

The EPA Contract Laboratory Program (CLP)

Reference Materials for Monitoring the Target Compounds List Organics

The Contract Laboratory Program (CLP) methods are used to analyze for organic compounds on the Target Compounds List (TCL) in water, sediment, and soil samples from hazardous waste sites. The CLP methods are GC/MS methods, using either packed or capillary columns.

ULTRA Scientific has prepared a series of reference standards for the CLP methods, as well as the necessary surrogate, internal, and calibration standards. Each component in a reference standard is pre-analyzed, with most analytes being >99% pure, and the solvents are of the highest quality available. All solutions are gravimetrically prepared to a precision of $\pm 0.5\%$. A certificate showing the actual weight of each analyte is supplied with standard.



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DATApaks® - Lot Quality Control Data

We have expanded our line of DATApaks® to include all of our organic standards. As an added bonus, if you purchase a 4 x 1 mL ULTRApak® of one of these standards, we will include a DATApak® at no charge, if it is ordered with the standard.

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DATApaks® Include:

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- ✓ Quality control - chromatograms of the standard by high resolution gas chromatography
- ✓ Certificate of Analysis – showing actual weights which are traceable to NIST.



CLP Volatiles

OLM04.3 & SOM01.1/01.2

Recommended Standards

Calibration Standards: CLP-158
CLP-160

Internal Standard: STM-270N

System Monitoring Standard: STM-260N

Recommended CLP Volatiles Target Compounds Mixture

50 Analytes

acetone	1,3-dichlorobenzene	styrene
benzene	1,4-dichlorobenzene	1,1,2,2-tetrachloroethane
bromodichloromethane	dichlorodifluoromethane	tetrachloroethene
bromoform	1,1-dichloroethane	toluene
bromomethane	1,2-dichloroethane	1,2,4-trichlorobenzene
2-butanone (MEK)	1,1-dichloroethene	1,1,1-trichloroethane
<i>tert</i> -butylmethyl ether	<i>cis</i> -1,2-dichloroethene	1,1,2-trichloroethane
carbon disulfide	<i>trans</i> -1,2-dichloroethene	trichloroethene
carbon tetrachloride	1,2-dichloropropane	trichlorofluoromethane
chlorobenzene	<i>trans</i> -1,3-dichloropropene	1,1,2-trichlorotrifluoroethane
chloroethane	<i>cis</i> -1,3-dichloropropene	vinyl chloride
chloroform	ethylbenzene	<i>o</i> -xylene
chloromethane	2-hexanone	<i>m</i> -xylene
cyclohexane	isopropylbenzene	<i>p</i> -xylene
dibromochloromethane	methyl acetate	
1,2-dibromo-3-chloropropane	methylcyclohexane	
1,2-dibromoethane	methylene chloride	
1,2-dichlorobenzene	4-methyl-2-pentanone	

@ 100 µg/mL in Methanol

CLP-158

4 x 1 mL ULTRApak®

CLP-158-1

1 x 1 mL

HSS-158

CLP DATApак®

Additional Volatiles Target Compounds Mixture

3 Analytes

bromochloromethane
1,4-dioxane
1,2,3-trichlorobenzene

@ 100 µg/mL in Methanol

CLP-160 4 x 1 mL ***
CLP-160-1 1 x 1 mL ***

HSS-163 CLP DATApак® ***

Recommended CLP Internal Standard Mixtures

3 Analytes

bromochloromethane
chlorobenzene-d₅
1,4-difluorobenzene

@ 2500 µg/mL in Methanol

STM-272 4 x 1 mL ***
STM-272-1 1 x 1 mL ***

HSS-142 CLP DATApак® ***

@ 1000 µg/mL in Methanol

STM-270N 4 x 1 mL ***
STM-270N-1 1 x 1 mL ***

HSS-140 CLP DATApак® ***

Recommended CLP System Monitoring Compound Mixtures

3 Analytes

4-bromofluorobenzene
1,2-dichloroethane-d₄
toluene-d₈

@ 2500 µg/mL in Methanol

STM-262 4 x 1 mL ***
STM-262-1 1 x 1 mL ***

HSS-162 CLP DATApак® ***

@ 1000 µg/mL in Methanol

STM-260N 4 x 1 mL ***
STM-260N-1 1 x 1 mL ***

HSS-160 CLP DATApак® ***

Volatile GC/MS Calibration Standard (BFB)

4-bromofluorobenzene (BFB)

@ 25 µg/mL in Methanol

STS-111 4 x 1 mL ***
STS-111-1 1 x 1 mL ***

HSS-111 CLP DATApak® ***

@ 2500 µg/mL in Methanol

STS-112 4 x 1 mL ***
STS-112-1 1 x 1 mL ***

HSS-112 CLP DATApak® ***

@ 2000 µg/mL in Methanol

STS-110N 4 x 1 mL ***
STS-110N-1 1 x 1 mL ***

HSS-110 CLP DATApak® ***

Volatiles Matrix Spiking Solution

5 Analytes

benzene
chlorobenzene
1,1-dichloroethene
toluene
trichloroethene

@ 2500 µg/mL in Methanol

CLP-102 4 x 1 mL ***
CLP-102-1 1 x 1 mL ***

HSS-103 CLP DATApak® ***

@ 1000 µg/mL in Methanol

CLP-100N 4 x 1 mL ***
CLP-100N-1 1 x 1 mL ***

HSS-100 CLP DATApak® ***

Volatiles Calibration Check Compounds Mixture

6 Analytes

chloroform
1,1-dichloroethene
1,2-dichloropropane
ethylbenzene
toluene
vinyl chloride

@ 2000 µg/mL in Methanol

CLP-110 4 x 1 mL ***
CLP-110-1 1 x 1 mL ***

HSS-101 CLP DATApak® ***

Internal Standard Mixture for SOM01.1/01.2

3 Analytes

chlorobenzene-d₅
1,4-dichlorobenzene-d₄
1,4-difluorobenzene

@ 2500 µg/mL in Methanol

STM-600 4 x 1 mL ***
STM-600-1 1 x 1 mL ***

HSS-143 CLP DATApak® ***

Volatiles System Performance Check Mixture

5 Analytes

bromoform
chlorobenzene
chloromethane
1,1-dichloroethane
1,1,2,2-tetrachloroethane

@ 2000 µg/mL in Methanol

CLP-120 4 x 1 mL ***
CLP-120-1 1 x 1 mL ***

HSS-105 CLP DATApak® ***

Nonane and Dodecane Mixture

2 Analytes

n-nonane
n-dodecane

@ 1000 µg/mL in Methanol

NDM-110 4 x 1 mL ***
NDM-110-1 1 x 1 mL ***

HSS-131 CLP DATApak® ***



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Additional Calibration Mixtures for CLP Volatiles

CLP Volatiles Target Compounds Mixtures			VOC Gas Mixtures		
36 Analytes			6 Analytes		
acetone	dibromochloromethane	4-methyl-2-pentanone	bromomethane		
benzene	1,1-dichloroethane	styrene	chloroethane		
bromodichloromethane	1,2-dichloroethane	toluene	chloromethane		
bromoform	1,1-dichloroethene	1,1,2,2-tetrachloroethane	dichlorodifluoromethane		
bromomethane	cis-1,2-dichloroethene	tetrachloroethene	trichlorofluoromethane		
2-butanol (MEK)	trans-1,2-dichloroethene	1,1,1-trichloroethane	vinyl chloride		
carbon disulfide	1,2-dichloropropane	1,1,2-trichloroethane			
carbon tetrachloride	cis-1,3-dichloropropene	trichloroethene			
chlorobenzene	trans-1,3-dichloropropene	vinyl chloride			
chloroethane	ethylbenzene	<i>o</i> -xylene			
chloroform	2-hexanone	<i>m</i> -xylene			
chloromethane	methylene chloride	<i>p</i> -xylene			
<i>@ 100 µg/mL in Methanol</i>					
CLP-150	4 x 1 mL ULTRApak®	***			
CLP-150-1	1 x 1 mL	***			
HSS-150	CLP DATApak®	***			
<i>@ 1000 µg/mL in Methanol</i>					
CLP-156	4 x 1 mL ULTRApak®	***			
CLP-156-1	1 x 1 mL	***			
HSS-156	CLP DATApak®	***			

Custom Standards

Do you require a standard not cataloged by ULTRA? We catalog over 5500 different standards, but if you can't find the specific standard you need, we will be happy to prepare it for you on a custom basis. Our custom organic and inorganic standards are a fast, economical way to address your unique applications. Simply fax us a copy of the form found on page 399, or log on to www.ultrasci.com and use our convenient quotation request web page. You will receive a quote within 24 hours.

Validation choices available:

Gravimetric Validation: All standards are manufactured under ULTRA's ISO 9001 registered quality system. Each analyte is guaranteed to be within the tolerance limits of $\pm 0.2\%$ nominal for inorganic analytes and $\pm 0.5\%$ nominal for organic analytes. A Certificate of Analysis accompanies each custom standard.

Quantitative Validation: The method employed is identical to that used for all ULTRA cataloged standards and involves extensive instrumental analysis. All quantitative customs are provided with a DATApak® and Certificate of Analysis.



CLP Volatiles Mixture #1

12 Analytes

bromodichloromethane
bromoform
carbon tetrachloride
chloroform
dibromochloromethane
1,1-dichloroethane
1,2-dichloroethane
1,2-dichloropropane
methylene chloride
1,1,2,2-tetrachloroethane
1,1,1-trichloroethane
1,1,2-trichloroethane

@ 2000 µg/mL in Methanol

CLP-151-4	4 x 1 mL	***
CLP-151	1 x 1 mL	***
HSS-151	CLP DATApak®	***

CLP Volatiles Mixture #3

12 Analytes

tert-butylmethyl ether (*MTBE*)
cyclohexane
1,2-dibromo-3-chloropropane
1,2-dibromoethane
1,2-dichlorobenzene
1,3-dichlorobenzene
1,4-dichlorobenzene
isopropylbenzene
methyl acetate
methylcyclohexane
1,2,4-trichlorobenzene
1,1,2-trichlorotrifluoroethane

@ 2000 µg/mL in Methanol

CLP-159	4 x 1 mL	***
CLP-159-1	1 x 1 mL	***
HSS-159	CLP DATApak®	***

CLP Volatiles Mixture #2

13 Analytes

benzene
chlorobenzene
1,1-dichloroethene
cis-1,2-dichloroethene
trans-1,2-dichloroethene
cis-1,3-dichloropropene
trans-1,3-dichloropropene
ethylbenzene
tetrachloroethene
toluene
trichloroethene
m-xylene
p-xylene

@ 2000 µg/mL in Methanol

CLP-152-4	4 x 1 mL	***
CLP-152	1 x 1 mL	***
HSS-152	CLP DATApak®	***

B.T.E.X. Mixtures

6 Analytes

benzene
ethylbenzene
toluene
o-xylene
m-xylene
p-xylene

@ 100 µg/mL in Methanol

BTX-100	4 x 1 mL	***
BTX-100-1	1 x 1 mL	***
HSS-120	CLP DATApak®	***

@ 200 µg/mL in Methanol

BTX-110	4 x 1 mL	***
BTX-110-1	1 x 1 mL	***

HSS-121	CLP DATApak®	***
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@ 2000 µg/mL in Methanol

BTX-2000N-4	4 x 1 mL	***
BTX-2000N	1 x 1 mL	***

HSS-122	CLP DATApak®	***
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CLP Volatiles Mixture #4

7 Analytes

acetone
2-butanone (*MEK*)
carbon disulfide
2-hexanone
4-methyl-2-pentanone (*MIBK*)
styrene
o-xylene

@ 2000 µg/mL in Methanol

CLP-154-4	4 x 1 mL	***
CLP-154	1 x 1 mL	***
HSS-154	CLP DATApak®	***

Additional Volatiles Target Compounds Mix for SOM01.1/01.2

3 Analytes

bromochloromethane
1,4-dioxane
1,2,3-trichlorobenzene

@ 100 µg/mL in Methanol

CLP-160	4 x 1 mL	***
CLP-160-1	1 x 1 mL	***
HSS-163	CLP DATApak®	***



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CLP Semi-Volatiles

OLM04.3 & SOM01.1/01.2

Recommended Standards

Calibration Standards: US-132K-A

Internal Standard: ISM-560 (p. 226)

Surrogate Standards: ISM-335N (p. 226)
ISM-336X (p. 227)

Recommended CLP Base/Neutrals Mix #1

13 Analytes

bis(2-chloroethoxy)methane
bis(2-chloroethyl) ether
bis(2-ethylhexyl) phthalate
bis(2-chloroisopropyl) ether
4-bromophenyl phenyl ether
butyl benzyl phthalate
4-chlorophenyl phenyl ether
diethyl phthalate
dimethyl phthalate
di-n-butyl phthalate
di-n-octyl phthalate
N-nitrosodi-n-propylamine
N-nitrosodiphenylamine

@ 2000 µg/mL in Methylene Chloride

US-130-4	4 x 1 mL	***
US-130	1 x 1 mL	***
HSS-332	CLP DATApak®	***

Recommended CLP Base/Neutrals Mix #2

14 Analytes

acetophenone
atrazine
benzaldehyde
biphenyl
ε-caprolactam
2-chloronaphthalene
2,4-dinitrotoluene
2,6-dinitrotoluene
hexachlorobenzene
hexachlorobutadiene
hexachlorocyclopentadiene
hexachloroethane
isophorone
nitrobenzene

@ 2000 µg/mL in Methylene Chloride

US-135-4	4 x 1 mL	***
US-135	1 x 1 mL	***
HSS-337	CLP DATApak	***

Recommended CLP PAH Mixture

17 Analytes

acenaphthene
acenaphthylene
anthracene
benz[a]anthracene
benzo[b]fluoranthene
benzo[k]fluoranthene
benzo[ghi]perylene
benzo[a]pyrene
carbazole
chrysene
dibenz[a,h]anthracene
fluoranthene
fluorene
indeno[1,2,3-cd]pyrene
naphthalene
phenanthrene
pyrene

@ 2000 µg/mL

in Methylene Chloride/Benzene (1:1)

US-126-4	4 x 1 mL	***
US-126	1 x 1 mL	***
HSS-326	CLP DATApak®	***

Recommended Method 8270C Phenols Mixture

11 Analytes

4-chloro-3-methylphenol
2-chlorophenol
2,4-dichlorophenol
2,4-dimethylphenol
2,4-dinitrophenol
2-methyl-4,6-dinitrophenol
2-nitrophenol
4-nitrophenol
pentachlorophenol
phenol
2,4,6-trichlorophenol

@ 2000 µg/mL in Methylene Chloride

US-107N-4	4 x 1 mL	***
US-107N	1 x 1 mL	***
HSS-407	CLP DATApak®	***

Recommended CLP Semi-Volatiles Internal Standard Mixtures

6 Analytes

acenaphthene-d₁₀
chrysene-d₁₂
1,4-dichlorobenzene-d₄
naphthalene-d₈
perylene-d₁₂
phenanthrene-d₁₀

@ 2000 µg/mL in Methylene Chloride

ISM-560	4 x 1 mL	***
ISM-560-1	1 x 1 mL	***
HSS-560	CLP DATApak®	***

@ 4000 µg/mL in Methylene Chloride

US-108N-4	4 x 1 mL	***
US-108N	1 x 1 mL	***
HSS-308	CLP DATApak®	***

Recommended CLP Toxic Substances Mix #1

3 Analytes

2-methylphenol		
4-methylphenol		
2,4,5-trichlorophenol		
@ 2000 µg/mL in Methylene Chloride		
US-133-4	4 x 1 mL	***
US-133	1 x 1 mL	***

HSS-433 CLP DATApak® ***

Recommended CLP Toxic Substances Mix #2

7 Analytes

4-chloroaniline		
dibenzofuran		
3,3'-dichlorobenzidine		
2-methylnaphthalene		
2-nitroaniline		
3-nitroaniline		
4-nitroaniline		
@ 2000 µg/mL in Methylene Chloride		
US-134-4	4 x 1 mL	***
US-134	1 x 1 mL	***

HSS-334 CLP DATApak® ***

Recommended CLP Semi-Volatile Standards Kit

Kit - contains seven ampules:

1 x 1 mL of each of the following standards

Base/Neutral Mixture #1	(US-130)
Base/Neutral Mixture #2	(US-135)
Toxic Substances Mixture #1	(US-133)
Toxic Substances Mixture #2	(US-134)
PAH Mixture	(US-126)
Phenols Mixture	(US-107N)
Internal Standards Mixture	(ISM-560-1)

US-132K-A Kit ***

Additional Analyte Standards

1,2,4,5-tetrachlorobenzene

@ 1000 µg/mL in Methylene Chloride

EPA-1160A	1 x 1 mL	***
HSS-1160A	CLP DATApak®	***

2,3,4,6-tetrachlorophenol

@ 1000 µg/mL in Methylene Chloride

EPA-1246	1 x 1 mL	***
HSS-1246	CLP DATApak®	***



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Internal and Surrogate Standard Spiking Mixtures for CLP Semi-Volatiles

Recommended CLP Semi-Volatiles Internal Standard Mixtures			Recommended CLP Semi-Volatiles Surrogate Standard Mixture			Semi-Volatiles Surrogate Standard Mixture		
6 Analytes			8 Analytes			8 Analytes		
acenaphthene-d ₁₀	1,2-dichlorobenzene-d ₄	1000 µg/mL	1,2-dichlorobenzene-d ₄	5000 µg/mL				
chrysene-d ₁₂	nitrobenzene-d ₅	1000 µg/mL	nitrobenzene-d ₅	5000 µg/mL				
1,4-dichlorobenzene-d ₄	2-fluorobiphenyl	1000 µg/mL	2-fluorobiphenyl	5000 µg/mL				
naphthalene-d ₈	p-terphenyl-d ₁₄	1000 µg/mL	p-terphenyl-d ₁₄	5000 µg/mL				
perylene-d ₁₂	2-chlorophenol-d ₄	1500 µg/mL	2-chlorophenol-d ₄	7500 µg/mL				
phenanthrene-d ₁₀	2-fluorophenol	1500 µg/mL	2-fluorophenol	7500 µg/mL				
@ 2000 µg/mL in Methylene Chloride			phenol-d ₅	7500 µg/mL				
ISM-560	4 x 1 mL	***	2,4,6-tribromophenol	7500 µg/mL				
ISM-560-1	1 x 1 mL	***	in Methylene Chloride			in Methylene Chloride		
HSS-560	CLP DATApak®	***	ISM-335N	4 x 1 mL	***	ISM-337	4 x 1 mL	***
@ 4000 µg/mL in Methylene Chloride			ISM-335N-1	1 x 1 mL	***	ISM-337-1	1 x 1 mL	***
US-108N-4	4 x 1 mL	***	HSS-435	CLP DATApak®	***	HSS-437	CLP DATApak®	***
US-108N	1 x 1 mL	***						
HSS-308	CLP DATApak®	***						

Base/Neutrals Surrogate Standard Mixtures

4 Analytes

1,2-dichlorobenzene-d ₄	2-chlorophenol-d ₄
nitrobenzene-d ₅	2-fluorophenol
2-fluorobiphenyl	phenol-d ₅
p-terphenyl-d ₁₄	2,4,6-tribromophenol

@ 1000 µg/mL in Methylene Chloride

ISM-285	4 x 1 mL	***
ISM-285-1	1 x 1 mL	***

HSS-385	CLP DATApak®	***
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@ 5000 µg/mL in Methylene Chloride

ISM-287	4 x 1 mL	***
ISM-287-1	1 x 1 mL	***

HSS-387	CLP DATApak®	***
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Acids Surrogate Standard Mixture

4 Analytes

2-chlorophenol-d ₄	2-chlorophenol-d ₄
2-fluorophenol	2-fluorophenol
phenol-d ₅	phenol-d ₅
2,4,6-tribromophenol	2,4,6-tribromophenol

@ 2000 µg/mL in Methanol

ISM-295	4 x 1 mL	***
ISM-295-1	1 x 1 mL	***

HSS-495	CLP DATApak®	***
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@ 7500 µg/mL in Methanol

ISM-297	4 x 1 mL	***
ISM-297-1	1 x 1 mL	***

HSS-497	CLP DATApak®	***
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Shooters™ – Open and Shoot Spiking Standards

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Shooters™ are ready-to-shoot spiking solutions at the working concentrations specified by the EPA methods. Just open the bottle and spike the sample.

Since these working level solutions are packaged in convenient bottles rather than ampules, follow the EPA protocols for storage and stability checking of working standards. Refer to the EPA method you are using for the specific protocol.

Recommended CLP Semi-Volatiles Surrogate Standard Spiking Solution

8 Analytes

1,2-dichlorobenzene-d ₄	100 µg/mL
2-fluorobiphenyl	100 µg/mL
nitrobenzene-d ₅	100 µg/mL
p-terphenyl-d ₁₄	100 µg/mL
2,4,6-tribromophenol	150 µg/mL
2-chlorophenol-d ₄	150 µg/mL
2-fluorophenol	150 µg/mL
phenol-d ₅	150 µg/mL

in Methanol

ISM-336X	100 mL	***
ISM-336X-25	25 mL	***
HSS-336X	CLP DATApak®	***

Recommended CLP Semi-Volatiles Matrix Spiking Solution

11 Analytes

acenaphthene	100 µg/mL
1,4-dichlorobenzene	100 µg/mL
2,4-dinitrotoluene	100 µg/mL
N-nitrosodi-n-propylamine	100 µg/mL
pyrene	100 µg/mL
1,2,4-trichlorobenzene	100 µg/mL
4-chloro-3-methylphenol	150 µg/mL
2-chlorophenol	150 µg/mL
4-nitrophenol	150 µg/mL
pentachlorophenol	150 µg/mL
phenol	150 µg/mL

in Methanol

CLP-350X	25 mL	***
HSS-350X	CLP DATApak®	***

ULTRAsure®

Ready-to-shoot surrogate standards with a color indicator for fast, easy visual indication of acid and base/neutral aqueous fraction.

Now, adjusting the pH for base/neutral or acid extractables just got a lot easier. ULTRA's new ULTRAsure® surrogate standards contain a special color change indicator that takes the guesswork out of the extraction process. Adding ULTRAsure® indicates immediately and unmistakably that you've added your surrogate, and whether you've adjusted the pH properly.

Semi-Volatiles Surrogate Standard Spiking Solution with Indicator

8 Analytes

1,2-dichlorobenzene-d ₄	100 µg/mL
nitrobenzene-d ₅	100 µg/mL
2-fluorobiphenyl	100 µg/mL
p-terphenyl-d ₁₄	100 µg/mL
2-chlorophenol-d ₄	150 µg/mL
2-fluorophenol	150 µg/mL
phenol-d ₅	150 µg/mL
2,4,6-tribromophenol	150 µg/mL

pH indicator red-yellow pH 3.2-4.4

in Methanol

ISM-336XC	100 mL	***
ISM-336XC-25	25 mL	***
HSS-336XC	CLP DATApak®	***



Matrix Spiking Mixtures for CLP Semi-Volatiles

Base/Neutrals Matrix Spiking Solution			Acids Matrix Spiking Solution			Recommended CLP Semi-Volatiles Matrix Spiking Solution		
<i>6 Analytes</i>			<i>5 Analytes</i>			<i>11 Analytes</i>		
acenaphthene			4-chloro-3-methylphenol			acenaphthene		100 µg/mL
1,4-dichlorobenzene			2-chlorophenol			1,4-dichlorobenzene		100 µg/mL
2,4-dinitrotoluene			4-nitrophenol			2,4-dinitrotoluene		100 µg/mL
N-nitrosodi- <i>n</i> -propylamine			pentachlorophenol			N-nitrosodi- <i>n</i> -propylamine		100 µg/mL
pyrene			phenol			pyrene		100 µg/mL
1,2,4-trichlorobenzene			<i>@ 1500 µg/mL in Methanol</i>			1,2,4-trichlorobenzene		100 µg/mL
<i>@ 1000 µg/mL in Acetone</i>			CLP-401	4 x 1 mL	***	4-chloro-3-methylphenol		150 µg/mL
CLP-301	4 x 1 mL	***	CLP-401-1	1 x 1 mL	***	2-chlorophenol		150 µg/mL
CLP-301-1	1 x 1 mL	***	HSS-405	CLP DATApak®	***	4-nitrophenol		150 µg/mL
<i>@ 1000 µg/mL in Methylene Chloride</i>			<i>@ 2000 µg/mL in Methanol</i>			pentachlorophenol		150 µg/mL
CLP-300N	4 x 1 mL	***	CLP-400N	4 x 1 mL	***	phenol		150 µg/mL
CLP-300N-1	1 x 1 mL	***	CLP-400N-1	1 x 1 mL	***	<i>in Methanol</i>		
HSS-302	CLP DATApak®	***	HSS-404	CLP DATApak®	***	CLP-350X	25 mL	***
						HSS-350X	CLP DATApak®	***



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Calibration Check Mixtures for CLP Semi-Volatiles

Base/Neutrals Calibration Check Compounds Mixture			Acids Calibration Check Compounds Mixture			Semi-Volatiles GC/MS Calibration Standard		
<i>7 Analytes</i>			<i>6 Analytes</i>			decafluorotriphenylphosphine (<i>DFTPP</i>)		
acenaphthene			4-chloro-3-methylphenol			@ 250 µg/mL in Methylene Chloride		
benzo[a]pyrene			2,4-dichlorophenol			IST-340 4 x 1 mL ***		
1,4-dichlorobenzene			2-nitrophenol			IST-340-1 1 x 1 mL ***		
di-n-octyl phthalate			phenol			HSS-340 CLP DATApak® ***		
fluoranthene			pentachlorophenol			@ 1000 µg/mL in Acetone		
hexachlorobutadiene			2,4,6-trichlorophenol			47995N 4 x 1 mL ***		
N-nitrosodiphenylamine			@ 2000 µg/mL in Methanol			47995N-1 1 x 1 mL ***		
@ 1000 µg/mL in Methylene Chloride			CLP-410 4 x 1 mL ***			HSS-309 CLP DATApak® ***		
CLP-310	4 x 1 mL	***	CLP-410-1	1 x 1 mL	***			
CLP-310-1	1 x 1 mL	***						
HSS-310	CLP DATApak®	***	HSS-410	CLP DATApak®	***			

System Performance Check Mixes

4 Analytes			Semi-Volatiles GC Calibration Standard		
2,4-dinitrophenol			3 Analytes		
hexachlorocyclopentadiene			di-n-octyl phthalate		
4-nitrophenol			phenanthrene		
N-nitrosodi-n-propylamine			phenol		
@ 1000 µg/mL in Methylene Chloride			@ 1000 µg/mL in Methylene Chloride		
CLP-320	4 x 1 mL	***	CLP-330	4 x 1 mL	***
CLP-320-1	1 x 1 mL	***	CLP-330-1	1 x 1 mL	***
HSS-320	CLP DATApak®	***	HSS-330	CLP DATApak®	***

GPC Calibration Standard Solutions

5 Components		5 Components		5 Components	
corn oil	250 mg/mL	corn oil	300 mg/mL	corn oil	250 mg/mL
bis(2-ethylhexyl) phthalate	10 mg/mL	bis(2-ethylhexyl) phthalate	15 mg/mL	bis(2-ethylhexyl) phthalate	5 mg/mL
methoxychlor	2 mg/mL	pentachlorophenol	1.4 mg/mL	methoxychlor	1 mg/mL
perylene	0.2 mg/mL	perylene	0.1 mg/mL	perylene	0.2 mg/mL
sulfur	0.8 mg/mL	sulfur	0.5 mg/mL	sulfur	0.8 mg/mL
<i>in Methylene Chloride</i>		<i>in Methylene Chloride</i>		<i>in Methylene Chloride</i>	
CLP-340	4 x 1 mL	***	CLP-341	4 x 1 mL	***
CLP-340-1	1 x 1 mL	***	CLP-341-1	1 x 1 mL	***
CLP-342	4 x 1 mL	***	CLP-342-1	1 x 1 mL	***

CLP Pesticides

OLM04.3 & SOM01.1/01.2

Recommended Standards

Calibration Standards: CLP-216

CLP-226B

Surrogate Standards: ISM-320

ISM-321X

Recommended CLP Pesticides Individual Standard Mixture A

11 Analytes

α -BHC	5 $\mu\text{g/mL}$	aldrin	5 $\mu\text{g/mL}$		
γ -BHC (<i>lindane</i>)	5 $\mu\text{g/mL}$	β -BHC	5 $\mu\text{g/mL}$		
dieldrin	10 $\mu\text{g/mL}$	δ -BHC	5 $\mu\text{g/mL}$		
endosulfan I	5 $\mu\text{g/mL}$	α -chlordane	5 $\mu\text{g/mL}$		
endrin	10 $\mu\text{g/mL}$	γ -chlordane	5 $\mu\text{g/mL}$		
4,4'-DDD	10 $\mu\text{g/mL}$	4,4'-DDE	10 $\mu\text{g/mL}$		
4,4'-DDT	10 $\mu\text{g/mL}$	endosulfan sulfate	10 $\mu\text{g/mL}$		
heptachlor	5 $\mu\text{g/mL}$	endrin aldehyde	10 $\mu\text{g/mL}$		
methoxychlor	50 $\mu\text{g/mL}$	endrin ketone	10 $\mu\text{g/mL}$		
decachlorobiphenyl	10 $\mu\text{g/mL}$	endosulfan II	10 $\mu\text{g/mL}$		
2,4,5,6-tetrachloro- <i>m</i> -xylene	5 $\mu\text{g/mL}$	heptachlor epoxide (B)	5 $\mu\text{g/mL}$		
<i>in Hexane</i>					
CLP-216	4 x 1 mL	***	decachlorobiphenyl		
CLP-216-1	1 x 1 mL	***	2,4,5,6-tetrachloro- <i>m</i> -xylene		
HSS-216	CLP DATApak®	***	CLP-226B	4 x 1 mL	***
			CLP-226B-1	1 x 1 mL	***
			HSS-226B	CLP DATApak®	***

Recommended CLP Pesticides Individual Standard Mixture B

13 Analytes

Organochlorine Pesticides Mixture

20 Analytes

aldrin
 α -BHC
 β -BHC
 δ -BHC
 γ -BHC (*lindane*)
 α -chlordane
 γ -chlordane
4,4'-DDD
4,4'-DDE
4,4'-DDT
dieldrin
endosulfan I
endosulfan II
endosulfan sulfate
endrin
endrin aldehyde
endrin ketone
heptachlor
heptachlor epoxide (isomer B)
methoxychlor

Recommended CLP Chlordane, Toxaphene, and PCB Standards

CLP DATApaks®

1 x 1 mL Ampules

20

Recommended CLP Pesticides Surrogate Standard Spiking Solution

2 Analytes

2,4,5,6-tetrachloro-*m*-xylene
decachlorobiphenyl

@ 200 $\mu\text{g/mL}$ in Acetone

ISM-320

4 x 1 mL ***

ISM-320-1

1 x 1 mL ***

HSS-220

CLP DATApak® ***

Pesticides Surrogate Standard Mixture

2 Analytes

dibutyl chlorendate
2,4,5,6-tetrachloro-*m*-xylene

@ 200 $\mu\text{g/mL}$ in Acetone

ISM-301

4 x 1 mL ***

ISM-301-1

1 x 1 mL ***

HSS-402

CLP DATApak® ***



Pesticides Resolution Check Mixture

9 Analytes

γ -chlordane	10 $\mu\text{g/mL}$	
4,4'-DDE	20 $\mu\text{g/mL}$	
dieldrin	20 $\mu\text{g/mL}$	
endosulfan I	10 $\mu\text{g/mL}$	
endosulfan sulfate	20 $\mu\text{g/mL}$	
endrin ketone	20 $\mu\text{g/mL}$	
methoxychlor	100 $\mu\text{g/mL}$	
decachlorobiphenyl	20 $\mu\text{g/mL}$	
2,4,5,6-tetrachloro- <i>m</i> -xylene	20 $\mu\text{g/mL}$	
<i>in Hexane</i>		
CLP-240	4 x 1 mL	***
CLP-240-1	1 x 1 mL	***
HSS-240	CLP DATApak®	***

Pesticides Performance Evaluation Mixture

8 Analytes

α -BHC	10 $\mu\text{g/mL}$
β -BHC	10 $\mu\text{g/mL}$
γ -BHC (<i>lindane</i>)	10 $\mu\text{g/mL}$
4,4'-DDT	100 $\mu\text{g/mL}$
endrin	50 $\mu\text{g/mL}$
methoxychlor	250 $\mu\text{g/mL}$
decachlorobiphenyl	20 $\mu\text{g/mL}$
2,4,5,6-tetrachloro- <i>m</i> -xylene	20 $\mu\text{g/mL}$

in Hexane

CLP-250	4 x 1 mL	***
CLP-250-1	1 x 1 mL	***
HSS-250	CLP DATApak®	***

Pesticides Surrogate Standards

2,4,5,6-tetrachloro-*m*-xylene

IST-440	4 x 1 mL	***
IST-440-1	1 x 1 mL	***
HSS-440	CLP DATApak®	***

decachlorobiphenyl

PPS-150	4 x 1 mL	***
PPS-150-1	1 x 1 mL	***
HSS-441	CLP DATApak®	***

Pesticides Matrix Spiking Solution

6 Analytes

aldrin	50 $\mu\text{g/mL}$	
γ -BHC (<i>lindane</i>)	50 $\mu\text{g/mL}$	
dieldrin	100 $\mu\text{g/mL}$	
4,4'-DDT	100 $\mu\text{g/mL}$	
endrin	100 $\mu\text{g/mL}$	
heptachlor	50 $\mu\text{g/mL}$	
<i>in Methanol</i>		
CLP-206	4 x 1 mL	***
CLP-206-1	1 x 1 mL	***
HSS-206	CLP DATApak®	***

Pesticides Evaluation Standards Mixture

4 Analytes

aldrin	1 $\mu\text{g/mL}$
endrin	2 $\mu\text{g/mL}$
4,4'-DDT	2 $\mu\text{g/mL}$
dibutyl chlorendate	1 $\mu\text{g/mL}$

in Isooctane

CLP-231	4 x 1 mL	***
CLP-231-1	1 x 1 mL	***
HSS-232	CLP DATApak®	***

Florisil Cartridge Check Solution

2,4,5-trichlorophenol

CLP-245	4 x 1 mL	***
CLP-245-1	1 x 1 mL	***
HSS-245	CLP DATApak®	***

Shooters™ – Open and Shoot Spiking Standards

No Dilution Required

Shooters™ are ready-to-shoot spiking solutions at the working concentrations specified by the EPA methods. Just open the bottle and spike the sample.

Since these working level solutions are packaged in convenient bottles rather than ampules, follow the EPA protocols for storage and stability checking of working standards. Refer to the EPA method you are using for the specific protocol.

Recommended CLP Pesticides Surrogate Standards Spiking Solution

2 Analytes

2,4,5,6-tetrachloro-*m*-xylene decachlorobiphenyl

ISM-321X	1 x 100 mL	***
HSS-321X	CLP DATApak®	***

Pesticides Matrix Spiking Solution

6 Analytes

γ -BHC (<i>lindane</i>)	0.5 $\mu\text{g/mL}$
4,4'-DDT	1 $\mu\text{g/mL}$
endrin	1 $\mu\text{g/mL}$
heptachlor	0.5 $\mu\text{g/mL}$
aldrin	0.5 $\mu\text{g/mL}$
dieldrin	1 $\mu\text{g/mL}$

in Methanol

CLP-209X	1 x 25 mL	***
HSS-209X	CLP DATApak®	***

Pesticide QUICKshots™ for the CLP

Ready-to-shoot calibration standards at the working concentrations specified by the EPA methods. Just snap open the ampule and shoot. It's that easy!

- ✓ No dilutions necessary
- ✓ CLP DATApaks® available
- ✓ Manufactured under ULTRA's ISO 9001 registered quality system

QUICKshot™ CLP Pesticides Calibration Mix A – Low Point

11 Analytes

α-BHC	5 ng/mL
γ-BHC (<i>lindane</i>)	5 ng/mL
dieldrin	10 ng/mL
endosulfan I	5 ng/mL
endrin	10 ng/mL
4,4'-DDD	10 ng/mL
4,4'-DDT	10 ng/mL
heptachlor	5 ng/mL
methoxychlor	50 ng/mL
decachlorobiphenyl	10 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	5 ng/mL

in Hexane

CLP-216C	4 x 1 mL	***
CLP-216C-1	1 x 1 mL	***
HSS-216C	CLP DATApaks®	***

QUICKshot™ CLP Pesticides Calibration Mix A – Mid Point

11 Analytes

α-BHC	20 ng/mL
γ-BHC (<i>lindane</i>)	20 ng/mL
dieldrin	40 ng/mL
endosulfan I	20 ng/mL
endrin	40 ng/mL
4,4'-DDD	40 ng/mL
4,4'-DDT	40 ng/mL
heptachlor	20 ng/mL
methoxychlor	200 ng/mL
decachlorobiphenyl	40 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	20 ng/mL

in Hexane

CLP-216D	4 x 1 mL	***
CLP-216D-1	1 x 1 mL	***
HSS-216D	CLP DATApaks®	***

QUICKshot™ CLP Pesticides Calibration Mix A – High Point

11 Analytes

α-BHC	80 ng/mL
γ-BHC (<i>lindane</i>)	80 ng/mL
dieldrin	160 ng/mL
endosulfan I	80 ng/mL
endrin	160 ng/mL
4,4'-DDD	160 ng/mL
4,4'-DDT	160 ng/mL
heptachlor	80 ng/mL
methoxychlor	800 ng/mL
decachlorobiphenyl	160 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	80 ng/mL

in Hexane

CLP-216E	4 x 1 mL	***
CLP-216E-1	1 x 1 mL	***
HSS-216E	CLP DATApaks®	***

QUICKshot™ CLP Pesticides Calibration Mix B – Low Point

13 Analytes

aldrin	5 ng/mL
β-BHC	5 ng/mL
δ-BHC	5 ng/mL
α-chlordane	5 ng/mL
γ-chlordane	5 ng/mL
4,4'-DDE	10 ng/mL
endosulfan sulfate	10 ng/mL
endrin aldehyde	10 ng/mL
endrin ketone	10 ng/mL
endosulfan II	10 ng/mL
heptachlor epoxide (isomer B)	5 ng/mL
decachlorobiphenyl	10 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	5 ng/mL

in Hexane

CLP-226C	4 x 1 mL	***
CLP-226C-1	1 x 1 mL	***
HSS-226C	CLP DATApaks®	***

QUICKshot™ CLP Pesticides Calibration Mix B – Mid Point

13 Analytes

aldrin	20 ng/mL
β-BHC	20 ng/mL
δ-BHC	20 ng/mL
α-chlordane	20 ng/mL
γ-chlordane	20 ng/mL
4,4'-DDE	40 ng/mL
endosulfan sulfate	40 ng/mL
endrin aldehyde	40 ng/mL
endrin ketone	40 ng/mL
endosulfan II	40 ng/mL
heptachlor epoxide (isomer B)	20 ng/mL
decachlorobiphenyl	40 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	20 ng/mL

in Hexane

CLP-226D	4 x 1 mL	***
CLP-226D-1	1 x 1 mL	***
HSS-226D	CLP DATApaks®	***

QUICKshot™ CLP Pesticides Calibration Mix B – High Point

13 Analytes

aldrin	80 ng/mL
β-BHC	80 ng/mL
δ-BHC	80 ng/mL
α-chlordane	80 ng/mL
γ-chlordane	80 ng/mL
4,4'-DDE	160 ng/mL
endosulfan sulfate	160 ng/mL
endrin aldehyde	160 ng/mL
endrin ketone	160 ng/mL
endosulfan II	160 ng/mL
heptachlor epoxide (isomer B)	80 ng/mL
decachlorobiphenyl	160 ng/mL
2,4,5,6-tetrachloro- <i>m</i> -xylene	80 ng/mL

in Hexane

CLP-226E	4 x 1 mL	***
CLP-226E-1	1 x 1 mL	***
HSS-226E	CLP DATApaks®	***

QUICKshot™ CLP Aroclor and Toxaphene Calibration Standards

Each standard consists of the analyte(s) listed, plus 20 ng/mL each decachlorobiphenyl and 2,4,5,6-tetrachloro-m-xylene.
In Isooctane.

Analyte(s)	Concentration	4 x 1 mL ULTRApaks®	1 x 1 mL Ampules	20 or More	CLP DATApaks®
Aroclors 1016 + 1260	100 ng/mL each	CLP-281	***	CLP-281-1	***
Aroclor 1221	200 ng/mL	CLP-282	***	CLP-282-1	***
Aroclor 1232	100 ng/mL	CLP-283	***	CLP-283-1	***
Aroclor 1242	100 ng/mL	CLP-284	***	CLP-284-1	***
Aroclor 1248	100 ng/mL	CLP-285	***	CLP-285-1	***
Aroclor 1254	100 ng/mL	CLP-286	***	CLP-286-1	***
toxaphene	500 ng/mL	CLP-287	***	CLP-287-1	***

QUICKshot™ CLP Pesticides Resolution Check Mixture

9 Analytes

γ-chlordane	10 ng/mL
4,4'-DDE	20 ng/mL
dieldrin	20 ng/mL
endosulfan I	10 ng/mL
endosulfan sulfate	20 ng/mL
endrin ketone	20 ng/mL
methoxychlor	100 ng/mL
decachlorobiphenyl	20 ng/mL
2,4,5,6-tetrachloro-m-xylene	20 ng/mL

in Hexane

CLP-242	4 x 1 mL	***
CLP-242-1	1 x 1 mL	***
HSS-242	CLP DATApak®	***

Complete CLP Pesticides QUICKshots™ Kit

Kit - contains fifteen ampules:

1 x 1 mL of each of the following standards

Pesticides Mix A Low	(CLP-216C-1)	Aroclor 1016/1260	(CLP-281-1)
Pesticides Mix A Mid	(CLP-216D-1)	Aroclor 1221	(CLP-282-1)
Pesticides Mix A High	(CLP-216E-1)	Aroclor 1232	(CLP-283-1)
Pesticides Mix B Low	(CLP-226C-1)	Aroclor 1242	(CLP-284-1)
Pesticides Mix B Mid	(CLP-226D-1)	Aroclor 1248	(CLP-285-1)
Pesticides Mix B High	(CLP-226E-1)	Aroclor 1254	(CLP-286-1)
Performance Eval. Mix	(CLP-252-1)	Toxaphene	(CLP-287-1)
		Resolution Check Mix	(CLP-242-1)

CLK-210C

Kit

QUICKshot™ CLP Pesticides Performance Evaluation Mixture

8 Analytes

α-BHC	10 ng/mL
β-BHC	10 ng/mL
γ-BHC (<i>lindane</i>)	10 ng/mL
4,4'-DDT	100 ng/mL
endrin	50 ng/mL
methoxychlor	250 ng/mL
decachlorobiphenyl	20 ng/mL
2,4,5,6-tetrachloro-m-xylene	20 ng/mL

in Hexane

CLP-252	4 x 1 mL	***
CLP-252-1	1 x 1 mL	***
HSS-252	CLP DATApak®	***

CLP Pesticides Calibration QUICKshots™ Kit

Kit - contains six ampules:

1 x 1 mL of each of the following standards

Pesticides Mix A Low	(CLP-216C-1)
Pesticides Mix A Mid	(CLP-216D-1)
Pesticides Mix A High	(CLP-216E-1)
Pesticides Mix B Low	(CLP-226C-1)
Pesticides Mix B Mid	(CLP-226D-1)
Pesticides Mix B High	(CLP-226E-1)

CLK-210A

Kit

CLP Aroclors and Toxaphene Calibration QUICKshots™ Kit

Kit - contains seven ampules:

1 x 1 mL of each of the following standards

Aroclor 1016/1260	(CLP-281-1)
Aroclor 1221	(CLP-282-1)
Aroclor 1232	(CLP-283-1)
Aroclor 1242	(CLP-284-1)
Aroclor 1248	(CLP-285-1)
Aroclor 1254	(CLP-286-1)
Toxaphene	(CLP-287-1)

CLK-210B

Kit
