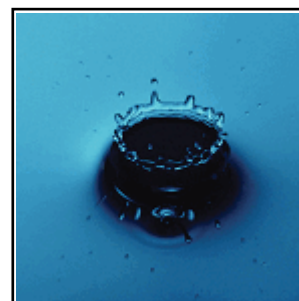
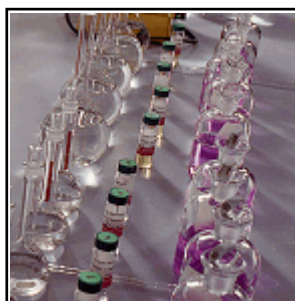
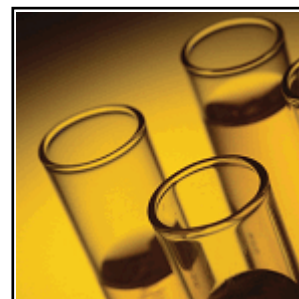
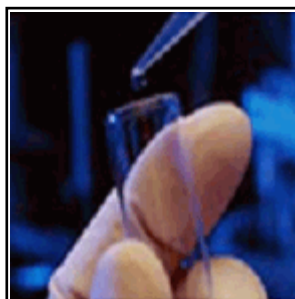




PROFICIENCY TESTING

Sample Preparation Instructions



Study: January 2009 WS

Study Close Date: March 4, 2009

Online data entry at www.APGQA.com



2730 Washington Blvd. Belpre, Ohio 45714
P: (800) 272-4442 F: (740) 423-5588 www.apgqa.com

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

Adipate/Phthalate

Catalog Number: 5390/5395

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

1. Stabilize the ampule to 20°C.
2. Add approximately 800 mL of laboratory grade water to a one (1) Liter volumetric flask.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the volumetric flask.
4. Dilute to the mark with laboratory grade water.
5. Mix the sample.
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.

Analyte	Units	Concentration Range	PTRL
Bis(2-Ethylhexyl) adipate	µg/L	8.00 - 50.0	1.62
bis(2-Ethylhexyl) phthalate	µg/L	9.00 - 50.0	3.2

Benzo(a)pyrene

Catalog Number: 5380/5385

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

1. Stabilize the ampule to 20°C.
2. Add approximately 800 mL of laboratory grade water to a one (1) Liter volumetric flask.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the volumetric flask.
4. Dilute to the mark with laboratory grade water.
5. Mix the sample.
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.

Analyte	Units	Concentration Range	PTRL
Benzo(a)pyrene	µg/L	0.200 - 2.50	0.1

Carbamates & Vydate

Catalog Number: 5410/5415

Store at -4°C

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

1. Stabilize the ampule to 20°C.
2. Add approximately 800 mL of laboratory grade water to a one (1) Liter volumetric flask.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the volumetric flask.
4. Dilute to the mark with laboratory grade water.
5. Mix the sample.
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
3-Hydroxycarbofuran	µg/L	15.0 - 75.0	10
Aldicarb	µg/L	15.0 - 50.0	11
Aldicarb sulfone	µg/L	19.0 - 50.0	16
Aldicarb sulfoxide	µg/L	15.0 - 50.0	11
Baygon (Propoxur)	µg/L	30.0 - 140	23
Carbaryl	µg/L	20.0 - 100	14
Carbofuran	µg/L	15.0 - 150	8.3
Methiocarb	µg/L	30.0 - 140	22
Methomyl	µg/L	15.0 - 90.0	12
Oxamyl (vydate)	µg/L	30.0 - 80.0	23

Chloral Hydrate

Catalog Number: 5430/5435

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

1. Stabilize the ampule to 20°C.
2. Fill a one (1) liter volumetric flask to the mark with laboratory grade water at 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 20 µL and IMMEDIATELY adjust to 10.0 µL.
5. Rapidly inject 10.0 µL of the concentrate under the fill line of the volumetric flask. Remove the needle as fast as possible after injection.
6. Mix the sample by inverting the flask three times only.
7. Analyze the resulting solution as if it were a normal sample.

Analyte	Units	Concentration Range	PTRL
Chloral Hydrate	µg/L	4.00 - 30.0	0.4

Chlorinated Pesticides

Catalog Number: 5340/5345

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

1. Stabilize the ampule to 20°C.
2. Add 1000 mL 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
Aldrin	µg/L	0.400 - 2.00	0.15
Dieldrin	µg/L	0.500 - 3.00	0.32
Endrin	µg/L	0.100 - 5.00	0.07
Heptachlor	µg/L	0.400 - 5.00	0.22
Heptachlor epoxide	µg/L	0.200 - 5.00	0.11
Hexachlorobenzene	µg/L	0.500 - 4.00	0.22
Hexachlorocyclopentadiene	µg/L	2.00 - 30.0	0.24
Lindane	µg/L	0.200 - 5.00	0.11
Methoxychlor	µg/L	10.0 - 100	5.5
Propachlor	µg/L	1.00 - 4.00	0.48
Trifluralin	µg/L	1.00 - 5.00	0.33

Corrosivity

Catalog Number: 5640/5645

This sample is used to determine corrosivity based on the Langlier's Index calculation.

This sample is provided as a whole volume sample. Test as received. Assume 20°C for the calculation of the saturation index units.

Analyte	Units	Concentration Range	PTRL
Corrosivity	SI Units	-4.00 - 4.00	-4.4

Diquat/Paraquat

Catalog Number: 5220/5225

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

1. Stabilize the ampule to 20°C.
2. Add approximately 800 mL of laboratory grade water to a one (1) Liter volumetric flask.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the volumetric flask.
4. Dilute to the mark with laboratory grade water.
5. Mix the sample.
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.

Analyte	Units	Concentration Range	PTRL
Diquat as Diquat dibromide monohydrate	µg/L	8.00 - 40.0	4.1
Paraquat	µg/L	8.00 - 100	4

EDB/DBCP/TCP

Catalog Number: 5310/5315

Store at -4°C

The sample is prepared from the ampule using the directions below.

1. Fill a 100 mL volumetric flask to the mark 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
1,2,3-Trichloropropane	µg/L	0.200 - 2.00	0.12
1,2-Dibromo-3-chloropropane	µg/L	0.100 - 2.00	0.06
1,2-Dibromoethane	µg/L	0.200 - 2.00	0.1

Endothall

Catalog Number: 5230/5235

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

1. Stabilize the ampule to 20°C.
2. Add approximately 800 mL of laboratory grade water to a one (1) Liter volumetric flask.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the volumetric flask.
4. Dilute to the mark with laboratory grade water.
5. Mix the sample.
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.

Analyte	Units	Concentration Range	PTRL
Endothall	µg/L	90.0 - 500	38

Experimental VOCs

Catalog Number: 5620/5625

Store at -4°C

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

1. Stabilize the ampule to 20°C.
2. Fill a 100mL volumetric flask to the mark with laboratory grade water at 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
Di-isopropylether (DIPE)	µg/L	5.00 - 50.0	3
Ethyl-t-butylether (ETBE)	µg/L	5.00 - 50.0	3
Methyl-t-butylether (MTBE)	µg/L	5.00 - 50.0	3
t-Amylmethylether (TAME)	µg/L	5.00 - 50.0	3
tert-Butyl alcohol	µg/L	5.00 - 50.0	3
Trichlorofluoromethane	µg/L	5.00 - 50.0	3
Trichlorotrifluoroethane	µg/L	5.00 - 50.0	3

Glyphosate

Catalog Number: 5210/5215

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

1. Stabilize the ampule to 20°C.
2. Add approximately 800 mL of laboratory grade water to a one (1) Liter volumetric flask.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the volumetric flask.
4. Dilute to the mark with laboratory grade water.
5. Mix the sample.
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.

Analyte	Units	Concentration Range	PTRL
Glyphosate	µg/L	375 - 800	320

Haloacetic Acids

Catalog Number: 5420/5425

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

1. Stabilize the ampule to 20°C.
2. Add approximately 800 mL of laboratory grade water to a one (1) Liter volumetric flask.
3. Open the ampule, withdraw and add approximately 1.0 mL of the concentrate to the volumetric flask.
4. Dilute to the mark with laboratory grade water and mix.
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.

Analyte	Units	Concentration Range	PTRL
Bromochloroacetic acid	µg/L	10.0 - 50.0	6
Dibromoacetic acid	µg/L	10.0 - 50.0	6
Dichloroacetic acid	µg/L	10.0 - 50.0	6
Monobromoacetic acid	µg/L	10.0 - 50.0	6
Monochloroacetic acid	µg/L	10.0 - 50.0	6
Trichloroacetic acid	µg/L	10.0 - 50.0	6

Herbicides

Catalog Number: 5350/5355

Store at 4 °C.

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

1. Stabilize the ampule to 20°C.
2. Add approximately 800 mL of laboratory grade water to a one (1) Liter volumetric flask.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the volumetric flask.
4. Dilute to the mark with laboratory grade water.
5. Mix the sample.
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.

Analyte	Units	Concentration Range	PTRL
2,4,5-T	µg/L	10.0 - 100	3.9
2,4,5-TP (silvex)	µg/L	5.00 - 150	2.5
2,4-D	µg/L	5.00 - 150	2.5
2,4-DB	µg/L	15.0 - 100	6
3,5-Dichlorobenzoic acid	µg/L	10.0 - 100	5
4-Nitrophenol	µg/L	5.00 - 150	2.5
Acifluorfen	µg/L	15.0 - 50.0	1.5
Bentazon	µg/L	10.0 - 140	1.5
Chloramben	µg/L	20.0 - 100	10
Dacthal diacid (DCPA)	µg/L	20.0 - 100	2
Dalapon	µg/L	10.0 - 150	1
Dicamba	µg/L	5.00 - 100	1.9
Dichloroprop	µg/L	10.0 - 100	4.7
Dinoseb	µg/L	6.00 - 50.0	0.95
Pentachlorophenol	µg/L	1.00 - 100	0.5
Picloram	µg/L	10.0 - 70.0	2

Hexavalent Chromium

Catalog Number: 5460/5465

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.

Please notice there has been a change in units for reporting this analyte. Results are to be reported in micrograms per liter (µg/L).

Analyte	Units	Concentration Range	PTRL
Chromium, Hexavalent	µg/L	5.00 - 50.0	4.5

Inorg Disinfection #1

Catalog Number: 5270/5275

Pipet 5.0 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
Chlorate	µg/L	60.0 - 180	47
Chlorite	µg/L	100 - 1000	70

Inorg Disinfection #2

Catalog Number: 5260/5265

Pipet 5.0 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	µg/L	7.00 - 50.0	4.9
Bromide	µg/L	75.0 - 500	52

MBAS

Catalog Number: 5470/5475

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	0.0500 - 1.00	0.028

Micro Standard Plate Count**Catalog Number: 5510/5515**

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 heterotrophic bacteria 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.

Freeze the sample vial upon arrival. Keep the freeze dried sample frozen until time of reconstitution. The Phosphate Buffer should be store at room temperature. Once the samples are 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 5-500 CFU/mL

Record the results of the analysis in CFU/mL 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
Heterotrophic Plate Count (SPC) by MF	CFU/mL	5.00 - 500	1
Heterotrophic Plate Count (SPC) by PP	CFU/mL	5.00 - 500	1

Minerals**Catalog Number: 5080/5085**

One sample is prepared from the two vials. Caution should be taken not to directly mix the contents of the two vials.

Add 900 mL of laboratory grade water to a one 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.

Caution: This sample may be tested for either **Calcium Hardness** or **Total Hardness as CaCO₃**. The USEPA has defined Calcium Hardness as the Calcium component of Total Hardness. USEPA recommends that laboratories use ASTM Method D511-93A or Standard Methods 3500-Ca-B to test Calcium Hardness. **If your Hardness method includes Magnesium then you should report your results under Total Hardness as CaCO₃.**

Analyte	Units	Concentration Range	PTRL
Alkalinity as CaCO ₃	mg/L	25.0 - 200	23
Calcium	mg/L	30.0 - 90.0	26
Calcium Hardness as CaCO ₃	mg/L	75.0 - 375	66
Chloride	mg/L	5.00 - 100	3.5
Conductivity	µmhos	250 - 2500	225
Magnesium	mg/L	2.00 - 20.0	1.7
Potassium	mg/L	10.0 - 40.0	8.5
Sodium	mg/L	12.0 - 24.0	11
Sulfate	mg/L	5.00 - 500	3.1
Total Dissolved Solids at 180°C	mg/L	200 - 450	135
Total Hardness as CaCO ₃	mg/L	83.0 - 307	74

Nitrate+Nitrite as N**Catalog Number: 5860/5865**

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	3.50 - 9.00	3

Nitrogen Pesticides

Catalog Number: 5360/5365

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

1. Stabilize the ampule to 20°C.
2. Add 1000 mL 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	PTRL
		Range	
Alachlor	µg/L	2.00 - 20.0	1.1
Atrazine	µg/L	3.00 - 30.0	1.6
Bromacil	µg/L	2.00 - 20.0	1.1
Butachlor	µg/L	8.00 - 80.0	4.5
Diazinon	µg/L	5.00 - 50.0	2.7
Metolachlor	µg/L	8.00 - 80.0	5.3
Metribuzin	µg/L	2.00 - 60.0	0.64
Molinate (Ordram)	µg/L	5.00 - 50.0	2.7
Prometon	µg/L	5.00 - 50.0	2.7
Simazine	µg/L	4.00 - 40.0	1
Thiobencarb	µg/L	5.00 - 50.0	2.7

Nutrients

Catalog Number: 5140/5145

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

Three separate samples are prepared from the three vials. Caution should be taken not to mix the contents of the vials.

Sample 1 (Orthophosphate as P and Nitrate as N)

Pipet 10.0 mL of vial #1 into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water. This sample may be tested for Nitrate Nitrogen as N and Orthophosphate-P.

Sample 2 (Fluoride)

Pipet 10.0 mL of vial #2 into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water. This sample may be tested for Fluoride.

Sample 3 (Nitrite as N)

Pipet 10.0 mL of vial #3 into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water. This sample may be tested for Nitrite as N.

Analyte	Units	Concentration	PTRL
		Range	
Fluoride	mg/L	1.00 - 8.00	0.9
Nitrate Nitrogen as N	mg/L	3.00 - 10.0	2.7
Nitrite as N	mg/L	0.400 - 2.00	0.34
Orthophosphate as P	mg/L	0.500 - 5.50	0.4

PAH/Phthalates

Catalog Number: 5630/5635

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

1. Stabilize the ampule to 20°C.
2. Add approximately 800 mL of laboratory grade water to a one (1) Liter volumetric flask.
3. Open the ampule, withdraw and add exactly 1.0 mL of the concentrate to the volumetric flask.
4. Dilute to the mark with laboratory grade water.
5. Mix the sample.
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.

Analyte	Units	Concentration	PTRL
		Range	
Acenaphthene	µg/L	1.00 - 10.0	0.5
Acenaphthylene	µg/L	1.00 - 10.0	0.5
Anthracene	µg/L	1.00 - 10.0	0.5
Benzo(a)anthracene	µg/L	1.00 - 10.0	0.5
Benzo(b)fluoranthene	µg/L	1.00 - 10.0	0.5
Benzo(g,h,i)perylene	µg/L	1.00 - 10.0	0.5
Benzo(k)fluoranthene	µg/L	1.00 - 10.0	0.5
Benzyl butyl phthalate	µg/L	10.0 - 50.0	4
Chrysene	µg/L	1.00 - 10.0	0.5
Dibenz(a,h) anthracene	µg/L	1.00 - 10.0	0.5
Diethyl phthalate	µg/L	10.0 - 50.0	4
Dimethyl phthalate	µg/L	10.0 - 50.0	4
Di-n-butylphthalate	µg/L	10.0 - 50.0	4
Di-n-octylphthalate	µg/L	10.0 - 50.0	4
Fluoranthene	µg/L	1.00 - 10.0	0.5
Fluorene	µg/L	1.00 - 10.0	0.5
Indeno (1,2,3-cd) pyrene	µg/L	1.00 - 10.0	0.5
Naphthalene	µg/L	2.00 - 50.0	1.2
Phenanthrene	µg/L	1.00 - 10.0	0.5
Pyrene	µg/L	1.00 - 10.0	0.5

PCBs

Catalog Number: 5400/5405

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

1. Stabilize the ampule to 20°C.
2. Add 1000 mL 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	PTRL
		Range	
PCB Aroclor Identification			
PCB as Decachlorobiphenyl	µg/L	0.500 - 5.00	0.05

Perchlorate

Catalog Number: 5610/5615

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
Perchlorate	µg/L	4.00 - 20.0	3.2

pH

Catalog Number: 5060/5065

This sample is supplied as a full volume sample. Test sample as received.

Analyte	Units	Concentration Range	PTRL
pH	Units	5.00 - 10.0	4.8

Regulated Volatiles

Catalog Number: 5320/5325

Store at -4°C

The sample is prepared from the ampule using the directions below.

1. Fill a 100 mL volumetric flask to the mark with laboratory grade water at 20°C water.
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-Trichloroethane	µg/L	2.00 - 20.0	1.2
1,1,2-Trichloroethane	µg/L	2.00 - 20.0	1.2
1,1-Dichloroethene	µg/L	2.00 - 20.0	1.2
1,2,4-Trichlorobenzene	µg/L	2.00 - 20.0	1.2
1,2-Dichlorobenzene	µg/L	5.00 - 20.0	3
1,2-Dichloroethane	µg/L	2.00 - 20.0	1.2
1,2-Dichloropropane	µg/L	2.50 - 20.0	1.5
1,4-Dichlorobenzene	µg/L	2.50 - 20.0	1.5
Benzene	µg/L	2.50 - 20.0	1.5
Carbon tetrachloride	µg/L	2.50 - 20.0	1.5
Chlorobenzene	µg/L	2.00 - 50.0	1.2
cis-1,2-Dichloroethene	µg/L	2.00 - 50.0	1.2
Dichloromethane	µg/L	5.00 - 20.0	4
Ethylbenzene	µg/L	2.00 - 20.0	1.2
Styrene	µg/L	2.00 - 20.0	1.2
Tetrachloroethene	µg/L	2.00 - 20.0	1.2
Toluene	µg/L	2.00 - 20.0	1.2
Total Xylenes	µg/L	2.00 - 50.0	1.2
trans-1,2-Dichloroethene	µg/L	2.00 - 50.0	1.2
Trichloroethene	µg/L	2.00 - 20.0	1.2
Vinyl Chloride	µg/L	1.00 - 50.0	0.6

Residual Chlorine

Catalog Number: 5160/5165

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
Residual Free Chlorine	mg/L	0.500 - 3.00	0.37
Total Residual Chlorine	mg/L	0.500 - 3.00	0.4

Silica

Catalog Number: 5850/5855

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	5.00 - 50.0	4.2

Solids

Catalog Number: 5150/5155

1. Record lot number on the vial in the Data Return Booklet.
2. Solids should be analyzed immediately after preparation.
3. Sample 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.

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 the flask to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Total Dissolved Solids at 180°C	mg/L	200 - 450	135
Total Solids	mg/L	205 - 650	20.5
Total Suspended Solids	mg/L	5.00 - 200	5

Source Water (KY)**Catalog Number: 5530**

This sample has been designed to meet the requirements of the state of Kentucky.

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 Fecal Coliforms as *E. coli*. in the range 100 to 1000 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.

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 samples are 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 100-1000 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
Fecal Coliforms as <i>E. Coli.</i> - MF	CFU/100mL	100 - 1000	2
Fecal Coliforms as <i>E. Coli.</i> - MPN	MPN/100mL	100 - 1000	2

Total Chlordane**Catalog Number: 5370/5375**

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

1. Stabilize the ampule to 20°C.
2. Add 1000 mL 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
Chlordane	µg/L	2.00 - 20.0	1.1

Total Coliform - Total Fecal (Presence / Absence)**Catalog Number: 5500/5505**

These microbiological test samples are designed for the qualitative determination of fecal and total coliforms in water. Each kit consists of ten (10) freeze dried samples in sealed vials, ten (10) sterile transfer pipettes and ten (10) bottles of sterile Phosphate Buffer. Each vial contains one of the following: *Escherichia coli*, *Enterobacter aerogenes*, *Pseudomonas aeruginosa*, or a sterile blank. Testing laboratories are to designate the contents of each vial as to the presence or absence of total coliform bacteria and fecal coliform bacteria based on accepted microbial methods.

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.

Freeze sample vials upon arrival. Keep the freeze dried sample frozen until time of reconstitution. Phosphate Buffer solution should be stored at room temperature. Once the samples are reconstituted, testing should proceed immediately. Unused sample should be disposed in accordance with institutional and government guidelines.

The microbiological test samples are provided freeze dried in aseptically sealed 5 ml vials. Prior to analysis, the contents of each vial must be reconstituted using phosphate buffer solution provided. The following steps are to be performed on each of the ten vials for reconstitution:

1. Add approximately one (1) mL of the Phosphate Buffer solution buffer to the vial containing the lyophilized microorganisms using the sterile 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 pipette.
4. Shake the bottle to disperse the organisms. The sample is now ready for analysis.
5. Proceed with microbiological analysis of total and fecal coliform by an approved method.

Record the results of the analysis on the provided data reporting form. To be evaluated properly, presence or absence must be reported for each vial. If you are only certified for Total Coliform or Fecal Coliform, report only the results you are required to report.

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.

Total Cyanide**Catalog Number: 5030/5035**

Add two grams of sodium hydroxide and 900 mL of laboratory grade water to a one(1) Liter volumetric flask. Then 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 - 0.500	0.075

Total Organic Carbon (TOC)**Catalog Number: 5250/5255**

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 Organic Carbon	mg/L	1.20 - 4.90	0.93

Total Toxaphene

Catalog Number: 5450/5455

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

1. Stabilize the ampule to 20°C.
2. Add 1000 mL of laboratory pure grade 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
Toxaphene	µg/L	3.00 - 20.0	1.6

Trace Metals

Catalog Number: 5070/5075

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

Sample 2 should be tested for Antimony, Boron, and Molybdenum. All other metals listed are contained in Sample 1.

Vial #1

Pipet 1.5 mL 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. Label as Sample 1.

Vial #2

Pipet 1.5 mL of reagent grade Nitric Acid and 10.0 mL of vial #2 into a one (1) Liter volumetric flask and dilute to mark with laboratory grade water. Label as Sample 2.

Analyte	Units	Concentration Range	PTRL
Aluminum	µg/L	130 - 2500	100
Antimony	µg/L	6.00 - 50.0	4.2
Arsenic	µg/L	5.00 - 50.0	3.5
Barium	µg/L	500 - 3000	420
Beryllium	µg/L	1.00 - 10.0	0.85
Boron	µg/L	800 - 2000	700
Cadmium	µg/L	2.00 - 50.0	1.6
Chromium	µg/L	10.0 - 200	8.5
Copper	µg/L	50.0 - 2000	45
Iron	µg/L	100 - 1800	70
Lead	µg/L	5.00 - 100	3.5
Manganese	µg/L	40.0 - 900	35
Mercury	µg/L	0.500 - 10.0	0.35
Molybdenum	µg/L	15.0 - 130	12
Nickel	µg/L	10.0 - 500	8.5
Selenium	µg/L	10.0 - 100	8
Silver	µg/L	20.0 - 300	16
Thallium	µg/L	2.00 - 10.0	1.4
Vanadium	µg/L	315 - 2500	280
Zinc	µg/L	400 - 2500	360

Trihalomethanes

Catalog Number: 5300/5305

Store at -4°C

The sample is prepared from the ampule using the directions below.

1. Fill a 100 mL volumetric flask to the mark 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
Bromodichloromethane	µg/L	10.0 - 50.0	8
Bromoform	µg/L	10.0 - 50.0	8
Chloroform	µg/L	10.0 - 50.0	8
Dibromochloromethane	µg/L	10.0 - 50.0	8

Turbidity

Catalog Number: 5190/5195

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	0.500 - 8.00	0.37

Unregulated Volatiles

Catalog Number: 5330/5335

Store at -4°C

The sample is prepared from the ampule, using the directions below. The enclosed ampule when properly diluted will give known concentrations for SOME OR ALL of the compounds listed.

1. Fill a 100 mL volumetric flask to the mark 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	5.00 - 50.0	3
1,1,2,2-Tetrachloroethane	µg/L	5.00 - 50.0	3
1,1-Dichloroethane	µg/L	5.00 - 50.0	3
1,1-Dichloropropene	µg/L	5.00 - 50.0	3
1,2,3-Trichlorobenzene	µg/L	5.00 - 50.0	3
1,2,3-Trichloropropane	µg/L	5.00 - 50.0	3
1,2,4-Trimethylbenzene	µg/L	5.00 - 50.0	3
1,3,5-Trimethylbenzene	µg/L	5.00 - 50.0	3
1,3-Dichlorobenzene	µg/L	5.00 - 50.0	3
1,3-Dichloropropane	µg/L	5.00 - 50.0	3
2,2-Dichloropropane	µg/L	5.00 - 50.0	3
2-Chlorotoluene	µg/L	5.00 - 50.0	3
4-Chlorotoluene	µg/L	5.00 - 50.0	3
4-Isopropyltoluene	µg/L	5.00 - 50.0	3
Bromobenzene	µg/L	5.00 - 50.0	3
Bromochloromethane	µg/L	5.00 - 50.0	3
Bromodichloromethane	µg/L	10.0 - 50.0	8
Bromoform	µg/L	10.0 - 50.0	8
Bromomethane	µg/L	5.00 - 50.0	3
Chlorodibromomethane	µg/L	10.0 - 50.0	8
Chloroethane	µg/L	5.00 - 50.0	3
Chloroform	µg/L	10.0 - 50.0	8
Chloromethane	µg/L	5.00 - 50.0	3
cis-1,3-Dichloropropene	µg/L	5.00 - 50.0	3
Dibromomethane	µg/L	5.00 - 50.0	3
Dichlorodifluoromethane	µg/L	5.00 - 50.0	3
Fluorotrichloromethane	µg/L	5.00 - 50.0	3
Hexachlorobutadiene	µg/L	5.00 - 50.0	3
Isopropylbenzene	µg/L	5.00 - 50.0	3
Methyl-t-butylether (MTBE)	µg/L	5.00 - 50.0	3

Unregulated Volatiles (Continued)

Catalog Number: 5330/5335

Analyte	Units	Concentration Range	PTRL
Naphthalene	µg/L	5.00 - 50.0	3
n-Butylbenzene	µg/L	5.00 - 50.0	3
n-Propylbenzene	µg/L	5.00 - 50.0	3
sec-Butylbenzene	µg/L	5.00 - 50.0	3
tert-Butylbenzene	µg/L	5.00 - 50.0	3
trans-1,3-Dichloropropene	µg/L	5.00 - 50.0	3

UV 254/DOC

Catalog Number: 5480/5485

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

Analyte	Units	Concentration Range	PTRL
Dissolved Organic Carbon (DOC)	mg/L	1.20 - 4.90	0.93
UV254	cm-1	0.0200 - 0.700	0.0047

Vanadium (California)

Catalog Number: 5090/5095

Pipet 2 to 5 mL of reagent grade Nitric Acid and 10.0 mL of concentrate into a one (1) Liter volumetric flask and dilute to the mark with laboratory grade water.

Analyte	Units	Concentration Range	PTRL
Vanadium	µg/L	5.00 - 50.0	3.5

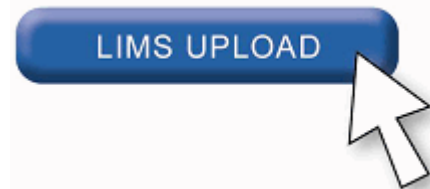
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