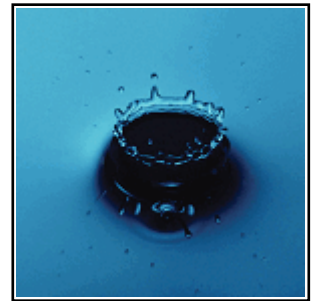
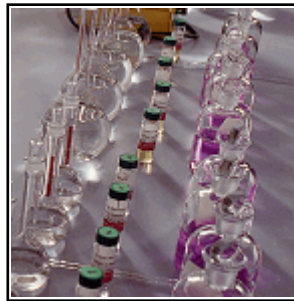
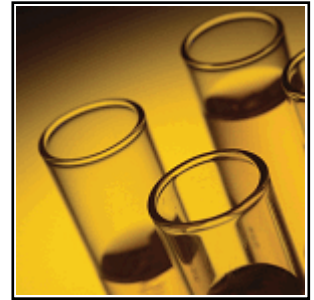




PROFICIENCY TESTING

Sample Preparation Instructions



Study: January 2009 WP

Study Close Date: February 18, 2009

Online data entry at www.APGQA.com



2730 Washington Blvd. Belpre, Ohio 45714
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Letter of Introduction

Dear Laboratory:

Thank you for choosing Analytical Products Group, Inc. as your Proficiency Testing Provider. Our goal is to provide your laboratory with the highest quality products and services in the industry.

Historically, Proficiency Testing (PT) programs were designed and used as a verification tool by government agencies to certify testing organizations. Today, PT Studies are used for reasons ranging from State Certification, to quality system improvement programs, to training and validating a new analyst. As a result, the market requires a robust, time-tested PT Program designed to meet all of your needs. APG offers just that. We have been operating PT Programs for over twenty years and recognize the importance of excellent products and excellent services. Our PT Programs provide you with the flexibility your lab needs to execute your Quality System.

APG's Proficiency Testing Program is accredited by A2LA (A2LA Certificate Number 2430.01) for all analytes that have an analyte code. The A2LA accreditation is granted to APG for the design, preparation, and operation of PT schemes that meet the requirements of ISO Guide 43-1:1997, ILAC G13:2000, EPA National Standards for Water Proficiency Testing Studies Criteria Document, and relevant sections of ISO Guide 34:2000, ISO/IEC 17025:2005 and 2003 NELAC Chapter 2 and Chapter 5. Additionally, our Quality System is registered with DNV Certification to meet the ISO 9001-2000 standard to design, manufacture, and distribute chemical reference materials and operate Proficiency Testing programs (Certificate # 98-HOU-AQ-9513).

The booklet you are currently reviewing is the Sample Preparation Instruction Booklet. This booklet will provide you with the basic information needed to complete this PT Study. The other booklet that you received with the samples is the Data Return Booklet, which is used for recording your results. The Data Return Booklet contains only the information for the products you have ordered. It was designed this way to help you locate your information with ease. If you order additional products for this study after you have received your samples you will receive a new Data Return Booklet containing all of your products ordered for this study. You will then be able to discard your old Data Return Booklet and use your new one.

To make the process even easier, we have designed a "Smart" Online Data Entry System. Visit our website today at www.APGQA.com to get started. We have many features to offer with the online system that we cannot offer with a paper data return.

If you have any questions, please, give us a call at 800.272.4442 or visit our website at www.APGQA.com.

Sincerely,



Michael Haller
Operations Manager

Acid Extractables**Catalog Number: 4190/4195**

The enclosed ampule when properly diluted will give known concentrations for SOME OR ALL of the compounds.

The sample is prepared using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
2,3,4,6-Tetrachlorophenol	µg/L	50.0 - 200	5
2,4,5-Trichlorophenol	µg/L	50.0 - 200	19
2,4,6-Trichlorophenol	µg/L	50.0 - 200	16
2,4-Dichlorophenol	µg/L	40.0 - 190	11
2,4-Dimethylphenol	µg/L	65.0 - 200	10
2,4-Dinitrophenol	µg/L	100 - 180	10
2,6-Dichlorophenol	µg/L	40.0 - 190	11
2-Chlorophenol	µg/L	30.0 - 200	10
2-Methyl-4,6-Dinitrophenol	µg/L	60.0 - 200	14
2-Methylphenol	µg/L	50.0 - 200	9.5
2-Nitrophenol	µg/L	50.0 - 190	16
3-Methylphenol	µg/L	50.0 - 200	5
4-Chloro-3-methylphenol	µg/L	30.0 - 200	10
4-Methylphenol	µg/L	50.0 - 200	5
4-Nitrophenol	µg/L	100 - 180	10
Benzoic Acid	µg/L	50.0 - 200	5
Pentachlorophenol	µg/L	55.0 - 200	11
Phenol	µg/L	100 - 200	10

Acidity as CaCO₃**Catalog Number: 4820/4825**

The enclosed vial when properly diluted will give concentrations in known ranges

Pipet 10 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Acidity as CaCO ₃	mg/L	650 - 1800	560

AK101 BTEX

Catalog Number: 4340/4345

Store at -20°C upon receipt. The enclosed ampule when properly diluted will give known concentrations.

The sample is prepared using the following instructions:

1. Fill a 100mL volumetric flask to volume with laboratory grade water at 20°C.
2. Stabilize the ampule to 20°C.
3. Use a 25 µL Hamilton 702N microsyringe or equivalent. Variations in needle geometry will adversely affect the ability to deliver reproducible volumes.
4. Withdraw 25 µL and IMMEDIATELY adjust to 20.0 µL.
5. Rapidly inject 20.0 µL of the concentrate into the expanded area of the filled volumetric flask. Remove the needle as fast as possible after injection. If the sample is injected into the neck area, poor results are obtained.
6. Mix the sample by inverting the flask three times only. Excessive shaking results in loss of volatiles.
7. Analyze the resulting solution as if it were a normal sample.
8. Aqueous solutions are unstable and should be discarded after one hour.

Analyte	Units	Concentration Range	PTRL
Benzene	µg/L	5.00 - 30.0	0.5
Ethylbenzene	µg/L	5.00 - 30.0	0.5
m-Xylene / p-Xylene	µg/L	5.00 - 30.0	0.5
o-Xylene	µg/L	5.00 - 30.0	0.5
Toluene	µg/L	5.00 - 30.0	0.5
Total Xylenes	µg/L	10.0 - 60.0	1

AK101 Gasoline

Catalog Number: 4350/4355

Store at -20°C upon receipt. The enclosed ampule when properly diluted will give known a concentration.

The sample is prepared using the following instructions:

1. Fill a 100mL volumetric flask to volume with laboratory grade water at 20°C.
2. Stabilize the ampule to 20°C.
3. Use a 25 µL Hamilton 702N microsyringe or equivalent. Variations in needle geometry will adversely affect the ability to deliver reproducible volumes.
4. Withdraw 25 µL and IMMEDIATELY adjust to 20.0 µL.
5. Rapidly inject 20.0 µL of the concentrate into the expanded area of the filled volumetric flask. Remove the needle as fast as possible after injection. If the sample is injected into the neck area, poor results are obtained.
6. Mix the sample by inverting the flask three times only. Excessive shaking results in loss of volatiles.
7. Analyze the resulting solution as if it were a normal sample.
8. Aqueous solutions are unstable and should be discarded after one hour.

Analyte	Units	Concentration Range	PTRL
Gasoline Range Organics (GRO)	µg/L	100 - 500	10

AK102 Diesel

Catalog Number: 4360/4365

The enclosed ampule when properly diluted will give a known concentration.

The sample is prepared using the following instructions:

1. Stabilize the ampules to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
Diesel Range Organics (DRO)	µg/L	800 - 2300	80

Aluminum High Level

Catalog Number: 4410/4415

The enclosed vial when properly diluted will give a known concentration.

In order to prepare the sample in the correct range, pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water and mix well.

Analyte	Units	Concentration Range	PTRL
Aluminum High Level	mg/L	0.100 - 1.00	0.01

Base Neutral Extractables

Catalog Number: 4200/4205

The enclosed ampule when properly diluted will give known concentrations for SOME OR ALL of the compounds.

The sample is prepared using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
1,2,4,5-Tetrachlorobenzene	µg/L	50.0 - 200	5
1,2,4-Trichlorobenzene	µg/L	35.0 - 180	5
1,2-Dichlorobenzene	µg/L	30.0 - 150	3
1,3-Dichlorobenzene	µg/L	30.0 - 150	4.5
1,4-Dichlorobenzene	µg/L	30.0 - 150	3
1-Chloronaphthalene	µg/L	20.0 - 200	2
2,4-Dinitrotoluene (2,4-DNT)	µg/L	20.0 - 190	5.3
2,6-Dinitrotoluene (2,6-DNT)	µg/L	20.0 - 190	6.7
2-Chloronaphthalene	µg/L	20.0 - 200	5.4
2-Methylnaphthalene	µg/L	30.0 - 190	3.5
2-Nitroaniline	µg/L	10.0 - 200	1
3,3'-Dichlorobenzidine	µg/L	60.0 - 200	10
3-Nitroaniline	µg/L	20.0 - 200	2
4-Bromophenyl phenyl ether	µg/L	20.0 - 200	8.1
4-Chloroaniline	µg/L	10.0 - 200	1
4-Chlorophenyl-phenylether	µg/L	25.0 - 200	9.9
4-Nitroaniline	µg/L	10.0 - 200	1
Acenaphthene	µg/L	10.0 - 200	5.6
Acenaphthylene	µg/L	10.0 - 200	3
Aniline	µg/L	20.0 - 200	2
Anthracene	µg/L	10.0 - 200	4.9
Benzidine	µg/L	200 - 1000	20
Benzo(a)anthracene	µg/L	10.0 - 200	3.9
Benzo(a)pyrene	µg/L	20.0 - 160	6.4
Benzo(b)fluoranthene	µg/L	20.0 - 125	5.8
Benzo(g,h,i)perylene	µg/L	20.0 - 200	2.9
Benzo(k)fluoranthene	µg/L	25.0 - 200	5
Benzyl alcohol	µg/L	10.0 - 200	1
Benzyl butyl phthalate	µg/L	50.0 - 200	5
bis(2-Chloroethoxy) methane	µg/L	10.0 - 200	3.6
bis(2-Chloroethyl) ether	µg/L	10.0 - 200	4.8

Base Neutral Extractables (Continued)

Catalog Number: 4200/4205

Analyte	Units	Concentration Range	PTRL
bis(2-Chloroisopropyl) ether	µg/L	30.0 - 200	9.6
bis(2-Ethylhexyl) phthalate	µg/L	20.0 - 200	6.6
Carbazole	µg/L	10.0 - 200	1
Chrysene	µg/L	10.0 - 200	5.2
Dibenz(a,h) anthracene	µg/L	20.0 - 100	4.9
Dibenzofuran	µg/L	30.0 - 125	11
Diethyl phthalate	µg/L	65.0 - 170	10
Dimethyl phthalate	µg/L	100 - 180	10
Di-n-butylphthalate	µg/L	40.0 - 180	14
Di-n-octylphthalate	µg/L	40.0 - 190	14
Fluoranthene	µg/L	30.0 - 190	14
Fluorene	µg/L	30.0 - 190	10
Hexachlorobenzene	µg/L	20.0 - 190	7.7
Hexachlorobutadiene	µg/L	50.0 - 180	5
Hexachlorocyclopentadiene	µg/L	100 - 225	10
Hexachloroethane	µg/L	50.0 - 190	5
Indeno (1,2,3-cd) pyrene	µg/L	30.0 - 125	4.3
Isophorone	µg/L	30.0 - 140	13
Naphthalene	µg/L	30.0 - 190	10
Nitrobenzene (NB)	µg/L	20.0 - 190	7.2
N-nitrosodiethylamine	µg/L	50.0 - 200	5
N-nitrosodimethylamine	µg/L	75.0 - 200	7.5
N-nitrosodi-n-propylamine	µg/L	30.0 - 140	4.8
N-nitrosodiphenylamine	µg/L	30.0 - 200	6.4
o-Toluidine	µg/L	50.0 - 200	5
Pentachlorobenzene	µg/L	20.0 - 200	2
Phenanthrene	µg/L	30.0 - 140	15
Pyrene	µg/L	30.0 - 200	9.6
Pyridine	µg/L	10.0 - 200	1

Boron (California)

Catalog Number: 4610/4615

The enclosed vial when properly diluted will give a known concentration.

Pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Boron (Colorimetric)	µg/L	200 - 2000	192

Bromide

Catalog Number: 4850/4855

The enclosed vial when properly diluted will give known concentrations.

Pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Bromide	mg/L	1.00 - 10.0	0.85

Bromide/Bromate

Catalog Number: 4620/4625

The enclosed vial when properly diluted will give known concentrations.

Pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Bromate	mg/L	1.00 - 25.0	0.1
Bromide	mg/L	1.00 - 25.0	0.1

BTEX

Catalog Number: 4230/4235

Store at -20°C upon receipt. The enclosed ampule when properly diluted will give known concentrations for the listed compounds.

The sample is prepared using the following instructions:

1. Fill a 100mL volumetric flask to volume with laboratory grade water at 20°C.
2. Stabilize the ampule to 20°C.
3. Use a 25 µL Hamilton 702N microsyringe or equivalent. Variations in needle geometry will adversely affect the ability to deliver reproducible volumes.
4. Withdraw 25 µL and IMMEDIATELY adjust to 20.0 µL.
5. Rapidly inject 20.0 µL of the concentrate into the expanded area of the filled volumetric flask. Remove the needle as fast as possible after injection. If the sample is injected into the neck area, poor results are obtained.
6. Mix the sample by inverting the flask three times only. Excessive shaking results in loss of volatiles.
7. Analyze the resulting solution as if it were a normal sample.
8. Aqueous solutions are unstable and should be discarded after one hour.

Analyte	Units	Concentration Range	PTRL
Benzene	µg/L	8.00 - 120	4.6
Ethylbenzene	µg/L	9.00 - 100	5.8
Methyl-t-butylether (MTBE)	µg/L	15.0 - 100	8.28
Toluene	µg/L	7.00 - 100	4.9
Total Xylenes	µg/L	20.0 - 300	10

Color

Catalog Number: 4760/4765

The enclosed vial when properly diluted will give a concentration in a known range. For best results, the solution in the vial and the reagent water should be at room temperature (near 20 °C) when used. Unless otherwise stated, do not filter the sample.

1. Add approximately 50mL of ASTM type I water to a clean 100mL volumetric flask.
2. Pipet 10.0 mL from the vial into the flask, dilute to volume with ASTM Type I water and mix well. The sample is now ready for analysis.

Note: Please report the result to three significant figures in Color Units.

Analyte	Units	Concentration Range	PTRL
Color	units	10.0 - 75.0	9

Demand

Catalog Number: 4010/4015

The enclosed vial may be analyzed for BOD, CBOD, COD, and TOC. The enclosed vial when properly diluted will give known concentrations.

Use a volumetric pipet to transfer 20.0 mL of the sample to a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water. Samples must be seeded for Biochemical Oxygen Demand and CBOD analysis. pH adjustment is required.

Analyte	Units	Concentration Range	PTRL
Biochemical Oxygen Demand	mg/L	9.00 - 158	4.5
Carbonaceous BOD	mg/L	8.00 - 136	3.7
Chemical Oxygen Demand	mg/L	15.0 - 256	17
Total Organic Carbon	mg/L	6.00 - 101	4.8

Diesel Range Organics (DRO)

Catalog Number: 4830/4835

The enclosed ampule when properly diluted will give a known concentration.

The sample is prepared using the following instructions:

1. Stabilize the ampules to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) Liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
Diesel Range Organics (DRO)	µg/L	500 - 4000	50

DRO (Wisconsin)

Catalog Number: 4300/4305

The enclosed ampule when properly diluted will give known concentrations.

The sample is prepared using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
Diesel Range Organics (WI)	µg/L	200 - 800	158

Fluoride

Catalog Number: 4420/4425

The enclosed vial when properly diluted will give a known concentration.

Use a volumetric pipet to transfer 10.0 mL of the sample to a one (1) Liter volumetric flask and dilute to volume with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Fluoride	mg/L	0.300 - 4.00	0.13

Gasoline Range Organics (GRO)

Catalog Number: 4840/4845

The enclosed ampule when properly diluted will give a known concentration.

The sample is prepared using the following instructions:

1. Fill a 100mL volumetric flask to volume with laboratory grade water at 20°C.
2. Stabilize the ampule to 20°C.
3. Use a 25 µL Hamilton 702N microsyringe or equivalent. Variations in needle geometry will adversely affect the ability to deliver reproducible volumes.
4. Withdraw 25 µL and IMMEDIATELY adjust to 20.0 µL.
5. Rapidly inject 20.0 µL of the concentrate into the expanded area of the filled volumetric flask. Remove the needle as fast as possible after injection. If the sample is injected into the neck area, poor results are obtained.
6. Mix the sample by inverting the flask three times only. Excessive shaking results in loss of volatiles.
7. Analyze the resulting solution as if it were a normal sample.
8. Aqueous solutions are unstable and should be discarded after one hour.

Analyte	Units	Concentration Range	PTRL
Gasoline Range Organics (GRO)	µg/L	200 - 4000	90

GRO (Wisconsin)

Catalog Number: 4320/4325

The enclosed ampule when properly diluted will give known concentrations.

The sample is prepared using the following instructions:

1. Fill a 100mL volumetric flask to volume with laboratory grade water at 20°C.
2. Stabilize the ampule to 20°C.
3. Use a 25 µL Hamilton 702N microsyringe or equivalent. Variations in needle geometry will adversely affect the ability to deliver reproducible volumes.
4. Withdraw 25 µL and IMMEDIATELY adjust to 20.0 µL.
5. Rapidly inject 20.0 µL of the concentrate into the expanded area of the volumetric flask. Remove the needle as fast as possible after injection. If the sample is injected into the neck area, poor results are obtained.
6. Mix the sample by inverting the flask three times only. Excessive shaking results in loss of volatiles.
7. Analyze the resulting solution as if it were a normal sample.
8. Aqueous solutions are unstable and should be discarded after one hour.

Analyte	Units	Concentration	PTRL
		Range	
Gasoline Range Organics (WI)	µg/L	200 - 600	182

Herbicides

Catalog Number: 4440/4445

Store at 4°C. The enclosed ampule when properly diluted will give known concentrations for SOME or ALL of the compounds.

The sample is prepared using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add approximately 800mL of laboratory grade water to a one (1) Liter volumetric flask.
3. Open the ampule, withdraw and add exactly 1.0mL of the concentrate to the volumetric flask.
4. Dilute to the mark with laboratory grade water.
5. Mix the sample by inverting three times.
6. Analyze the resulting solution as if it were a normal sample.
7. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
2,4,5-T	µg/L	2.00 - 10.0	0.2
2,4,5-TP (silvex)	µg/L	2.00 - 10.0	0.2
2,4-D	µg/L	2.00 - 10.0	0.2
2,4-DB	µg/L	1.00 - 150	0.1
3,5-Dichlorobenzoic acid	µg/L	1.00 - 150	0.1
4-Nitrophenol	µg/L	1.00 - 150	0.1
Acifluorfen	µg/L	1.00 - 150	0.1
Bentazon	µg/L	10.0 - 140	1.5
Chloramben	µg/L	1.00 - 150	0.1
Dacthal diacid (DCPA)	µg/L	1.00 - 150	0.1
Dalapon	µg/L	1.00 - 150	0.1
Dicamba	µg/L	2.00 - 10.0	0.2
Dichloroprop	µg/L	1.00 - 150	0.1
Dinoseb	µg/L	2.00 - 10.0	0.2
MCPA	µg/L	100 - 500	10
MCPP	µg/L	100 - 500	10
Pentachlorophenol	µg/L	1.00 - 150	0.1
Picloram	µg/L	1.00 - 150	0.1

Hexavalent Chromium

Catalog Number: 4180/4185

The enclosed vial when properly diluted will give a known concentration.

Pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Chromium, Hexavalent	µg/L	45.0 - 880	31

MA/NC/WA EPH

Catalog Number: 4510/4515

The enclosed ampule when properly diluted will give concentrations in known ranges for SOME OR ALL of the compounds.

Separate samples are to be prepared from each ampule, using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
>C10 to C12 Aliphatics (WA)	µg/L	70.0 - 700	7
>C10 to C12 Aromatics (WA)	µg/L	50.0 - 400	5
>C12 to C16 Aliphatics (WA)	µg/L	150 - 1500	15
>C12 to C16 Aromatics (WA)	µg/L	50.0 - 1200	5
>C16 to C21 Aliphatics (WA)	µg/L	150 - 1500	15
>C16 to C21 Aromatics (WA)	µg/L	100 - 2000	10
>C21 to C34 Aliphatics (WA)	µg/L	300 - 2500	30
>C21 to C34 Aromatics (WA)	µg/L	100 - 3500	10
2-Methylnaphthalene	µg/L	50.0 - 400	5
Acenaphthene	µg/L	50.0 - 400	5
Acenaphthylene	µg/L	50.0 - 400	5
Anthracene	µg/L	50.0 - 400	5
Benzo(a)anthracene	µg/L	50.0 - 400	5
Benzo(a)pyrene	µg/L	50.0 - 400	5
Benzo(b)fluoranthene	µg/L	50.0 - 400	5
Benzo(g,h,i)perylene	µg/L	50.0 - 400	5
Benzo(k)fluoranthene	µg/L	50.0 - 400	5
C11 to C22 Aromatics	µg/L	500 - 4000	50
C19 to C36 Aliphatics	µg/L	500 - 4000	50
C8 to C10 Aliphatics (WA)	µg/L	150 - 1500	15
C8 to C10 Aromatics (WA)	µg/L	100 - 800	10
C9 to C18 Aliphatics	µg/L	500 - 4000	50
Chrysene	µg/L	50.0 - 400	5
Dibenz(a,h) anthracene	µg/L	50.0 - 400	5
Fluoranthene	µg/L	50.0 - 400	5
Fluorene	µg/L	50.0 - 400	5
Indeno (1,2,3-cd) pyrene	µg/L	50.0 - 400	5
Naphthalene	µg/L	50.0 - 400	5
Phenanthrene	µg/L	50.0 - 400	5
Pyrene	µg/L	50.0 - 400	5

MA/NC/WA VPH

Catalog Number: 4500/4505

Store at -20°C upon receipt. The enclosed ampule when properly diluted will give known concentrations.

The sample is prepared using the following instructions:

1. Fill a 100mL volumetric flask to volume with laboratory grade water at 20°C.
2. Stabilize the ampule to 20°C.
3. Use a 25 µL Hamilton 702N microsyringe or equivalent. Variations in needle geometry will adversely affect the ability to deliver reproducible volumes.
4. Withdraw 25 µL and IMMEDIATELY adjust to 20.0 µL.
5. Rapidly inject 20.0 µL of the concentrate into the expanded area of the filled volumetric flask. Remove the needle as fast as possible after injection. If the sample is injected into the neck area, poor results are obtained.
6. Mix the sample by inverting the flask three times only. Excessive shaking results in loss of volatiles.
7. Analyze the resulting solution as if it were a normal sample.
8. Aqueous solutions are unstable and should be discarded after one hour.

Note: The reported value for C5 to C8 Aliphatics should include the VPH Target analytes, BTEX and MTBE compounds.

Analyte	Units	Concentration Range	PTRL
>C10 to C12 Aliphatics (WA)	µg/L	200 - 4000	20
>C10 to C12 Aromatics (WA)	µg/L	200 - 4000	20
>C12 to C13 Aromatics (WA)	µg/L	200 - 4000	20
>C6 to C8 Aliphatics (WA)	µg/L	200 - 4000	20
>C8 to C10 Aliphatics (WA)	µg/L	200 - 4000	20
>C8 to C10 Aromatics (WA)	µg/L	200 - 4000	20
Benzene	µg/L	20.0 - 500	2
C5 to C6 Aliphatics (WA)	µg/L	200 - 4000	20
C5 to C8 Aliphatics	µg/L	200 - 4000	20
C9 to C10 Aromatics	µg/L	200 - 4000	20
C9 to C12 Aliphatics	µg/L	200 - 4000	20
Ethylbenzene	µg/L	20.0 - 500	2
Methyl-t-butylether (MTBE)	µg/L	25.0 - 500	2.5
m-Xylene / p-Xylene	µg/L	25.0 - 500	2.5
o-Xylene	µg/L	25.0 - 500	2.5
Toluene	µg/L	25.0 - 500	2.5
Total Xylenes	µg/L	50.0 - 1000	5
Unadjusted C5 to C8 Aliphatics (NC)	µg/L	200 - 4000	20

MBAS

Catalog Number: 4430/4435

The enclosed vial when properly diluted will give a sample of known concentration.

To prepare the sample, pipet 10.0 mL of the vial into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
MBAS	mg/L	0.200 - 1.00	0.1

Microbiological

Catalog Number: 4750/4755

This microbiological test sample is supplied as a freeze dried sample in an aseptically sealed 5 mL vial and is designed for the quantitative determination of Total Coliforms and Fecal Coliforms as *E. coli*. In the range 20 to 2400 CFU/100mL (or MPN/100mL) based on accepted microbial methods. One hundred (100) milliliters of Phosphate Buffer solution is provided for reconstitution of the freeze dried sample.

Only individuals with bacteriological training should use this product. Disinfect any spills and sterilize containers. Though the microorganisms used for this proficiency test are non-pathogenic, aseptic technique should be used with the assumption that all samples are potentially pathogenic. Aseptic technique is also necessary to avoid cross contamination.

Effective 3/10/08:

FREEZE the sample vial upon arrival. Keep the freeze dried sample **FROZEN** until time of reconstitution. The Phosphate Buffer should be stored at room temperature. Once the sample is reconstituted, testing should proceed immediately. Unused sample should be disposed in accordance with institutional and government guidelines.

1. Add approximately one (1) mL of the Phosphate Buffer solution buffer to the vial containing the lyophilized microorganisms using the sterile transfer pipettes supplied.
2. Mix well, by cycling the Phosphate Buffer solution in and out of the vial with the pipette or, replace stopper and cap and use a vortex mixer.
3. Completely transfer the contents of the vial to the Phosphate Buffer solution buffer bottle using the transfer pipette.
4. Shake the bottle to disperse the organisms. The sample is now ready for analysis.

Volume to be used depends on the method. Select sample portion that would yield an ideal count. This sample when prepared according to these instructions is in the NELAC specified range of 20-2400 CFU/100mL (or MPN/100mL)

Record the results of the analysis in CFU/100mL or MPN/100mL on the Data Reporting Form.

Appropriately dispose of sample vials, liquid handling materials, and Phosphate Buffer bottles.

Note: Due to the nature of microbiological samples, to run multiple methods, it is recommended that additional samples be purchased.

Analyte	Units	Concentration Range	PTRL
Escherichia coli - MF	CFU/100mL	20.0 - 2400	2
Escherichia coli - MPN	MPN/100mL	20.0 - 2400	2
Fecal Coliforms as <i>E. Coli.</i> - MF	CFU/100mL	20.0 - 2400	2
Fecal Coliforms as <i>E. Coli.</i> - MPN	MPN/100mL	20.0 - 2400	2
Total Coliforms - MF	CFU/100mL	20.0 - 2400	2
Total Coliforms - MPN	MPN/100mL	20.0 - 2400	2

Minerals**Catalog Number: 4050/4055**

The enclosed vials when properly diluted will give known concentrations. One sample is prepared from Vial #1 and Vial #2. However, caution should be taken not to directly mix the contents of the vials.

Add 900mL of laboratory grade water to a one (1) Liter volumetric flask, pipet 10.0 mL of Vial #1 and 10.0 mL of Vial #2 into the flask. Mix well and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Alkalinity as CaCO ₃	mg/L	10.0 - 120	6.8
Calcium	mg/L	3.50 - 110	2.7
Calcium Hardness as CaCO ₃	mg/L	8.70 - 275	6.8
Chloride	mg/L	35.0 - 275	29
Conductivity	µmhos/cm	200 - 930	170
Magnesium	mg/L	2.00 - 40.0	1.6
Potassium	mg/L	4.00 - 40.0	3
Sodium	mg/L	6.00 - 100	5.1
Sulfate	mg/L	5.00 - 125	2.8
Total Dissolved Solids at 180°C	mg/L	140 - 650	98
Total Hardness as CaCO ₃	mg/L	17.0 - 440	8.4

Nitrate-Nitrite as N**Catalog Number: 4770/4775**

The enclosed vial when properly diluted will give a known concentration.

Pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Nitrate-Nitrite as N	mg/L	0.250 - 40.0	0.2

Nitrite as N**Catalog Number: 4780/4785**

The enclosed vial when properly diluted will give a known concentration.

Pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Nitrite as N	mg/L	0.400 - 4.00	0.28

Nitroaromatics/Nitroamines

Catalog Number: 4910/4915

The enclosed ampule when properly diluted will give concentrations in known ranges for SOME OR ALL of the compounds.

Separate samples are to be prepared from each ampule, using the directions below:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) Liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
1,3,5-Trinitrobenzene	µg/L	1.00 - 20.0	0.55
1,3-Dinitrobenzene	µg/L	1.00 - 20.0	0.55
2,4,6-Trinitrotoluene	µg/L	1.00 - 20.0	0.55
2,4-Dinitrotoluene (2,4-DNT)	µg/L	1.00 - 20.0	0.55
2,6-Dinitrotoluene (2,6-DNT)	µg/L	1.00 - 20.0	0.55
2-Amino-4,6-dinitrotoluene	µg/L	1.00 - 20.0	0.55
2-Nitrotoluene	µg/L	1.00 - 20.0	0.55
3-Nitrotoluene	µg/L	1.00 - 20.0	0.55
4-Amino-2,6-dinitrotoluene	µg/L	1.00 - 20.0	0.55
4-Nitrotoluene	µg/L	1.00 - 20.0	0.55
HMX	µg/L	1.00 - 20.0	0.55
Nitrobenzene (NB)	µg/L	1.00 - 20.0	0.55
RDX	µg/L	1.00 - 20.0	0.55
Tetryl	µg/L	1.00 - 20.0	0.55

Nitrogen Pesticides (Wisconsin)**Catalog Number: 4520/4525**

The sample is prepared from the ampule, using the directions below:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) Liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix the sample.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
Acetochlor	µg/L	2.00 - 20.0	0.2
Alachlor	µg/L	2.00 - 20.0	0.2
Ametryn	µg/L	2.00 - 20.0	0.2
Anilazine	µg/L	2.00 - 20.0	0.2
Atraton	µg/L	2.00 - 20.0	0.2
Atrazine	µg/L	2.00 - 30.0	0.2
Bromacil	µg/L	2.00 - 20.0	1.1
Butachlor	µg/L	8.00 - 80.0	0.8
Butylate	µg/L	2.00 - 20.0	0.2
Cyanazine	µg/L	2.00 - 20.0	0.2
Deethyl atrazine	µg/L	2.00 - 20.0	0.2
Deisopropyl Atrazine	µg/L	2.00 - 20.0	0.2
Diaminoatrazine	µg/L	2.00 - 20.0	0.2
EPTC (Eptam)	µg/L	2.00 - 20.0	0.2
Hexazinone	µg/L	2.00 - 20.0	0.2
Metolachlor	µg/L	8.00 - 80.0	5.3
Metribuzin	µg/L	2.00 - 60.0	0.64
Napropamide	µg/L	2.00 - 20.0	0.2
Prometon	µg/L	2.00 - 20.0	0.2
Prometryn	µg/L	2.00 - 20.0	0.2
Pronamide	µg/L	2.00 - 20.0	0.2
Propachlor	µg/L	2.00 - 20.0	0.2
Propazine	µg/L	2.00 - 20.0	0.2
Simazine	µg/L	4.00 - 40.0	1
Terbacil	µg/L	2.00 - 20.0	0.2
Trifluralin	µg/L	2.00 - 20.0	0.2

Nutrients

Catalog Number: 4020/4025

Individual vials are prepared separately. Do not combine vials into one sample.

The enclosed vials when properly diluted will give samples with known concentrations. Vial #1 contains inorganic Nitrogen and Phosphorus compounds to be analyzed for Ammonia, Nitrate, and Orthophosphate. Vial #3 contains organic forms of Nitrogen and Phosphorus and may be analyzed for TKN Nitrogen and Total Phosphorus. The samples should not be filtered, but should be analyzed soon after dilution.

Vial#1

Pipet 10.0 mL of Vial #1 into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Vial#3

Pipet 10.0 mL of Vial #3 into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Ammonia Nitrogen as N	mg/L	0.650 - 19.0	0.35
Nitrate Nitrogen as N	mg/L	0.250 - 40.0	0.19
Orthophosphate as P	mg/L	0.500 - 5.50	0.34
Total Kjeldahl Nitrogen	mg/L	1.50 - 35.0	1.1
Total Phosphorus as P	mg/L	0.500 - 10.0	0.34

Oil & Grease

Catalog Number: 4120/4125

The enclosed vial contains known amounts of Oil and Grease. This standard is designed to be analyzed by a gravimetric procedure. This sample is suitable for method 1664. The enclosed vial when properly diluted will give a concentration in a known range.

This standard is prepared in a solvent matrix and should not be analyzed by IR.

Sample is to be prepared in the extraction vessel, for example, separatory funnel or sample bottle which is compatible with extraction apparatus. Add 500mL of laboratory grade water and sufficient Hydrochloric Acid to ensure a pH of less than 2 (approximately 2mL of concentrated acid) to a one (1) Liter volumetric flask, separatory funnel or sample bottle. Carefully pipet 10.0 mL of the sample into the flask, separatory funnel or sample bottle and dilute to a volume of one liter with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Oil & Grease	mg/L	20.0 - 100	8.8

OP Pesticides/Herbicides

Catalog Number: 4810/4815

The enclosed ampule when properly diluted will give known concentrations for SOME or ALL of the compounds.

The sample is prepared using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) Liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration	PTRL
		Range	
Azinphos-methyl	µg/L	3.60 - 13.8	0.36
Carbophenothion	µg/L	2.00 - 20.0	0.2
Chlorpyrifos	µg/L	2.00 - 20.0	0.2
Demeton O&S	µg/L	2.00 - 20.0	0.2
Diazinon	µg/L	2.00 - 15.0	0.8
Dichlorvos (DDVP)	µg/L	2.00 - 20.0	1.1
Dimethoate	µg/L	2.00 - 20.0	0.2
Dioxathion	µg/L	2.00 - 20.0	0.2
Disulfoton	µg/L	2.00 - 15.0	0.33
Ethion	µg/L	2.00 - 20.0	0.2
Ethoprop	µg/L	2.00 - 20.0	0.2
Famphur	µg/L	2.00 - 20.0	0.2
Fonophos	µg/L	2.00 - 20.0	0.2
Malathion	µg/L	2.00 - 20.0	0.2
Parathion, ethyl	µg/L	3.00 - 20.0	1.6
Parathion, methyl	µg/L	2.00 - 20.0	0.2
Phorate	µg/L	2.00 - 20.0	0.2
Phosmet	µg/L	2.00 - 20.0	0.2
Ronnel	µg/L	2.00 - 20.0	1.1
Stirophos (Tetrachlorvinphos)	µg/L	2.00 - 20.0	1.1
Terbufos	µg/L	2.00 - 20.0	0.2

PA UST PAH-HPLC

Catalog Number: 4380/4385

The enclosed ampule when properly diluted will give concentrations.

Separate samples are to be prepared from each ampule, using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
Benzo(a)anthracene	µg/L	0.300 - 2.00	0.11
Benzo(a)pyrene	µg/L	0.500 - 2.00	0.16
Fluorene	µg/L	2.00 - 10.0	0.71
Naphthalene	µg/L	2.00 - 10.0	0.27
Phenanthrene	µg/L	0.300 - 2.00	0.14

PA UST Volatiles

Catalog Number: 4370/4375

Store at -20°C upon receipt. The enclosed ampule when properly diluted will give known concentrations.

The sample is prepared using the following instructions:

1. Fill a 100mL volumetric flask to volume with laboratory grade water at 20°C.
2. Stabilize the ampule to 20°C.
3. Use a 25 µL Hamilton 702N microsyringe or equivalent. Variations in needle geometry will adversely affect the ability to deliver reproducible volumes.
4. Withdraw 25 µL and IMMEDIATELY adjust to 20.0 µL.
5. Rapidly inject 20.0 µL of the concentrate into the expanded area of the filled volumetric flask. Remove the needle as fast as possible after injection. If the sample is injected into the neck area, poor results are obtained.
6. Mix the sample by inverting the flask three times only. Excessive shaking results in loss of volatiles.
7. Analyze the resulting solution as if it were a normal sample.
8. Aqueous solutions are unstable and should be discarded after one hour.

Analyte	Units	Concentration Range	PTRL
Benzene	µg/L	8.00 - 120	0.8
Ethylbenzene	µg/L	9.00 - 100	0.9
Isopropylbenzene	µg/L	5.00 - 50.0	0.5
Methyl-t-butylether (MTBE)	µg/L	15.0 - 100	1.5
Naphthalene	µg/L	10.0 - 50.0	1
Toluene	µg/L	7.00 - 100	0.7
Total Xylenes	µg/L	20.0 - 300	2

PAH-GC & GCMS

Catalog Number: 4880/4885

The enclosed ampule when properly diluted will give known concentrations for SOME OR ALL of the compounds.

The sample is prepared using the directions below:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) Liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
Acenaphthene	µg/L	10.0 - 200	5.6
Acenaphthylene	µg/L	10.0 - 200	3
Anthracene	µg/L	10.0 - 200	4.9
Benzo(a)anthracene	µg/L	10.0 - 200	3.9
Benzo(a)pyrene	µg/L	20.0 - 160	6.4
Benzo(b)fluoranthene	µg/L	20.0 - 125	5.8
Benzo(g,h,i)perylene	µg/L	20.0 - 200	2.9
Benzo(k)fluoranthene	µg/L	25.0 - 200	5
Chrysene	µg/L	10.0 - 200	5.2
Dibenz(a,h) anthracene	µg/L	20.0 - 100	4.9
Fluoranthene	µg/L	30.0 - 190	14
Fluorene	µg/L	30.0 - 190	10
Indeno (1,2,3-cd) pyrene	µg/L	30.0 - 125	4.3
Naphthalene	µg/L	30.0 - 190	10
Phenanthrene	µg/L	30.0 - 140	15
Pyrene	µg/L	30.0 - 200	9.6

PAH-HPLC

Catalog Number: 4220/4225

The enclosed ampule when properly diluted will give concentrations in known ranges for SOME OR ALL of the compounds.

Separate samples are to be prepared from each ampule, using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
Acenaphthene	µg/L	2.00 - 10.0	0.26
Acenaphthylene	µg/L	2.00 - 10.0	0.77
Anthracene	µg/L	0.500 - 2.00	0.13
Benzo(a)anthracene	µg/L	0.300 - 2.00	0.11
Benzo(a)pyrene	µg/L	0.500 - 2.00	0.16
Benzo(b)fluoranthene	µg/L	0.300 - 2.00	0.17
Benzo(g,h,i)perylene	µg/L	0.300 - 2.00	0.12
Benzo(k)fluoranthene	µg/L	0.300 - 2.00	0.1
Chrysene	µg/L	0.300 - 2.00	0.16
Dibenz(a,h) anthracene	µg/L	0.500 - 2.00	0.1
Fluoranthene	µg/L	0.300 - 2.00	0.12
Fluorene	µg/L	2.00 - 10.0	0.71
Indeno (1,2,3-cd) pyrene	µg/L	0.500 - 2.00	0.25
Naphthalene	µg/L	2.00 - 10.0	0.27
Phenanthrene	µg/L	0.300 - 2.00	0.14
Pyrene	µg/L	0.300 - 2.00	0.13

PCBs in Oil

Catalog Number: 4140/4145

The enclosed ampule when properly diluted will give concentration in a known range.

Identify the type of Aroclor present in addition to the concentration. The ampule when properly diluted will give a known concentration for one of the listed Aroclors.

One sample is to be prepared from the supplied ampule, using the following instructions:

1. Add approximately 50mL of hexane to a 100mL volumetric flask.
2. Open the ampule and transfer 1g \pm 10mg to the volumetric flask.
3. Dilute to the mark with hexane.
4. Mix the sample by inverting the flask.
5. Analyze the resulting solution as if it were a normal sample.
6. Report results as mg/kg PCB in the original sample.

Analyte	Units	Concentration Range	PTRL
Aroclor 1016 in Oil	mg/kg	17.0 - 50.0	1.7
Aroclor 1221 in Oil	mg/kg	15.0 - 50.0	1.5
Aroclor 1232 in Oil	mg/kg	15.0 - 50.0	1.5
Aroclor 1242 in Oil	mg/kg	17.0 - 50.0	1.7
Aroclor 1248 in Oil	mg/kg	15.0 - 50.0	1.5
Aroclor 1254 in Oil	mg/kg	16.0 - 50.0	1.6
Aroclor 1260 in Oil	mg/kg	12.0 - 50.0	1.2

PCBs in Water

Catalog Number: 4130/4135

Individual ampules are prepared separately. Do not combine ampules into one sample.

The enclosed ampules when properly diluted will give concentrations in known ranges.

Identify the type of Aroclor present in addition to the concentration. There are two WP samples, Sample #1 and Sample #2. Each ampule when properly diluted will give a known concentration for one of the Aroclors.

Separate samples are to be prepared from each ampule, using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
Aroclor 1016	μ g/L	3.80 - 13.0	1.4
Aroclor 1221	μ g/L	1.00 - 15.0	0.13
Aroclor 1232	μ g/L	1.40 - 4.00	0.61
Aroclor 1242	μ g/L	3.80 - 13.0	1.4
Aroclor 1248	μ g/L	1.50 - 5.50	0.6
Aroclor 1254	μ g/L	1.70 - 5.50	0.64
Aroclor 1260	μ g/L	1.60 - 5.00	0.62

Pesticides (NELAC)**Catalog Number: 4470/4475**

The enclosed ampule when properly diluted will give known concentrations for SOME or ALL of the compounds.

Please note, this sample is designed to meet the requirements of the NELAC WP Program. The Pesticides (WP) sample (Catalog # 4460) is designed to meet the US EPA WP program requirements.

The sample is prepared using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) Liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
alpha-BHC	µg/L	2.00 - 15.0	0.6
alpha-Chlordane	µg/L	1.00 - 9.80	0.43
beta-BHC	µg/L	2.00 - 15.0	0.77
delta-BHC	µg/L	2.00 - 15.0	0.57
Endosulfan I	µg/L	4.00 - 17.0	0.83
Endosulfan II	µg/L	4.00 - 20.0	1.4
Endosulfan sulfate	µg/L	2.00 - 20.0	0.69
Endrin	µg/L	2.00 - 20.0	0.85
Endrin aldehyde	µg/L	4.00 - 20.0	0.93
Endrin Ketone	µg/L	2.00 - 10.0	1.1
gamma-BHC (Lindane)	µg/L	2.00 - 15.0	0.74
gamma-Chlordane	µg/L	1.20 - 7.80	0.55
Methoxychlor	µg/L	2.00 - 15.0	0.4

Pesticides (WP)

Catalog Number: 4460/4465

The enclosed ampule when properly diluted will give known concentrations for ALL of the compounds.

Please note, this sample is designed to meet the requirements of the US EPA WP Program. The Pesticides (NELAC) sample (Catalog # 4470) is designed to meet the NELAC requirements.

The sample is prepared using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) Liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration	PTRL
		Range	
4,4'-DDD	µg/L	2.00 - 10.0	0.97
4,4'-DDE	µg/L	2.00 - 10.0	0.84
4,4'-DDT	µg/L	1.00 - 10.0	0.38
Aldrin	µg/L	0.500 - 15.0	0.17
Dieldrin	µg/L	1.00 - 13.0	0.43
Heptachlor	µg/L	1.00 - 10.0	0.33
Heptachlor epoxide	µg/L	1.00 - 10.0	0.42

pH

Catalog Number: 4060/4065

The enclosed sample will give a known concentration.

Sample is provided full volume. Do Not Dilute. Test sample as received.

Analyte	Units	Concentration	PTRL
		Range	
pH	Units	5.00 - 10.0	4.8

PVOC (Wisconsin)

Catalog Number: 4330/4335

The enclosed ampule when properly diluted will give known concentration for ALL of the compounds.

The sample is prepared using the following instructions:

1. Fill a 100mL volumetric flask to volume with laboratory grade water at 20°C.
2. Stabilize the ampule to 20°C.
3. Use a 25 µL Hamilton 702N microsyringe or equivalent. Variations in needle geometry will adversely affect the ability to deliver reproducible volumes.
4. Withdraw 25 µL and IMMEDIATELY adjust to 20.0 µL.
5. Rapidly inject 20.0 µL of the concentrate into the expanded area of the filled volumetric flask. Remove the needle as fast as possible after injection. If the sample is injected into the neck area, poor results are obtained.
6. Mix the sample by inverting the flask three times only. Excessive shaking results in loss of volatiles.
7. Analyze the resulting solution as if it were a normal sample.
8. Aqueous solutions are unstable and should be discarded after one hour.

Analyte	Units	Concentration Range	PTRL
1,2,4-Trimethylbenzene	µg/L	20.0 - 75.0	18
1,3,5-Trimethylbenzene	µg/L	20.0 - 75.0	18
Benzene	µg/L	20.0 - 75.0	17.9
Ethylbenzene	µg/L	20.0 - 75.0	17.9
m+p-Xylene	µg/L	40.0 - 150	4
Methyl-t-butylether (MTBE)	µg/L	20.0 - 75.0	17.8
o-Xylene	µg/L	20.0 - 75.0	2
Toluene	µg/L	20.0 - 75.0	17.9
Total Xylenes	µg/L	40.0 - 150	36.8

Settleable Solids

Catalog Number: 4860/4865

The enclosed sample when properly prepared will give a known concentration.

1. Shake sample bottle vigorously for two (2) minutes.
2. Pour the well-mixed sample into a 1Liter Imhoff cone.
3. Rinse the sample bottle with laboratory grade water and transfer to the Imhoff cone. Continue rinsing the sample bottle until the Imhoff cone is filled to the 1Liter mark.

Analyte	Units	Concentration Range	PTRL
Settleable Solids	mL/L	5.00 - 100	2.8

Silica

Catalog Number: 4800/4805

The enclosed vial when properly diluted will give a known concentration.

Pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Silica as SiO ₂	mg/L	50.0 - 250	37

Solids

Catalog Number: 4030/4035

The vial has been carefully prepared to contain an exact amount of both suspended and total dissolved solids. The enclosed vial when properly diluted will give known concentrations.

1. Record lot number from the vial into the Data Return Booklet.
2. Solids should be analyzed immediately after preparation.
3. Samples must be mixed vigorously before sampling for at least 30 seconds.
4. It is recommended that subsampling be done with a graduated cylinder. The graduated cylinder should be rinsed at least 3 times with laboratory grade water.

Before opening, gently tap the vial on a cushioned surface to be sure the solids material is not adhering to the underside of the cap. Carefully transfer the contents of the vial into a one (1) Liter volumetric flask, being sure to rinse both the cap and vial with multiple washings of laboratory grade water. It is suggested that the contents of the vial be wetted with water before attempting transfer. This will help avoid "dusting" of the solids. Dilute to the mark with laboratory grade water.

Analyte	Units	Concentration	PTRL
		Range	
Total Dissolved Solids at 180°C	mg/L	140 - 650	98
Total Solids	mg/L	140 - 675	106
Total Suspended Solids	mg/L	23.0 - 100	14

Sulfide

Catalog Number: 4900/4905

The enclosed vial when properly diluted will give a known concentration.

Pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration	PTRL
		Range	
Sulfide	mg/L	1.00 - 10.0	0.1

Total Chlordane

Catalog Number: 4160/4165

The enclosed ampule when properly diluted will give a known concentration.

The sample is prepared using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) Liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration	PTRL
		Range	
Total Chlordane	µg/L	3.00 - 25.0	1.1

Total Cyanide

Catalog Number: 4090/4095

The enclosed vial when properly diluted will give a known concentration.

In order to prepare the sample, add two grams of Sodium Hydroxide and 900mL of laboratory grade water to a one (1) Liter volumetric flask, pipet 10.0 mL of the sample and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Total Cyanide	mg/L	0.100 - 1.00	0.01

Total Organic Halides (TOX)

Catalog Number: 4280/4285

The enclosed ampule when properly diluted will give a known concentration.

Pipet 1.0 mL of the sample into a one (1) Liter volumetric flask and dilute to volume with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Total Organic Halide	µg/L	300 - 1500	190

Total Petroleum Hydrocarbons

Catalog Number: 4790/4795

The enclosed ampule when properly diluted will give a known concentration.

The sample is prepared using the following instructions:

1. Stabilize the ampules to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) Liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
Total Petroleum Hydrocarbons	mg/L	20.0 - 170	7.6

Total Phenolics

Catalog Number: 4080/4085

The enclosed vial when properly diluted will give a known concentration.

Pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water. The sample should be analyzed immediately after dilution.

Analyte	Units	Concentration Range	PTRL
Total Phenolics (4-AAP)	mg/L	0.0600 - 5.00	0.01

Total Residual Chlorine

Catalog Number: 4100/4105

APG offers two different products for Total Residual Chlorine analysis. Verify the sample name on the vial matches the sample name for this product's instructions, "Total Residual Chlorine".

The enclosed vial when properly diluted will give a known concentration.

Pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Total Residual Chlorine	mg/L	0.500 - 3.00	0.36

Total Residual Chlorine, Low Level

Catalog Number: 4040/4045

APG offers two different products for Total Residual Chlorine analysis. Verify the sample name on the vial matches the sample name for this product's instructions, "Total Residual Chlorine, Low Level". Please note this is a Low Level PT and is not in the NELAC specified concentration range. For the NELAC range PT see instructions for catalog number 4100.

The enclosed vial when properly diluted will give a known concentration.

Pipet 1.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Total Residual Chlorine	µg/L	20.0 - 250	2

Toxaphene

Catalog Number: 4270/4275

The enclosed ampule when properly diluted will give a known concentration.

The sample is prepared using the following instructions:

1. Stabilize the ampule to 20°C.
2. Add 1000mL of laboratory grade water to a two (2) liter separatory funnel.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the separatory funnel.
4. Mix well.
5. Analyze the resulting solution as if it were a normal sample.
6. Transfer the remaining concentrate to a clean, dry flask or vial and seal. Do not use plastic.

Analyte	Units	Concentration Range	PTRL
Toxaphene	µg/L	20.0 - 100	2

Trace Metals

Catalog Number: 4070/4075

Individual vials are prepared separately. Do not combine vials into one sample.

The enclosed vials when properly diluted will give samples with known concentrations. Sample #3 should be tested for Antimony, Boron, Molybdenum, Tin, and Titanium. All other metals listed in the table are contained in sample #1.

Vial #1

Pipet 1.5mL of reagent grade Nitric Acid and 10.0 mL of vial #1 into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Vial #3

Pipet 10.0 mL of vial #3 into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Aluminum	µg/L	200 - 4000	130
Antimony	µg/L	95.0 - 900	55
Arsenic	µg/L	70.0 - 900	54
Barium	µg/L	100 - 2500	86
Beryllium	µg/L	8.00 - 900	5.3
Boron	µg/L	800 - 2000	660
Cadmium	µg/L	8.00 - 750	5.9
Chromium	µg/L	17.0 - 1000	12
Cobalt	µg/L	28.0 - 1000	22
Copper	µg/L	40.0 - 900	32
Iron	µg/L	200 - 4000	170
Lead	µg/L	70.0 - 3000	54
Manganese	µg/L	70.0 - 4000	60
Mercury	µg/L	2.00 - 30.0	1.2
Molybdenum	µg/L	60.0 - 600	45
Nickel	µg/L	80.0 - 3000	65
Selenium	µg/L	90.0 - 2000	67
Silver	µg/L	26.0 - 600	21
Strontium	µg/L	30.0 - 300	22
Thallium	µg/L	60.0 - 900	21
Tin	µg/L	1000 - 5000	790
Titanium	µg/L	80.0 - 300	67
Vanadium	µg/L	55.0 - 2000	47
Zinc	µg/L	100 - 2000	83

Turbidity

Catalog Number: 4890/4895

The enclosed vial when properly diluted will give a known concentration.

Mix the vial well before dilution. Pipet 5.0 mL of sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Turbidity	NTU	1.00 - 20.0	0.63

TX1005 TPH High Level

Catalog Number: 4540/4545

TX1005 TPH High Level is part two of a two sample set. Catalog number 4490, TX1005 TPH Low Level is also required for Texas state certification.

The removal of 10mL of sample from the VOA vial as specified in the TX 1005 method should not be performed.

1. Stabilize the ampule to 20°C.
2. Pipet 30mL of laboratory grade water into a 40mL VOA vial with a teflon septa cap.
3. Carefully open the ampule. Using a gas tight syringe add 50uL (fifty microliters) of the concentrate to the VOA vial by placing the needle tip below the surface of the water. Immediately remove the syringe and cap the 40mL VOA vial.
4. The resulting solution is now ready for the appropriate extraction solvent and any spiking solutions required by your laboratory SOP.

Analyte	Units	Concentration Range	PTRL
nC12 to nC28	mg/L	5.00 - 50.0	0.5
nC28 to nC35	mg/L	5.00 - 50.0	0.5
nC6 to nC12	mg/L	5.00 - 50.0	0.5
Total Petroleum Hydrocarbons	mg/L	20.0 - 100	2

TX1005 TPH Low Level**Catalog Number: 4490/4495**

TX1005 TPH Low Level is part one of a two sample set. Catalog number 4540, TX1005 TPH High Level is also required for Texas state certification.

The removal of 10mL of sample from the VOA vial as specified in the TX 1005 method should not be performed.

1. Stabilize the ampule to 20°C.
2. Pipet 30mL of laboratory grade water into a 40mL VOA vial with a teflon septa cap.
3. Carefully open the ampule. Using a gas tight syringe add 50uL (fifty microliters) of the concentrate to the VOA vial by placing the needle tip below the surface of the water. Immediately remove the syringe and cap the 40mL VOA vial.
4. The resulting solution is now ready for the appropriate extraction solvent and any spiking solutions required by your laboratory SOP.

Analyte	Units	Concentration Range	PTRL
nC12 to nC28	mg/L	1.00 - 5.00	0.1
nC28 to nC35	mg/L	1.00 - 5.00	0.1
nC6 to nC12	mg/L	1.00 - 5.00	0.1
Total Petroleum Hydrocarbons	mg/L	5.00 - 10.0	0.5

Uranium**Catalog Number: 4400/4405**

The enclosed vial when properly diluted will give a concentration in a known range.

In order to prepare the sample in the correct range, pipet 10.0 mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water and mix well.

Analyte	Units	Concentration Range	PTRL
Uranium	µg/L	25.0 - 200	2.5

Volatile Aromatics**Catalog Number: 4450/4455**

Store at -20°C. The enclosed ampule when properly diluted will give known concentrations for ALL of the compounds.

The sample is prepared using the directions below:

1. Fill a 100mL volumetric flask to volume with laboratory grade water at 20°C.
2. Stabilize the ampule to 20°C.
3. Use a 25 µL Hamilton 702N microsyringe or equivalent. Variations in needle geometry will adversely affect the ability to deliver reproducible volumes.
4. Withdraw 25 µL and IMMEDIATELY adjust to 20.0 µL.
5. Rapidly inject 20.0 µL of the concentrate into the expanded area of the filled volumetric flask. Remove the needle as fast as possible after injection. If the sample is injected into the neck area, poor results are obtained.
6. Mix the sample by inverting the flask three times only. Excessive shaking results in loss of volatile compounds.
7. Analyze the resulting solution as if it were a normal sample.
8. Aqueous solutions are unstable and should be discarded.

Analyte	Units	Concentration Range	PTRL
1,2-Dichlorobenzene	µg/L	8.00 - 100	4.9
1,3-Dichlorobenzene	µg/L	9.00 - 125	5.2
1,4-Dichlorobenzene	µg/L	8.00 - 115	4.9
Benzene	µg/L	8.00 - 120	4.6
Ethylbenzene	µg/L	9.00 - 100	5.8
Toluene	µg/L	7.00 - 100	4.9
Total Xylenes	µg/L	20.0 - 300	10

Volatile Solids**Catalog Number: 4870/4875**

The enclosed vial when properly diluted will give a known concentration. Sample is to be tested for Total Dissolved Volatile Solids.

Pipet 10mL of the sample into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Volatile solids	mg/L	100 - 500	56

Volatiles

Catalog Number: 4170/4175

Store at -20°C upon receipt. The enclosed ampule when properly diluted will give known concentrations for SOME OR ALL of the compounds.

The sample is prepared using the following instructions:

1. Fill a 100mL volumetric flask to volume with laboratory grade water at 20°C.
2. Stabilize the ampule to 20°C.
3. Use a 25 µL Hamilton 702N microsyringe or equivalent. Variations in needle geometry will adversely affect the ability to deliver reproducible volumes.
4. Withdraw 25 µL and IMMEDIATELY adjust to 20.0 µL.
5. Rapidly inject 20.0 µL of the concentrate into the expanded area of the filled volumetric flask. Remove the needle as fast as possible after injection. If the sample is injected into the neck area, poor results are obtained.
6. Mix the sample by inverting the flask three times only. Excessive shaking results in loss of volatiles.
7. Analyze the resulting solution as if it were a normal sample.
8. Aqueous solutions are unstable and should be discarded after one hour.

Analyte	Units	Concentration Range	PTRL
1,1,1,2-Tetrachloroethane	µg/L	10.0 - 200	1
1,1,1-Trichloroethane	µg/L	10.0 - 90.0	6.5
1,1,1,2,2-Tetrachloroethane	µg/L	10.0 - 150	3.9
1,1,2-Trichloroethane	µg/L	25.0 - 150	17
1,1-Dichloroethane	µg/L	15.0 - 150	9.7
1,1-Dichloroethene	µg/L	11.0 - 120	6.1
1,2,3-Trichloropropane	µg/L	5.00 - 50.0	0.5
1,2,4-Trichlorobenzene	µg/L	2.00 - 20.0	0.2
1,2-Dibromo-3-chloropropane (DBCP)	µg/L	5.00 - 500	0.5
1,2-Dibromoethane (EDB)	µg/L	5.00 - 500	0.5
1,2-Dichlorobenzene	µg/L	8.00 - 100	4.9
1,2-Dichloroethane	µg/L	10.0 - 150	6.8
1,2-Dichloropropane	µg/L	10.0 - 150	5.9
1,3-Dichlorobenzene	µg/L	9.00 - 125	5.2
1,4-Dichlorobenzene	µg/L	8.00 - 115	4.9
2-Butanone (Methyl ethyl ketone)	µg/L	5.00 - 500	0.5
2-Chloroethyl vinyl ether	µg/L	5.00 - 500	0.5
2-Hexanone	µg/L	20.0 - 150	8
4-Methyl-2-pentanone (MIBK)	µg/L	20.0 - 200	4.3
Acetone	µg/L	5.00 - 500	0.5
Acetonitrile	µg/L	5.00 - 500	0.5
Acrolein	µg/L	5.00 - 500	0.5
Acrylonitrile	µg/L	5.00 - 500	0.5
Benzene	µg/L	8.00 - 120	4.6
Bromodichloromethane	µg/L	8.00 - 115	5
Bromoform	µg/L	11.0 - 100	5.6
Bromomethane	µg/L	20.0 - 100	8
Carbon disulfide	µg/L	5.00 - 500	0.5

Volatiles (Continued)

Catalog Number: 4170/4175

Analyte	Units	Concentration Range	PTRL
Carbon tetrachloride	µg/L	10.0 - 140	6
Chlorobenzene	µg/L	10.0 - 120	7.1
Chloroethane	µg/L	20.0 - 100	8
Chloroform	µg/L	12.0 - 95.0	8.1
Chloromethane	µg/L	20.0 - 100	8
cis-1,2-Dichloroethene	µg/L	15.0 - 150	9.6
cis-1,3-Dichloropropene	µg/L	15.0 - 100	10
Dibromochloromethane	µg/L	11.0 - 140	7.2
Dibromomethane	µg/L	5.00 - 50.0	0.5
Dichlorodifluoromethane	µg/L	5.00 - 50.0	0.5
Ethylbenzene	µg/L	9.00 - 100	5.8
Hexachlorobutadiene	µg/L	5.00 - 50.0	0.5
Methylene chloride (Dichloromethane)	µg/L	10.0 - 125	5.8
Methyl-t-butylether (MTBE)	µg/L	15.0 - 100	8.2
Naphthalene	µg/L	5.00 - 50.0	0.5
Styrene	µg/L	20.0 - 100	13
Tetrachloroethene	µg/L	10.0 - 150	4.3
Toluene	µg/L	7.00 - 100	4.9
Total Xylenes	µg/L	20.0 - 300	10
trans-1,2-Dichloroethene	µg/L	10.0 - 150	3.6
trans-1,3-Dichloropropene	µg/L	8.00 - 90.0	3.9
Trichloroethene	µg/L	10.0 - 95.0	6.2
Trichlorofluoromethane	µg/L	20.0 - 100	8
Vinyl acetate	µg/L	5.00 - 500	0.5
Vinyl Chloride	µg/L	20.0 - 100	8

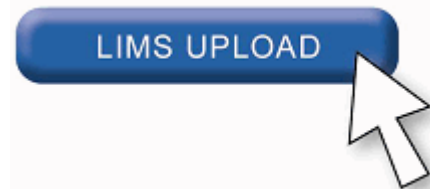
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