonane	1.2 mL
ULM-8122-1.2	Malathion (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-9050-MT-1.2	Malathion diacid ( <sup>13</sup> C <sub>4</sub> , 99%)	100 µg/mL in MTBE	1.2 mL
ULM-9073-MT-1.2	Malathion diacid (unlabeled)	100 µg/mL in MTBE	1.2 mL
DLM-7149-1.2	Methamidophos (dimethyl-D <sub>6</sub> , 98%)	100 µg/mL in dioxane	1.2 mL
ULM-8872-1.2	Methamidophos (unlabeled)	100 µg/mL in dioxane	1.2 mL

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## Organophosphate (OP) Pesticide and Metabolite Standards (continued)

Catalog No.	Description	Concentration	Amount
CDLM-6100-1.2	Methylphosphonic acid ( $^{13}\text{C}$ , 99%; methyl- $\text{D}_3$ , 98%)	100 $\mu\text{g}/\text{mL}$ in methanol	1.2 mL
DLM-6196-1.2	Methylphosphonic acid (methyl- $\text{D}_3$ , 98%)	100 $\mu\text{g}/\text{mL}$ in methanol	1.2 mL
ULM-6101-1.2	Methylphosphonic acid (unlabeled)	100 $\mu\text{g}/\text{mL}$ in methanol	1.2 mL
CLM-6620-1.2	Methylphosphonic acid, mono-(1,2,2-trimethylpropyl) ester (trimethylpropyl- $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in methanol	1.2 mL
ULM-6093-1.2	Methylphosphonic acid, monoisopropyl ester (unlabeled)	1000 $\mu\text{g}/\text{mL}$ in methanol	1.2 mL
DLM-295	2-Nitrophenol (ring- $\text{D}_4$ , 98%)		Inquire
CLM-789-1.2	4-Nitrophenol ( $^{13}\text{C}_6$ , 99%)	1 mg/mL in methanol	1.2 mL
ULM-8892-1.2	4-Nitrophenol (unlabeled)	1 mg/mL in methanol	1.2 mL
DLM-7150-1.2	Oxydemeton-methyl (di- $\text{O}$ -methyl- $\text{D}_6$ , 98%)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
ULM-8579-1.2	Oxydemeton-methyl (unlabeled)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
CLM-4538-1.2	Oxypyrimidine (methyl-4,5,6- $^{13}\text{C}_4$ , 99%)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
ULM-7432-1.2	Oxypyrimidine (unlabeled)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
DLM-2970-1.2	Parathion (diethyl- $\text{D}_{10}$ , 98%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-8144-1.2	Parathion (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-4544-1.2	Phorate (diethoxy- $^{13}\text{C}_4$ , 99%)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
ULM-7567-1.2	Phorate (unlabeled)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
DLM-4667-1.2	Phosmet (dimethyl- $\text{D}_6$ , 98%)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
ULM-8454-1.2	Phosmet (unlabeled)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
CLM-4543-1.2	Terbufos (diethoxy- $^{13}\text{C}_4$ , 99%)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
ULM-11163-1.2	Terbufos (unlabeled)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
CLM-9049-1.2	3,5,6-Trichloro-2-pyridinol (TCPy) (4,5,6- $^{13}\text{C}_3$ , 99%)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
ULM-9204-1.2	3,5,6-Trichloro-2-pyridinol (TCPy) (unlabeled)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL

## Carbamate Pesticide and Metabolite Standards

Catalog No.	Description	Concentration	Amount
CDLM-9820-1.2	Aldicarb ( $^{13}\text{C}_2$ , 98%; $\text{D}_3$ , 98%)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
ULM-9823-1.2	Aldicarb (unlabeled)	100 $\mu\text{g}/\text{mL}$ in acetonitrile	1.2 mL
CLM-7140	Bendiocarb ( $^{13}\text{C}_3$ , 99%)		Inquire
ULM-8638	Bendiocarb (unlabeled)		Inquire
CLM-4682-1.2	Carbaryl (ring- $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-8096-1.2	Carbaryl (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-1911-1.2	Carbofuran (ring- $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in 1,4-dioxane	1.2 mL
ULM-7419-1.2	Carbofuran (unlabeled)	100 $\mu\text{g}/\text{mL}$ in 1,4-dioxane	1.2 mL
CLM-1859-1.2	Carbofuran phenol (ring- $^{13}\text{C}_6$ , 99%)	200 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-6875-1.2	Carbofuran phenol (unlabeled)	200 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-10427-1.2	Carbosulfan (ring- $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in 1,4-dioxane	1.2 mL
ULM-10428-1.2	Carbosulfan (unlabeled)	100 $\mu\text{g}/\text{mL}$ in 1,4-dioxane	1.2 mL
CNLM-7148-1.2	Methomyl (acetohydroxamate- $^{13}\text{C}_2$ , 99%; $^{15}\text{N}$ , 98%)	100 $\mu\text{g}/\text{mL}$ in methanol	1.2 mL
ULM-8639-1.2	Methomyl (unlabeled)	100 $\mu\text{g}/\text{mL}$ in methanol	1.2 mL
DLM-7141-1.2	Propoxur (isopropyl- $\text{D}_7$ , 98%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-9765-1.2	Propoxur (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-3761-1.2	Triallate (diisopropyl- $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-10354-1.2	Triallate (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL

## Organochlorine (OC) and Chlorinated Cyclodiene Pesticides

Organochlorine and chlorinated cyclodiene pesticides are heavily represented in the list of compounds governed by the Stockholm Convention. Both classes of pesticides were widely used for decades, and their persistence in the environment ensures their presence in the environment and biota for years to come.

### Organochlorine (OC) and Chlorinated Cyclodiene Pesticide and Metabolite Standards

Catalog No.	Description	Concentration	Amount
CLM-4725-1.2	Aldrin ( $^{13}\text{C}_{12}$ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-7441-1.2	Aldrin (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-8087-1.2	<i>cis</i> -Chlordane ( $\alpha$ ) ( $^{13}\text{C}_{10}$ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-2419-1.2	<i>cis</i> -Chlordane ( $\alpha$ ) (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-2419-25	<i>cis</i> -Chlordane ( $\alpha$ ) (unlabeled)	neat	25 mg
CLM-4792-1.2	<i>trans</i> -Chlordane ( $\gamma$ ) ( $^{13}\text{C}_{10}$ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-2420-1.2	<i>trans</i> -Chlordane ( $\gamma$ ) (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-2420-25	<i>trans</i> -Chlordane ( $\gamma$ ) (unlabeled)	neat	25 mg
CLM-4814-1.2	Chlordecone (kepone) ( $^{13}\text{C}_{10}$ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-2301-1.2	Chlordecone (kepone) (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-2301-0.1	Chlordecone (kepone) (unlabeled)	neat	0.1 g
CLM-4758-1.2	Chlordene ( $^{13}\text{C}_{10}$ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-7443-1.2	Chlordene (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-6758-1.2	4-Chloro-2-methylphenoxyacetic acid (MCPA) (ring- $^{13}\text{C}_6$ , 99%)	100 µg/mL in acetonitrile	1.2 mL
ULM-10731-1.2	4-Chloro-2-methylphenoxyacetic acid (MCPA) (unlabeled)	100 µg/mL in acetonitrile	1.2 mL
CLM-6999-1.2	2,4'-DDD [( <i>o,p'</i> -dichlorodiphenyl) dichloroethane] (ring- $^{13}\text{C}_{12}$ , 99%)	50 µg/mL in nonane	1.2 mL
ULM-7450-1.2	2,4'-DDD [( <i>o,p'</i> -dichlorodiphenyl) dichloroethane] (unlabeled)	50 µg/mL in nonane	1.2 mL
CLM-7100-1.2	4,4'-DDD [( <i>p,p'</i> -dichlorodiphenyl) dichloroethane] (ring- $^{13}\text{C}_{12}$ , 99%)	100 µg/mL in nonane	1.2 mL
DLM-3533-1.2	4,4'-DDD [( <i>p,p'</i> -dichlorodiphenyl) dichloroethane] (ring- $\text{D}_8$ , 98%)	100 µg/mL in nonane	1.2 mL
ULM-7216-1.2	4,4'-DDD [( <i>p,p'</i> -dichlorodiphenyl) dichloroethane] (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4693-1.2	2,4'-DDE [( <i>o,p'</i> -dichlorodiphenyl) dichloroethylene] (ring- $^{13}\text{C}_{12}$ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-6251-1.2	2,4'-DDE [( <i>o,p'</i> -dichlorodiphenyl) dichloroethylene] (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-1627-1.2	4,4'-DDE [( <i>p,p'</i> -dichlorodiphenyl) dichloroethylene] (ring- $^{13}\text{C}_{12}$ , 99%)	100 µg/mL in nonane	1.2 mL
CLM-1627-5	4,4'-DDE [( <i>p,p'</i> -dichlorodiphenyl) dichloroethylene] (ring- $^{13}\text{C}_{12}$ , 99%)	neat	5 mg
ULM-6137-1.2	4,4'-DDE [( <i>p,p'</i> -dichlorodiphenyl) dichloroethylene] (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4692-1.2	2,4'-DDT [( <i>o,p'</i> -dichlorodiphenyl) trichloroethane] (ring- $^{13}\text{C}_{12}$ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-6134-1.2	2,4'-DDT [( <i>o,p'</i> -dichlorodiphenyl) trichloroethane] (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-1281-1.2	4,4'-DDT [( <i>p,p'</i> -dichlorodiphenyl) trichloroethane] (ring- $^{13}\text{C}_{12}$ , 99%)	100 µg/mL in nonane	1.2 mL
CLM-1281-5	4,4'-DDT [( <i>p,p'</i> -dichlorodiphenyl) trichloroethane] (ring- $^{13}\text{C}_{12}$ , 99%)	neat	5 mg
ULM-6135-1.2	4,4'-DDT [( <i>p,p'</i> -dichlorodiphenyl) trichloroethane] (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-11027-1.2	Dicofol (ring- $^{13}\text{C}_{12}$ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-6136-1.2	Dicofol (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4726-1.2	Dieldrin ( $^{13}\text{C}_{12}$ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-7230-1.2	Dieldrin (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-6025-1.2	Endosulfan I ( $^{13}\text{C}_9$ , 99%)	100 µg/mL in nonane	1.2 mL
DLM-2862-1.2	Endosulfan I ( $\text{D}_4$ , 97%)	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 ( $^{13}\text{C}_9$ , 99%)	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 ( $^{13}\text{C}_9$ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-7990-1.2	Endosulfan sulfate (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4782-1.2	Endrin ( $^{13}\text{C}_{12}$ , 99%)	100 µg/mL in nonane	1.2 mL
ULM-7444-1.2	Endrin (unlabeled)	100 µg/mL in nonane	1.2 mL
CLM-4815-1.2	Endrin aldehyde ( $^{13}\text{C}_{12}$ , 99%)	100 µg/mL in nonane	1.2 mL
CLM-4815-50	Endrin aldehyde ( $^{13}\text{C}_{12}$ , 99%)	neat	50 µg
ULM-8958-1.2	Endrin aldehyde (unlabeled)	100 µg/mL in nonane	1.2 mL
ULM-8958-50	Endrin aldehyde (unlabeled)	neat	50 µg

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## Organochlorine (OC) and Chlorinated Cyclodiene Pesticide and Metabolite Standards (continued)

Catalog No.	Description	Concentration	Amount
CLM-4816-1.2	Endrin ketone ( $^{13}\text{C}_{12}$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-4816-50	Endrin ketone ( $^{13}\text{C}_{12}$ , 99%)	neat	50 $\mu\text{g}$
ULM-8956-1.2	Endrin ketone (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-8956-50	Endrin ketone (unlabeled)	neat	50 $\mu\text{g}$
CLM-4759-1.2	Heptachlor ( $^{13}\text{C}_{10}$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-2424-1.2	Heptachlor (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-2424-0.1	Heptachlor (unlabeled)	neat	0.1 g
CLM-4734-1.2	<i>cis</i> -Heptachlor epoxide ( $^{13}\text{C}_{10}$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-2425-1.2	<i>cis</i> -Heptachlor epoxide (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-2425-0.1	<i>cis</i> -Heptachlor epoxide (unlabeled)	neat	0.1 g
ULM-7869-1.2	<i>trans</i> -Heptachlor epoxide (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-351-1.2	Hexachlorobenzene ( $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-6130-1.2	Hexachlorobenzene (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-2482-1.2	$\alpha$ -HCH ( $\alpha$ -BHC) ( $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-7232-1.2	$\alpha$ -HCH ( $\alpha$ -BHC) (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-3623-1.2	$\beta$ -HCH ( $\beta$ -BHC) ( $^{13}\text{C}_6$ , 99%)	50 $\mu\text{g}/\text{mL}$ in nonane	2 $\times$ 1.2 mL
ULM-6132-1.2	$\beta$ -HCH ( $\beta$ -BHC) (unlabeled)	50 $\mu\text{g}/\text{mL}$ in nonane	2 $\times$ 1.2 mL
CDLM-624-1.2	$\gamma$ -HCH ( $\gamma$ -BHC) (lindane) ( $^{13}\text{C}_6$ , 99%; $\text{D}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-1282-1.2	$\gamma$ -HCH ( $\gamma$ -BHC) (lindane) ( $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-6133-1.2	$\gamma$ -HCH ( $\gamma$ -BHC) (lindane) (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-3648-1.2	$\delta$ -HCH ( $\delta$ -BHC) ( $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-7233-1.2	$\delta$ -HCH ( $\delta$ -BHC) (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-4727-1.2	Isodrin ( $^{13}\text{C}_{12}$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-7442-1.2	Isodrin (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-4814-1.2	Kepone (chlordecone) ( $^{13}\text{C}_{10}$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-2301-1.2	Kepone (chlordecone) (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-2301-0.1	Kepone (chlordecone) (unlabeled)	neat	0.1 g
CLM-4683-1.2	Methoxychlor (ring- $^{13}\text{C}_{12}$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-7440-1.2	Methoxychlor (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-4813-1.2	Mirex ( $^{13}\text{C}_{10}$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-2078-1	Mirex ( $^{13}\text{C}_8$ , 99%)	100 $\mu\text{g}/\text{mL}$ in toluene	1 mL
ULM-2427-1.2	Mirex (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-2427-0.1	Mirex (unlabeled)	neat	0.1 g
CLM-4811-1.2	<i>cis</i> -Nonachlor ( $^{13}\text{C}_{10}$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-7445-1.2	<i>cis</i> -Nonachlor (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-4735-1.2	<i>trans</i> -Nonachlor ( $^{13}\text{C}_{10}$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-7229-1.2	<i>trans</i> -Nonachlor (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
CLM-4729-1.2	Oxychlorane ( $^{13}\text{C}_{10}$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-6139-1.2	Oxychlorane (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-6139-SM-1.2	Oxychlorane (unlabeled)	100 $\mu\text{g}/\text{mL}$ in methanol	1.2 mL
CLM-8003-1.2	Pentachloroanisole ( $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in toluene	1.2 mL
ULM-7605-1.2	Pentachloroanisole (unlabeled)	100 $\mu\text{g}/\text{mL}$ in toluene	1.2 mL
CLM-2050-1.2	Pentachlorobenzene ( $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in isooctane	1.2 mL
ULM-7234-1.2	Pentachlorobenzene (unlabeled)	100 $\mu\text{g}/\text{mL}$ in isooctane	1.2 mL
CLM-661-1.2	Pentachlorophenol ( $^{13}\text{C}_6$ , 99%)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL
ULM-6894-1.2	Pentachlorophenol (unlabeled)	100 $\mu\text{g}/\text{mL}$ in nonane	1.2 mL

## Stockholm Convention Pops Pesticide Standard Mixtures

The Stockholm Convention has focused worldwide attention on analysis of the most toxic pesticides. CIL promotes the development of new isotope-labeled legacy and “new use” pesticides to support laboratories using IDMS for the most accurate analytical results.

Catalog No.	Description	Amount
ES-5464-A	Expanded POPs Pesticides Calibration Solutions with Endosulfan Sulfate [CS1-CS6]	Set of 6 × 0.2 mL in nonane

Individual calibration levels are also available for purchase.

All concentrations are ng/mL

Unlabeled	CS1	CS2	CS3	CS4	CS5	CS6
Hexachlorobenzene	0.4	2	10	40	200	800
Pentachlorobenzene	0.4	2	10	40	200	800
Aldrin	0.4	2	10	40	200	800
Dieldrin	0.4	2	10	40	200	800
Endrin	0.4	2	10	40	200	800
4,4'-DDT	0.4	2	10	40	200	800
4,4'-DDE	0.4	2	10	40	200	800
4,4'-DDD	0.4	2	10	40	200	800
2,4'-DDT	0.4	2	10	40	200	800
2,4'-DDE	0.4	2	10	40	200	800
2,4'-DDD	0.4	2	10	40	200	800
<i>trans</i> -Chlordane ( $\gamma$ )	0.4	2	10	40	200	800
<i>cis</i> -Chlordane ( $\alpha$ )	0.4	2	10	40	200	800
<i>trans</i> -Nonachlor	0.4	2	10	40	200	800
<i>cis</i> -Nonachlor	0.4	2	10	40	200	800
Oxychlordane	0.4	2	10	40	200	800
Heptachlor	0.4	2	10	40	200	800
<i>trans</i> -Heptachlor epoxide	0.4	2	10	40	200	800
<i>cis</i> -Heptachlor epoxide	0.4	2	10	40	200	800
Mirex	0.4	2	10	40	200	800
Kepone (chlordecone)	0.4	2	10	40	200	800
$\alpha$ -HCH ( $\alpha$ -BHC)	0.4	2	10	40	200	800
$\beta$ -HCH ( $\beta$ -BHC)	0.4	2	10	40	200	800
$\gamma$ -HCH ( $\gamma$ -BHC) (lindane)	0.4	2	10	40	200	800
$\delta$ -HCH ( $\delta$ -BHC)	0.4	2	10	40	200	800
Endosulfan I	0.4	2	10	40	200	800
Endosulfan II	0.4	2	10	40	200	800
Endosulfan sulfate	0.4	2	10	40	200	800

Continued ►



## Stockholm Convention POPs Pesticide Standard Mixtures

## ES-5464-A (continued)

All concentrations are ng/mL

Labeled	CS1	CS2	CS3	CS4	CS5	CS6
Hexachlorobenzene ( $^{13}\text{C}_6$ , 99%)	20	20	20	20	20	20
Pentachlorobenzene ( $^{13}\text{C}_5$ , 99%)	20	20	20	20	20	20
Aldrin ( $^{13}\text{C}_{12}$ , 99%)	20	20	20	20	20	20
Dieldrin ( $^{13}\text{C}_{12}$ , 99%)	20	20	20	20	20	20
Endrin ( $^{13}\text{C}_{12}$ , 99%)	20	20	20	20	20	20
4,4'-DDT (ring- $^{13}\text{C}_{12}$ , 99%)	20	20	20	20	20	20
4,4'-DDE (ring- $^{13}\text{C}_{12}$ , 99%)	20	20	20	20	20	20
4,4'-DDD (ring- $^{13}\text{C}_{12}$ , 99%)	20	20	20	20	20	20
2,4'-DDT (ring- $^{13}\text{C}_{12}$ , 99%)	20	20	20	20	20	20
2,4'-DDE (ring- $^{13}\text{C}_{12}$ , 99%)	20	20	20	20	20	20
2,4'-DDD (ring- $^{13}\text{C}_{12}$ , 99%)	20	20	20	20	20	20
<i>trans</i> -Chlordane ( $\gamma$ ) ( $^{13}\text{C}_{10}$ , 99%)	20	20	20	20	20	20
<i>cis</i> -Chlordane ( $\alpha$ ) ( $^{13}\text{C}_{10}$ , 99%)	20	20	20	20	20	20
<i>trans</i> -Nonachlor ( $^{13}\text{C}_{10}$ , 99%)	20	20	20	20	20	20
<i>cis</i> -Nonachlor ( $^{13}\text{C}_{10}$ , 99%)	20	20	20	20	20	20
Oxychlordane ( $^{13}\text{C}_{10}$ , 99%)	20	20	20	20	20	20
Heptachlor ( $^{13}\text{C}_{10}$ , 99%)	20	20	20	20	20	20
<i>cis</i> -Heptachlor epoxide ( $^{13}\text{C}_{10}$ , 99%)	20	20	20	20	20	20
Mirex ( $^{13}\text{C}_{10}$ , 99%)	20	20	20	20	20	20
Kepone (chlordecone) ( $^{13}\text{C}_{10}$ , 99%)	20	20	20	20	20	20
$\alpha$ -HCH ( $\alpha$ -BHC) ( $^{13}\text{C}_6$ , 99%)	20	20	20	20	20	20
$\beta$ -HCH ( $\beta$ -BHC) ( $^{13}\text{C}_6$ , 99%)	20	20	20	20	20	20
$\gamma$ -HCH ( $\gamma$ -BHC) (lindane) ( $^{13}\text{C}_6$ , 99%)	20	20	20	20	20	20
$\delta$ -HCH ( $\delta$ -BHC) ( $^{13}\text{C}_6$ , 99%)	20	20	20	20	20	20
Endosulfan I ( $^{13}\text{C}_9$ , 99%)	20	20	20	20	20	20
Endosulfan II ( $^{13}\text{C}_9$ , 99%)	20	20	20	20	20	20
Endosulfan sulfate ( $^{13}\text{C}_9$ , 99%)	20	20	20	20	20	20
<b>Syringe</b>						
4,4'-DiCB ( $^{13}\text{C}_{12}$ , 99%) (PCB-15)	20	20	20	20	20	20
2,3',4',5-TetraCB ( $^{13}\text{C}_{12}$ , 99%) (PCB-70)	20	20	20	20	20	20
<b>Sampling</b>						
Isodrin ( $^{13}\text{C}_{12}$ , 99%)	20	20	20	20	20	20

## Stockholm Convention POPs Pesticide Standard Mixtures

Catalog No.	Description	Amount
ES-5464	Expanded POPs Pesticides Calibration Solutions [CS1-CS6]	Set of 6 × 0.2 mL in nonane

Individual calibration levels are also available for purchase.

All concentrations are ng/mL

Unlabeled	CS1	CS2	CS3	CS4	CS5	CS6
Hexachlorobenzene	0.4	2	10	40	200	800
Pentachlorobenzene	0.4	2	10	40	200	800
Aldrin	0.4	2	10	40	200	800
Dieldrin	0.4	2	10	40	200	800
Endrin	0.4	2	10	40	200	800
4,4'-DDT	0.4	2	10	40	200	800
4,4'-DDE	0.4	2	10	40	200	800
4,4'-DDD	0.4	2	10	40	200	800
2,4'-DDT	0.4	2	10	40	200	800
2,4'-DDE	0.4	2	10	40	200	800
2,4'-DDD	0.4	2	10	40	200	800
<i>trans</i> -Chlordane ( $\gamma$ )	0.4	2	10	40	200	800
<i>cis</i> -Chlordane ( $\alpha$ )	0.4	2	10	40	200	800
<i>trans</i> -Nonachlor	0.4	2	10	40	200	800
<i>cis</i> -Nonachlor	0.4	2	10	40	200	800
Oxychlordane	0.4	2	10	40	200	800
Heptachlor	0.4	2	10	40	200	800
<i>trans</i> -Heptachlor epoxide	0.4	2	10	40	200	800
<i>cis</i> -Heptachlor epoxide	0.4	2	10	40	200	800
Mirex	0.4	2	10	40	200	800
Kepone (chlordecone)	0.4	2	10	40	200	800
$\alpha$ -HCH ( $\alpha$ -BHC)	0.4	2	10	40	200	800
$\beta$ -HCH ( $\beta$ -BHC)	0.4	2	10	40	200	800
$\gamma$ -HCH ( $\gamma$ -BHC) (lindane)	0.4	2	10	40	200	800
$\delta$ -HCH ( $\delta$ -BHC)	0.4	2	10	40	200	800
Endosulfan I	0.4	2	10	40	200	800
Endosulfan II	0.4	2	10	40	200	800

Continued ►

## Stockholm Convention POPs Pesticide Standard Mixtures

ES-5464 (continued)

All concentrations are ng/mL

Labeled	CS1	CS2	CS3	CS4	CS5	CS6
Hexachlorobenzene ( $^{13}\text{C}_{6r}$ , 99%)	20	20	20	20	20	20
Pentachlorobenzene ( $^{13}\text{C}_{6r}$ , 99%)	20	20	20	20	20	20
Aldrin ( $^{13}\text{C}_{12r}$ , 99%)	20	20	20	20	20	20
Dieldrin ( $^{13}\text{C}_{12r}$ , 99%)	20	20	20	20	20	20
Endrin ( $^{13}\text{C}_{12r}$ , 99%)	20	20	20	20	20	20
4,4'-DDT (ring- $^{13}\text{C}_{12r}$ , 99%)	20	20	20	20	20	20
4,4'-DDE (ring- $^{13}\text{C}_{12r}$ , 99%)	20	20	20	20	20	20
4,4'-DDD (ring- $^{13}\text{C}_{12r}$ , 99%)	20	20	20	20	20	20
2,4'-DDT (ring- $^{13}\text{C}_{12r}$ , 99%)	20	20	20	20	20	20
2,4'-DDE (ring- $^{13}\text{C}_{12r}$ , 99%)	20	20	20	20	20	20
2,4'-DDD (ring- $^{13}\text{C}_{12r}$ , 99%)	20	20	20	20	20	20
<i>trans</i> -Chlordane ( $\gamma$ ) ( $^{13}\text{C}_{10r}$ , 99%)	20	20	20	20	20	20
<i>cis</i> -Chlordane ( $\alpha$ ) ( $^{13}\text{C}_{10r}$ , 99%)	20	20	20	20	20	20
<i>trans</i> -Nonachlor ( $^{13}\text{C}_{10r}$ , 99%)	20	20	20	20	20	20
<i>cis</i> -Nonachlor ( $^{13}\text{C}_{10r}$ , 99%)	20	20	20	20	20	20
Oxychlordane ( $^{13}\text{C}_{10r}$ , 99%)	20	20	20	20	20	20
Heptachlor ( $^{13}\text{C}_{10r}$ , 99%)	20	20	20	20	20	20
<i>cis</i> -Heptachlor epoxide ( $^{13}\text{C}_{10r}$ , 99%)	20	20	20	20	20	20
Mirex ( $^{13}\text{C}_{10r}$ , 99%)	20	20	20	20	20	20
Kepone (chlordecone) ( $^{13}\text{C}_{10r}$ , 99%)	20	20	20	20	20	20
$\alpha$ -HCH ( $\alpha$ -BHC) ( $^{13}\text{C}_{6r}$ , 99%)	20	20	20	20	20	20
$\beta$ -HCH ( $\beta$ -BHC) ( $^{13}\text{C}_{6r}$ , 99%)	20	20	20	20	20	20
$\gamma$ -HCH ( $\gamma$ -BHC) (lindane) ( $^{13}\text{C}_{6r}$ , 99%)	20	20	20	20	20	20
$\delta$ -HCH ( $\delta$ -BHC) ( $^{13}\text{C}_{6r}$ , 99%)	20	20	20	20	20	20
Endosulfan I ( $^{13}\text{C}_{9r}$ , 99%)	20	20	20	20	20	20
Endosulfan II ( $^{13}\text{C}_{9r}$ , 99%)	20	20	20	20	20	20
<b>Syringe</b>						
4,4'-DiCB ( $^{13}\text{C}_{12r}$ , 99%) (PCB-15)	20	20	20	20	20	20
2,3',4',5-TetraCB ( $^{13}\text{C}_{12r}$ , 99%) (PCB-70)	20	20	20	20	20	20
<b>Sampling</b>						
Isodrin ( $^{13}\text{C}_{12r}$ , 99%)	20	20	20	20	20	20

## Stockholm Convention POPs Pesticide Standard Mixtures

Catalog No.	Description	Amount
ES-5467-A	Expanded POPs Pesticides PAR Solution with Endosulfan Sulfate	1.2 mL in nonane
ES-5467	Expanded POPs Pesticides PAR Solution	1.2 mL in nonane

*All concentrations are ng/mL*

Unlabeled	ES-5467-A	ES-5467
Hexachlorobenzene	1000	1000
Pentachlorobenzene	1000	1000
Aldrin	1000	1000
Dieldrin	1000	1000
Endrin	1000	1000
4,4'-DDT	1000	1000
4,4'-DDE	1000	1000
4,4'-DDD	1000	1000
2,4'-DDT	1000	1000
2,4'-DDE	1000	1000
2,4'-DDD	1000	1000
<i>trans</i> -Chlordane ( $\gamma$ )	1000	1000
<i>cis</i> -Chlordane ( $\alpha$ )	1000	1000
<i>trans</i> -Nonachlor	1000	1000
<i>cis</i> -Nonachlor	1000	1000
Oxychlordane	1000	1000
Heptachlor	1000	1000
<i>trans</i> -Heptachlor epoxide	1000	1000
<i>cis</i> -Heptachlor epoxide	1000	1000
Mirex	1000	1000
Kepone (chlordecone)	1000	1000
$\alpha$ -HCH ( $\alpha$ -BHC)	1000	1000
$\beta$ -HCH ( $\beta$ -BHC)	1000	1000
$\gamma$ -HCH ( $\gamma$ -BHC) (lindane)	1000	1000
$\delta$ -HCH ( $\delta$ -BHC)	1000	1000
Endosulfan I	1000	1000
Endosulfan II	1000	1000
Endosulfan sulfate	1000	-

## Stockholm Convention POPs Pesticide Standard Mixtures

Catalog No.	Description	Amount
ES-5465-A	Expanded POPs Pesticides Cleanup Spike with Endosulfan Sulfate	1.2 mL in nonane
ES-5465	Expanded POPs Pesticides Cleanup Spike	1.2 mL in nonane
EC-5350	POPs Pesticides HRMS (PCB) Syringe Spike	1.2 mL in nonane
EC-5350-L	POPs Pesticides LRMS (PCB) Syringe Spike	0.5 mL in nonane
ES-5466	Expanded POPs Pesticides Sampling Spike	1.2 mL in nonane

All concentrations are ng/mL

Labeled	ES-5465-A	ES-5465	EC-5350	EC-5350-L	ES-5466
Hexachlorobenzene ( $^{13}\text{C}_{6r}$ , 99%)	100	100	-	-	-
Pentachlorobenzene ( $^{13}\text{C}_{6r}$ , 99%)	100	100	-	-	-
Aldrin ( $^{13}\text{C}_{12r}$ , 99%)	100	100	-	-	-
Dieldrin ( $^{13}\text{C}_{12r}$ , 99%)	100	100	-	-	-
Endrin ( $^{13}\text{C}_{12r}$ , 99%)	100	100	-	-	-
4,4'-DDT (ring- $^{13}\text{C}_{12r}$ , 99%)	100	100	-	-	-
4,4'-DDE (ring- $^{13}\text{C}_{12r}$ , 99%)	100	100	-	-	-
4,4'-DDD (ring- $^{13}\text{C}_{12r}$ , 99%)	100	100	-	-	-
2,4'-DDT (ring- $^{13}\text{C}_{12r}$ , 99%)	100	100	-	-	-
2,4'-DDE (ring- $^{13}\text{C}_{12r}$ , 99%)	100	100	-	-	-
2,4'-DDD (ring- $^{13}\text{C}_{12r}$ , 99%)	100	100	-	-	-
<i>trans</i> -Chlordane ( $\gamma$ ) ( $^{13}\text{C}_{10r}$ , 99%)	100	100	-	-	-
<i>trans</i> -Nonachlor ( $^{13}\text{C}_{10r}$ , 99%)	100	100	-	-	-
<i>cis</i> -Nonachlor ( $^{13}\text{C}_{10r}$ , 99%)	100	100	-	-	-
Oxychlordane ( $^{13}\text{C}_{10r}$ , 99%)	100	100	-	-	-
Heptachlor ( $^{13}\text{C}_{10r}$ , 99%)	100	100	-	-	-
<i>cis</i> -Heptachlor epoxide ( $^{13}\text{C}_{10r}$ , 99%)	100	100	-	-	-
Mirex ( $^{13}\text{C}_{10r}$ , 99%)	100	100	-	-	-
Kepone (chlordecone) ( $^{13}\text{C}_{10r}$ , 99%)	100	100	-	-	-
$\alpha$ -HCH ( $\alpha$ -BHC) ( $^{13}\text{C}_{6r}$ , 99%)	100	100	-	-	-
$\beta$ -HCH ( $\beta$ -BHC) ( $^{13}\text{C}_{6r}$ , 99%)	100	100	-	-	-
$\gamma$ -HCH ( $\gamma$ -BHC) (lindane) ( $^{13}\text{C}_{6r}$ , 99%)	100	100	-	-	-
$\delta$ -HCH ( $\delta$ -BHC) ( $^{13}\text{C}_{6r}$ , 99%)	100	100	-	-	-
Endosulfan I ( $^{13}\text{C}_9$ , 99%)	100	100	-	-	-
Endosulfan II ( $^{13}\text{C}_9$ , 99%)	100	100	-	-	-
Endosulfan sulfate ( $^{13}\text{C}_9$ , 99%)	100	-	-	-	-
<b>Syringe</b>					
4,4'-DiCB ( $^{13}\text{C}_{12r}$ , 99%) (PCB-15)	-	-	100	1000	-
2,3',4',5-TetraCB ( $^{13}\text{C}_{12r}$ , 99%) (PCB-70)	-	-	100	1000	-
<b>Sampling</b>					
Isodrin ( $^{13}\text{C}_{12r}$ , 99%)	-	-	-	-	1000

## Pesticide Standard Mixtures

New applications and increased testing by isotope-dilution mass spectrometry (IDMS) have led to the development of several pesticide mixtures. These solutions allow analysts to use preformulated mixtures for detection and quantification of a complete series of pesticides.

Catalog No.	Description	Amount
ES-5442	CDC POPs (with Parlars) Calibration Solutions [CS1-CS9]	9 × 0.2 mL in nonane

Individual calibration levels are also available for purchase.

All concentrations are ng/mL

Unlabeled	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8	CS9
Parlar 26	2.5	5	10	30	100	300	1000	-	-
Parlar 50	2.5	5	10	30	100	300	1000	-	-
Parlar 62	2.5	5	10	30	100	300	1000	-	-
Hexachlorobenzene	2.5	5	10	30	100	300	1000	-	-
β-HCH (β-BHC)	2.5	5	10	30	100	300	1000	-	-
γ-HCH (γ-BHC) (Lindane)	2.5	5	10	30	100	300	1000	-	-
Aldrin	2.5	5	10	30	100	300	1000	-	-
cis-Heptachlor Epoxide	2.5	5	10	30	100	300	1000	-	-
Oxychlorane	2.5	5	10	30	100	300	1000	-	-
trans-Nonachlor	2.5	5	10	30	100	300	1000	-	-
4,4'-DDE	2.5	5	10	30	100	300	1000	3000	7500
Dieldrin	2.5	5	10	30	100	300	1000	-	-
Endrin	2.5	5	10	30	100	300	1000	-	-
Isodrin	2.5	5	10	30	100	300	1000	-	-
2,4'-DDT	2.5	5	10	30	100	300	1000	3000	7500
4,4'-DDT	2.5	5	10	30	100	300	1000	-	-
Mirex	2.5	5	10	30	100	300	1000	-	-
α-HCH (α-BHC)	2.5	5	10	30	100	300	1000	-	-
cis-Chlordane (α)	2.5	5	10	30	100	300	1000	-	-
trans-Chlordane (γ)	2.5	5	10	30	100	300	1000	-	-
2,4'-DDE	2.5	5	10	30	100	300	1000	-	-
cis-Nonachlor	2.5	5	10	30	100	300	1000	-	-
Methoxychlor	2.5	5	10	30	100	300	1000	-	-
Pentachloroanisole	2.5	5	10	30	100	300	1000	-	-
Octachlorostyrene	2.5	5	10	30	100	300	1000	-	-

Continued ►

## Pesticide Standard Mixtures

## ES-5442 (continued)

All concentrations are ng/mL

Labeled	CS1	CS2	CS3	CS4	CS5	CS6	CS7	CS8	CS9
Parlar 26 ( <sup>13</sup> C <sub>10</sub> , 99%)	75	75	75	75	75	75	75	75	75
Parlar 50 ( <sup>13</sup> C <sub>10</sub> , 99%)	75	75	75	75	75	75	75	75	75
Parlar 62 ( <sup>13</sup> C <sub>10</sub> , 99%)	75	75	75	75	75	75	75	75	75
Hexachlorobenzene ( <sup>13</sup> C <sub>6</sub> , 99%)	75	75	75	75	75	75	75	75	75
β-HCH (β-BHC) ( <sup>13</sup> C <sub>6</sub> , 99%)	75	75	75	75	75	75	75	75	75
γ-HCH (γ-BHC) (lindane) ( <sup>13</sup> C <sub>6</sub> , 99%)	75	75	75	75	75	75	75	75	75
Aldrin ( <sup>13</sup> C <sub>12</sub> , 99%)	75	75	75	75	75	75	75	75	75
cis-Heptachlor epoxide ( <sup>13</sup> C <sub>10</sub> , 99%)	75	75	75	75	75	75	75	75	75
Oxychlorthane ( <sup>13</sup> C <sub>10</sub> , 99%)	75	75	75	75	75	75	75	75	75
trans-Nonachlor ( <sup>13</sup> C <sub>10</sub> , 99%)	75	75	75	75	75	75	75	75	75
4,4'-DDE (ring- <sup>13</sup> C <sub>12</sub> , 99%)	150	150	150	150	150	150	150	150	150
Dieldrin ( <sup>13</sup> C <sub>12</sub> , 99%)	75	75	75	75	75	75	75	75	75
Endrin ( <sup>13</sup> C <sub>12</sub> , 99%)	75	75	75	75	75	75	75	75	75
Isodrin ( <sup>13</sup> C <sub>12</sub> , 99%)	75	75	75	75	75	75	75	75	75
2,4'-DDT (ring- <sup>13</sup> C <sub>12</sub> , 99%)	75	75	75	75	75	75	75	75	75
4,4'-DDT (ring- <sup>13</sup> C <sub>12</sub> , 99%)	75	75	75	75	75	75	75	75	75
Mirex ( <sup>13</sup> C <sub>10</sub> , 99%)	75	75	75	75	75	75	75	75	75
α-HCH (α-BHC) ( <sup>13</sup> C <sub>6</sub> , 99%)	75	75	75	75	75	75	75	75	75
cis-Chlordane (α) ( <sup>13</sup> C <sub>10</sub> , 99%)	75	75	75	75	75	75	75	75	75
trans-Chlordane (γ) ( <sup>13</sup> C <sub>10</sub> , 99%)	75	75	75	75	75	75	75	75	75
2,4'-DDE ( <sup>13</sup> C <sub>12</sub> , 99%)	75	75	75	75	75	75	75	75	75
cis-Nonachlor ( <sup>13</sup> C <sub>10</sub> , 99%)	75	75	75	75	75	75	75	75	75
Methoxychlor (ring- <sup>13</sup> C <sub>12</sub> , 99%)	75	75	75	75	75	75	75	75	75
Pentachloroanisole ( <sup>13</sup> C <sub>6</sub> , 99%)	75	75	75	75	75	75	75	75	75
Octachlorostyrene ( <sup>13</sup> C <sub>8</sub> , 99%)	75	75	75	75	75	75	75	75	75
1,2,3,4-TetraCDD ( <sup>13</sup> C <sub>6</sub> , 99%)	25	25	25	25	25	25	25	25	25
2,2',3,3',4,5,5',6,6'-NonaCB ( <sup>13</sup> C <sub>12</sub> , 99%) (PCB-208)	100	100	100	100	100	100	100	100	100
3,3',4,4'-TetraBDE ( <sup>13</sup> C <sub>12</sub> , 99%) (BDE-77)	75	75	75	75	75	75	75	75	75
2,2',3,4,4',6-HexaBDE ( <sup>13</sup> C <sub>12</sub> , 99%) (BDE-139)	75	75	75	75	75	75	75	75	75

## Pesticide Standard Mixtures

Catalog No.	Description	Amount
ES-5449-10	CDC POPs (with Parlars) Spiking Standard	10 mL in nonane
ES-5449-100X-1.2	CDC POPs (with Parlars) Spiking Standard (100X Stock)	1.2 mL in nonane

All concentrations are ng/mL

Labeled	ES-5449-10	ES-5449-100X-1.2
Parlar 26 ( $^{13}\text{C}_{10}$ , 99%)	7.5	750
Parlar 50 ( $^{13}\text{C}_{10}$ , 99%)	7.5	750
Parlar 62 ( $^{13}\text{C}_{10}$ , 99%)	7.5	750
Hexachlorobenzene ( $^{13}\text{C}_6$ , 99%)	7.5	750
$\beta$ -HCH ( $\beta$ -BHC) ( $^{13}\text{C}_6$ , 99%)	7.5	750
$\gamma$ -HCH ( $\gamma$ -BHC) (lindane) ( $^{13}\text{C}_6$ , 99%)	7.5	750
Aldrin ( $^{13}\text{C}_{12}$ , 99%)	7.5	750
cis-Heptachlor epoxide ( $^{13}\text{C}_{10}$ , 99%)	7.5	750
Oxychlorane ( $^{13}\text{C}_{10}$ , 99%)	7.5	750
trans-Nonachlor ( $^{13}\text{C}_{10}$ , 99%)	7.5	750
4,4'-DDE (ring- $^{13}\text{C}_{12}$ , 99%)	15.0	1500
Dieldrin ( $^{13}\text{C}_{12}$ , 99%)	7.5	750
Endrin ( $^{13}\text{C}_{12}$ , 99%)	7.5	750
Isodrin ( $^{13}\text{C}_{12}$ , 99%)	7.5	750
2,4'-DDT (ring- $^{13}\text{C}_{12}$ , 99%)	7.5	750
4,4'-DDT (ring- $^{13}\text{C}_{12}$ , 99%)	7.5	750
Mirex ( $^{13}\text{C}_{10}$ , 99%)	7.5	750
$\alpha$ -HCH ( $\alpha$ -BHC) ( $^{13}\text{C}_6$ , 99%)	7.5	750
cis-Chlordane ( $\alpha$ ) ( $^{13}\text{C}_{10}$ , 99%)	7.5	750
trans-Chlordane ( $\gamma$ ) ( $^{13}\text{C}_{10}$ , 99%)	7.5	750
2,4'-DDE (ring- $^{13}\text{C}_{12}$ , 99%)	7.5	750
cis-Nonachlor ( $^{13}\text{C}_{10}$ , 99%)	7.5	750
Methoxychlor (ring- $^{13}\text{C}_{12}$ , 99%)	7.5	750
Pentachloroanisole ( $^{13}\text{C}_6$ , 99%)	7.5	750
Octachlorostyrene ( $^{13}\text{C}_8$ , 99%)	7.5	750

ES-5321	Multi-Analyte Recovery Spiking Standard	10 mL in 88% hexane/2% dodecane/10% nonane
ES-5321-5X10	Multi-Analyte Recovery Spiking Standard	5 × 10 mL in 88% hexane/2% dodecane/10% nonane
ES-5321-200X-1.2	Multi-Analyte Recovery Spiking Standard	1.2 mL in nonane

All concentrations are ng/mL

Labeled	ES-5321	ES-5321-200X-1.2
1,2,3,4-TetraCDD ( $^{13}\text{C}_6$ , 99%)	2.5	500
2,2',3,3',4,5,5',6,6'-NonaCB ( $^{13}\text{C}_{12}$ , 99%) (PCB-208)	10	2000
3,3',4,4'-TetraBDE ( $^{13}\text{C}_{12}$ , 99%) (BDE-77)	7.5	1500
2,2',3,4,4',6-HexaBDE ( $^{13}\text{C}_{12}$ , 99%) (BDE-139)	7.5	1500



## Pesticide Standard Mixtures

Catalog No.	Description	Amount
ES-5349	POPs Pesticides HRMS Cleanup Spike	1.2 mL in nonane
ES-5400	POPs Cleanup Spike	1.2 mL in nonane
ES-5349-L	POPs Pesticides LRMS Cleanup Spike	0.5 mL in nonane

*All concentrations are ng/mL*

Labeled	ES-5349	ES-5400	ES-5349-L
Hexachlorobenzene ( $^{13}\text{C}_6$ , 99%)	100	200	1000
Aldrin ( $^{13}\text{C}_{12}$ , 99%)	100	200	1000
Dieldrin ( $^{13}\text{C}_{12}$ , 99%)	100	200	1000
Endrin ( $^{13}\text{C}_{12}$ , 99%)	100	200	1000
4,4'-DDT (ring- $^{13}\text{C}_{12}$ , 99%)	100	200	1000
4,4'-DDE (ring- $^{13}\text{C}_{12}$ , 99%)	100	200	1000
4,4'-DDD (ring- $^{13}\text{C}_{12}$ , 99%)	100	200	1000
2,4'-DDT (ring- $^{13}\text{C}_{12}$ , 99%)	100	200	1000
2,4'-DDE (ring- $^{13}\text{C}_{12}$ , 99%)	100	200	1000
2,4'-DDD (ring- $^{13}\text{C}_{12}$ , 99%)	100	200	1000
<i>trans</i> -Chlordane ( $\gamma$ ) ( $^{13}\text{C}_{10}$ , 99%)	100	200	1000
<i>trans</i> -Nonachlor ( $^{13}\text{C}_{10}$ , 99%)	100	200	1000
<i>cis</i> -Nonachlor ( $^{13}\text{C}_{10}$ , 99%)	100	200	1000
Oxychlordane ( $^{13}\text{C}_{10}$ , 99%)	100	200	1000
Heptachlor ( $^{13}\text{C}_{10}$ , 99%)	100	200	1000
<i>cis</i> -Heptachlor epoxide ( $^{13}\text{C}_{10}$ , 99%)	100	200	1000
Mirex ( $^{13}\text{C}_{10}$ , 99%)	100	200	1000
$\alpha$ -HCH ( $\alpha$ -BHC) ( $^{13}\text{C}_6$ , 99%)	100	200	1000
$\beta$ -HCH ( $\beta$ -BHC) ( $^{13}\text{C}_6$ , 99%)	100	200	1000
$\gamma$ -HCH ( $\gamma$ -BHC) (Lindane) ( $^{13}\text{C}_6$ , 99%)	100	200	1000
$\delta$ -HCH ( $\delta$ -BHC) ( $^{13}\text{C}_6$ , 99%)	100	200	1000

EC-5350	POPs Pesticides HRMS (PCB) Syringe Spike	1.2 mL in nonane
EC-5350-L	POPs Pesticides LRMS (PCB) Syringe Spike	1.2 mL in nonane

*All concentrations are ng/mL*

Labeled	IUPAC	EC-5350	EC-5350-L
4,4'-DiCB ( $^{13}\text{C}_{12}$ , 99%)	15	100	1000
2,3',4',5-TetraCB ( $^{13}\text{C}_{12}$ , 99%)	70	100	1000

## Toxaphenes

Toxaphene is an organochlorine insecticide that is a mixture of hundreds of different chemicals. It was widely used on cotton and certain food crops, as well as to eradicate certain species of fish in aquatic environments. Toxaphene has been banned in North America and Europe, but its use persists in certain countries. It is slow to degrade and remains detectable in the environment and likely will be for years to come. Read more about CIL's toxaphene standards [here](#).

### Toxaphene Standards

Catalog No.	Description	Concentration	Amount
ULM-9428-1.2	HX-SED (unlabeled)	10 µg/mL in nonane	1.2 mL
ULM-9429-1.2	HP-SED (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-7930-1.2	Parlar 26 ( <sup>13</sup> C <sub>10</sub> , 99%)	10 µg/mL in nonane	1.2 mL
ULM-7828-1.2	Parlar 26 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-8705-1.2	Parlar 32 ( <sup>13</sup> C <sub>10</sub> , 99%)	10 µg/mL in nonane	1.2 mL
ULM-8665-1.2	Parlar 32 (unlabeled)	10 µg/mL in nonane	1.2 mL
ULM-9005-1.2	Parlar 38 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-8719-1.2	Parlar 39 ( <sup>13</sup> C <sub>10</sub> , 99%)	10 µg/mL in nonane	1.2 mL
ULM-8767-1.2	Parlar 39 (unlabeled)	10 µg/mL in nonane	1.2 mL
ULM-9430-1.2	Parlar 40 (unlabeled)	10 µg/mL in nonane	1.2 mL
ULM-9431-1.2	Parlar 41 (unlabeled)	10 µg/mL in nonane	1.2 mL
ULM-9432-1.2	Parlar 44 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-7931-1.2	Parlar 50 ( <sup>13</sup> C <sub>10</sub> , 99%)	10 µg/mL in nonane	1.2 mL
ULM-7829-1.2	Parlar 50 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-7932-1.2	Parlar 62 ( <sup>13</sup> C <sub>10</sub> , 99%)	10 µg/mL in nonane	1.2 mL
ULM-7830-1.2	Parlar 62 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-8720-1.2	Parlar 69 ( <sup>13</sup> C <sub>10</sub> , 99%)	10 µg/mL in nonane	1.2 mL
ULM-8768-1.2	Parlar 69 (unlabeled)	10 µg/mL in nonane	1.2 mL
CLM-8721-1.2	Parlar 70 ( <sup>13</sup> C <sub>10</sub> , 99%)	10 µg/mL in nonane	1.2 mL
ULM-8769-1.2	Parlar 70 (unlabeled)	10 µg/mL in nonane	1.2 mL

### Toxaphene Mixtures

Catalog No.	Description	Amount
ES-5543	US EPA Method 8276 Composite Stock Standard	1.2 mL in nonane
ES-5544	US EPA Method 8276 Surrogate Standard	1.2 mL in nonane
ES-5545	US EPA Method 8276 Toxaphene Injection Internal Standard	1.2 mL in nonane
ES-5353	Predominant Bioaccumulative Toxaphene Congeners (Parlar 26, 50 and 62)	1.2 mL in nonane

*All concentrations are ng/mL*

Unlabeled	ES-5543	ES-5544	ES-5545	ES-5353
HX-SED	1000	-	-	-
HP-SED	1000	-	-	-
Parlar 26	1000	-	-	2000
Parlar 40	1000	-	-	-
Parlar 41	1000	-	-	-
Parlar 44	1000	-	-	-
Parlar 50	1000	-	-	2000
Parlar 62	1000	-	-	2000
<b>Surrogate</b>				
Parlar 26 ( <sup>13</sup> C <sub>10</sub> , 99%)	-	100	-	-
Parlar 50 ( <sup>13</sup> C <sub>10</sub> , 99%)	-	100	-	-
Parlar 62 ( <sup>13</sup> C <sub>10</sub> , 99%)	-	100	-	-
<b>Injection</b>				
Parlar 39 ( <sup>13</sup> C <sub>10</sub> , 99%)	-	-	100	-

## Multiple-Class Pesticide Standard Mixtures

CIL provides multi-class pesticide mixtures to allow for more comprehensive screening of samples. More recently, new calibration and spiking mixtures have been developed and include notable POPs PCB congeners, POPs pesticides, and POPs BDE congeners. These mixtures are being used in health and human exposure survey testing.

Catalog No.	Description	Amount
ES-5516	EPA Method 1699 Pesticide Stock Solution	0.5 mL in nonane

Labeled	(ng/mL)
Hexachlorobenzene ( $^{13}\text{C}_6$ , 99%)	1800
$\gamma$ -HCH ( $\gamma$ -BHC) (lindane) ( $^{13}\text{C}_6$ , 99%)	2600
Heptachlor ( $^{13}\text{C}_{10}$ , 99%)	1400
$\beta$ -HCH ( $\beta$ -BHC) ( $^{13}\text{C}_6$ , 99%)	1600
$\delta$ -HCH ( $\delta$ -BHC) ( $^{13}\text{C}_6$ , 99%)	1600
Aldrin ( $^{13}\text{C}_{12}$ , 99%)	1600
Oxychlordane ( $^{13}\text{C}_{10}$ , 99%)	1600
<i>cis</i> -Heptachlor epoxide ( $^{13}\text{C}_{10}$ , 99%)	1600
Endosulfan I ( $^{13}\text{C}_9$ , 99%)	1600
Dieldrin ( $^{13}\text{C}_{12}$ , 99%)	1600
<i>trans</i> -Chlordane ( $\gamma$ ) ( $^{13}\text{C}_{10}$ , 99%)	1600
<i>trans</i> -Nonachlor ( $^{13}\text{C}_{10}$ , 99%)	1600
4,4'-DDE (ring- $^{13}\text{C}_{12}$ , 99%)	1600
Endrin ( $^{13}\text{C}_{12}$ , 99%)	1600
Endosulfan II ( $^{13}\text{C}_9$ , 99%)	1600
<i>cis</i> -Nonachlor ( $^{13}\text{C}_{10}$ , 99%)	1600
2,4'-DDT (ring- $^{13}\text{C}_{12}$ , 99%)	1600
4,4'-DDT (ring- $^{13}\text{C}_{12}$ , 99%)	1600
Mirex ( $^{13}\text{C}_{10}$ , 99%)	1600
Methoxychlor (ring- $^{13}\text{C}_{12}$ , 99%)	1600
Azinphos-methyl ( $\text{D}_6$ , 98%)	1600
Diazinon (diethyl- $\text{D}_{10}$ , 98%)	1600
Fonofos (ring- $^{13}\text{C}_6$ , 99%)	1600
Atrazine (ring- $^{13}\text{C}_3$ , 99%)	1600
<i>cis</i> -Permethrin (phenoxy- $^{13}\text{C}_6$ , 99%)	1600
<i>trans</i> -Permethrin (phenoxy- $^{13}\text{C}_6$ , 99%)	1600

ES-5560	Multi-Class Pesticide Internal Standard	1.2 mL in acetonitrile
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Labeled	(ng/mL)
Acetochlor (ring- $^{13}\text{C}_6$ , 99%)	1000
Aldicarb ( $^{13}\text{C}_2$ , 98%; $\text{D}_3$ , 98%)	1000
Chlortoluron ( <i>N,N</i> -dimethyl- $\text{D}_6$ , 98%)	1000
Diazinon (diethyl- $\text{D}_{10}$ , 98%)	1000
2,4-Dichlorophenoxyacetic acid (ring- $^{13}\text{C}_6$ , 99%)	1000
Simazine (ring- $^{13}\text{C}_3$ , 99%)	1000

ES-5561	Multi-Class Pesticide Native Standard	1.2 mL in acetonitrile
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Unlabeled	(ng/mL)
Acetochlor	1000
Aldicarb	1000
Chlortoluron	1000
Diazinon	1000
2,4-Dichlorophenoxyacetic acid	1000
Simazine	1000

## Multiple-Class Pesticide Standard Mixtures

Catalog No.	Description	Amount
ES-5620-A-L	JECS PCB/POPs/PBDE Calibration Standards [CS0L-CS9L]	10 x 0.25 mL in nonane

Individual calibration levels are also available for purchase.

All concentrations are ng/mL

Unlabeled	Congener	CS0L	CS1L	CS2L	CS3L	CS4L	CS5L	CS6L	CS7L	CS8L	CS9L
2,4,4'-TriCB	28	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',5,5'-TetraCB	52	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,4,4',5-TetraCB	74	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',4,4',5-PentaCB	99	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',4,5,5'-PentaCB	101	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,3,3',4,4'-PentaCB	105	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,3',4,4',5-PentaCB	118	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',3,4,4',5'-HexaCB	138	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',3,4',5,5'-HexaCB	146	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',4,4',5,5'-HexaCB	153	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,3,3',4,4',5-HexaCB	156	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',3,3',4,4',5-HeptaCB	170	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',3,4,4',5,5'-HeptaCB	180	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',3,4,4',5,6-HeptaCB	183	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',3,4',5,5',6-HeptaCB	187	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',3,3',4,4',5,5'-OctaCB	194	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',3,3',4,5,5',6'-OctaCB	201*	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
2,2',3,4,4',5,5',6-OctaCB	203	0	0.02	0.05	0.1	0.2	0.4	1	2	4	10
Hexachlorobenzene		0	0.04	0.1	0.2	0.4	0.8	2	4	8	20
β-HCH (β-BHC)		0	0.04	0.1	0.2	0.4	0.8	2	4	8	20
4,4'-DDE		0	0.04	0.1	0.2	0.4	0.8	2	4	8	20
trans-Nonachlor		0	0.04	0.1	0.2	0.4	0.8	2	4	8	20
cis-Nonachlor		0	0.04	0.1	0.2	0.4	0.8	2	4	8	20
4,4'-DDT		0	0.04	0.1	0.2	0.4	0.8	2	4	8	20
Oxychlorodane		0	0.1	0.25	0.5	1	2	5	10	20	50
2,2',4,4'-TetraBDE	47	0	0.1	0.25	0.5	1	2	5	10	20	50
2,2',4,4',5-PentaBDE	99	0	0.1	0.25	0.5	1	2	5	10	20	50
2,2',4,4',5,5'-HexaBDE	153	0	0.1	0.25	0.5	1	2	5	10	20	50

\*IUPAC 199

Continued ►

## Multiple-Class Pesticide Standard Mixtures

## ES-5620-A-L (continued)

All concentrations are ng/mL

Labeled	Congener	CS0L	CS1L	CS2L	CS3L	CS4L	CS5L	CS6L	CS7L	CS8L	CS9L
2,4,4'-TriCB ( <sup>13</sup> C <sub>12</sub> , 99%)	28	2	2	2	2	2	2	2	2	2	2
2,2',5,5'-TriCB ( <sup>13</sup> C <sub>12</sub> , 99%)	52	2	2	2	2	2	2	2	2	2	2
2,3',4',5-TetraCB ( <sup>13</sup> C <sub>12</sub> , 99%)	70	2	2	2	2	2	2	2	2	2	2
2,2',4,5,5'-PentaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	101	2	2	2	2	2	2	2	2	2	2
2,3,3',4,4'-PentaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	105	2	2	2	2	2	2	2	2	2	2
2,3',4,4',5-PentaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	118	2	2	2	2	2	2	2	2	2	2
2,2',3,4,4',5'-HexaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	138	2	2	2	2	2	2	2	2	2	2
2,2',4,4',5,5'-HexaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	153	2	2	2	2	2	2	2	2	2	2
2,3,3',4,4',5-HexaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	156	2	2	2	2	2	2	2	2	2	2
2,2',3,3',4,4',5-HeptaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	170	2	2	2	2	2	2	2	2	2	2
2,2',3,4,4',5,5'-HeptaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	180	2	2	2	2	2	2	2	2	2	2
2,2',3,4,4',5,6'-HeptaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	182	2	2	2	2	2	2	2	2	2	2
2,2',3,3',4,4',5,5'-OctaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	194	2	2	2	2	2	2	2	2	2	2
Hexachlorobenzene ( <sup>13</sup> C <sub>6</sub> , 99%)		4	4	4	4	4	4	4	4	4	4
β-HCH (β-BHC) ( <sup>13</sup> C <sub>6</sub> , 99%)		4	4	4	4	4	4	4	4	4	4
4,4'-DDE ( <sup>13</sup> C <sub>12</sub> , 99%)		4	4	4	4	4	4	4	4	4	4
trans-Nonachlor ( <sup>13</sup> C <sub>10</sub> , 99%)		4	4	4	4	4	4	4	4	4	4
cis-Nonachlor ( <sup>13</sup> C <sub>10</sub> , 99%)		4	4	4	4	4	4	4	4	4	4
4,4'-DDT ( <sup>13</sup> C <sub>12</sub> , 99%)		4	4	4	4	4	4	4	4	4	4
Oxychlorane ( <sup>13</sup> C <sub>10</sub> , 99%)		10	10	10	10	10	10	10	10	10	10
2,2',4,4'-TetraBDE ( <sup>13</sup> C <sub>12</sub> , 99%)	47	10	10	10	10	10	10	10	10	10	10
2,2',4,4',5-PentaBDE ( <sup>13</sup> C <sub>12</sub> , 99%)	99	10	10	10	10	10	10	10	10	10	10
2,2',4,4',5,5'-HexaBDE ( <sup>13</sup> C <sub>12</sub> , 99%)	153	10	10	10	10	10	10	10	10	10	10
<b>Syringe</b>											
2,5-DiCB ( <sup>13</sup> C <sub>12</sub> , 99%)	9	2	2	2	2	2	2	2	2	2	2
2,4',6-TriCB ( <sup>13</sup> C <sub>12</sub> , 99%)	32	2	2	2	2	2	2	2	2	2	2
2,2',4,4'-TetraCB ( <sup>13</sup> C <sub>12</sub> , 99%)	47	2	2	2	2	2	2	2	2	2	2
2,3,3',5,5'-PentaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	111	2	2	2	2	2	2	2	2	2	2
2,2',3,3',4,4'-HexaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	128	2	2	2	2	2	2	2	2	2	2
2,3,3',4,4',5,5'-HeptaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	189	2	2	2	2	2	2	2	2	2	2
2,2',4,4',5,6'-HexaBDE ( <sup>13</sup> C <sub>12</sub> , 99%)	154	10	10	10	10	10	10	10	10	10	10

## Multiple-Class Pesticide Standard Mixtures

Catalog No.	Description	Amount
ES-5623-A	JECS PCB/POPs/PBDE Native	1.2 mL in nonane
ES-5623-B	JECS PCB/POPs/PBDE Native	1.2 mL in methanol

All concentrations are ng/mL

Unlabeled	Congener	ES-5623-A	ES-5623-B
2,4,4'-TriCB	28	10	10
2,2',5,5'-TetraCB	52	10	10
2,4,4',5-TetraCB	74	10	10
2,2',4,4',5-PentaCB	99	10	10
2,2',4,5,5'-PentaCB	101	10	10
2,3,3',4,4'-PentaCB	105	10	10
2,3',4,4',5-PentaCB	118	10	10
2,2',3,4,4',5'-HexaCB	138	10	10
2,2',3,4',5,5'-HexaCB	146	10	10
2,2',4,4',5,5'-HexaCB	153	10	10
2,3,3',4,4',5-HexaCB	156	10	10
2,2',3,3',4,4',5-HeptaCB	170	10	10
2,2',3,4,4',5,5'-HeptaCB	180	10	10
2,2',3,4,4',5',6-HeptaCB	183	10	10
2,2',3,4',5,5',6-HeptaCB	187	10	10
2,2',3,3',4,4',5,5'-OctaCB	194	10	10
2,2',3,3',4,5,5',6'-OctaCB	199	10	10
2,2',3,4,4',5,5',6-OctaCB	203	10	10
Hexachlorobenzene		20	20
β-HCH (β-BHC)		20	20
4,4'-DDE		20	20
trans-Nonachlor		20	20
cis-Nonachlor		20	20
4,4'-DDT		20	20
Oxychlorane		50	50
2,2',4,4'-TetraBDE	47	50	50
2,2',4,4',5-PentaBDE	99	50	50
2,2',4,4',5,5'-HexaBDE	153	50	50

## Multiple-Class Pesticide Standard Mixtures

Catalog No.	Description	Amount
ES-5621	JECS PCB/POPs/PBDE Cleanup Spike	1.2 mL in methanol
ES-5621-10X1.2	JECS PCB/POPs/PBDE Cleanup Spike	10 × 1.2 mL in methanol
ES-5622	JECS PCB/POPs/PBDE Syringe Spike	1.2 mL in nonane
ES-5622-10X1.2	JECS PCB/POPs/PBDE Syringe Spike	10 × 1.2 mL in nonane

All concentrations are ng/mL

Labeled	Congener	ES-5621	ES-5622
2,4,4'-TriCB ( <sup>13</sup> C <sub>12</sub> , 99%)	28	5	-
2,2',5,5'-TetraCB ( <sup>13</sup> C <sub>12</sub> , 99%)	52	5	-
2,3',4',5-TetraCB ( <sup>13</sup> C <sub>12</sub> , 99%)	70	5	-
2,2',4,5,5'-PentaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	101	5	-
2,3,3',4,4'-PentaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	105	5	-
2,3',4,4',5-PentaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	118	5	-
2,2',3,4,4',5'-HexaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	138	5	-
2,2',4,4',5,5'-HexaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	153	5	-
2,3,3',4,4',5-HexaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	156	5	-
2,2',3,3',4,4',5-HeptaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	170	5	-
2,2',3,4,4',5,5'-HeptaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	180	5	-
2,2',3,4,4',5,6'-HeptaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	182	5	-
2,2',3,3',4,4',5,5'-OctaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	194	5	-
Hexachlorobenzene ( <sup>13</sup> C <sub>6</sub> , 99%)		10	-
β-HCH (β-BHC) ( <sup>13</sup> C <sub>6</sub> , 99%)		10	-
4,4'-DDE ( <sup>13</sup> C <sub>12</sub> , 99%)		10	-
trans-Nonachlor ( <sup>13</sup> C <sub>10</sub> , 99%)		10	-
cis-Nonachlor ( <sup>13</sup> C <sub>10</sub> , 99%)		10	-
4,4'-DDT ( <sup>13</sup> C <sub>12</sub> , 99%)		10	-
Oxychlorane ( <sup>13</sup> C <sub>10</sub> , 99%)		25	-
2,2',4,4'-TetraBDE ( <sup>13</sup> C <sub>12</sub> , 99%)	47	25	-
2,2',4,4',5-PentaBDE ( <sup>13</sup> C <sub>12</sub> , 99%)	99	25	-
2,2',4,4',5,5'-HexaBDE ( <sup>13</sup> C <sub>12</sub> , 99%)	153	25	-
<b>Syringe</b>			
2,5-DiCB ( <sup>13</sup> C <sub>12</sub> , 99%)	9	-	5
2,4',6-TriCB ( <sup>13</sup> C <sub>12</sub> , 99%)	32	-	5
2,2',4,4'-TetraCB ( <sup>13</sup> C <sub>12</sub> , 99%)	47	-	5
2,3,3',5,5'-PentaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	111	-	5
2,2',3,3',4,4'-HexaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	128	-	5
2,3,3',4,4',5,5'-HeptaCB ( <sup>13</sup> C <sub>12</sub> , 99%)	189	-	5
2,2',4,4',5,6'-HexaBDE ( <sup>13</sup> C <sub>12</sub> , 99%)	154	-	25

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