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## **Receipt and Handling of Samples**

### **Procedures**

HEAL does not provide field sampling for any projects. Sample kits are prepared and provided for clients upon request. The sample kits contain the appropriate sampling containers (with a preservative when necessary), labels, blue ice, a cooler, chain-of-custody forms, plastic bags, bubble wrap, and any special sampling instructions. The sample control manager reviews the kits prior to shipment.

### **Containers**

Containers which are sent out for sampling are purchased by HEAL from a commercial source. Glass containers are certified "EPA Cleaned" QA level 1. Those containers are received with a Certificate of Analysis verifying that the containers have been cleaned according to the EPA wash procedure.

### **Preservation**

If sampling for an analyte(s) requires preservation, the sample custodians fortify the containers prior to shipment to the field. The required preservative is introduced into the vials in uniform amounts and done so rapidly to minimize the risk of contamination. Vials that contain a preservative are labeled appropriately.

The following contains tables specifying additional preservation requirements for samples:  
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## Tables of Standard Holding Times, Preservation, and Containers

### Organic Compounds

Compound	Matrix	Container	Preservative	Holding Time
Purgeable halocarbons and aromatics	aqueous	40 mL glass voas, teflon-lined septum	HgCl <sub>2</sub> , or HCl, pH <2; cool	14 days to analysis
Purgeable halocarbons and aromatics	Soil/MeOH*	4 oz. Jar/2-20 ml VOAs w/ methanol	cool, 4 ° C	14 days to analysis
Semi-volatiles	aqueous	1 L amber	cool, 4 ° C	7 days to extract, 40 days after extraction to analyze
Semi-volatiles	soil	8 oz. Jar	cool, 4 ° C	14 days to extract, 40 days after extraction to analyze
PCBs, pesticides, herbicides	aqueous	1 L amber	cool, 4 ° C	7 days to extract, 40 days after extraction to analyze
PCBs, pesticides, herbicides	soil	8 oz. Jar	cool, 4 ° C	14 days to extract, 40 days after extraction to analyze

\*Use of field methanol kits are available and recommended for the PSTB.

## Inorganic Compounds

Compound	Matrix	Container	Preservative	Holding Time
Acidity	aqueous	250-mL HDP	cool, 4 ° C	14 days
Alkalinity	aqueous	250-mL HDP	cool, 4 ° C	14 days
Ammonia	aqueous	1-L HDP	cool, 4 ° C, H 2SO 4 pH<2	28 days
Biochemical Oxygen Demand	aqueous	2-L HDP	cool, 4 ° C	48 hours
Bromide	aqueous	250-mL HDP	none required	28 days
Chemical Oxygen Demand	aqueous	125-mL HDP	cool, 4 ° C, H 2SO 4 pH<2	28 days
Chloride	aqueous	125-mL HDP	none required	28 days
Chloride	solid	4-oz jar	none required	28 days
Chlorine, total residual	aqueous	500-mL HDP	none required	analyze immediately
Chromium VI	aqueous	250-mL HDP	cool, 4 ° C	24 hours
Chromium VI	solid	8-oz jar	cool, 4 ° C	as soon as possible
Color	aqueous	125-mL HDP	cool, 4 ° C	48 hours
Cyanide	aqueous	1-L HDP	cool, 4 ° C NaOH pH>12	14 days
Cyanide	solid	4-oz jar	cool, 4 ° C	14 days
Fluoride	aqueous	500-mL HDP	none required	28 days
Hardness	aqueous	250-mL HDP	HNO 3 or H 2SO 4 pH<2	6 months
Hydrogen ion (pH)	aqueous	60-mL HDP	none required	analyze immediately
Hydrogen ion (pH)	solid	4-oz jar	none required	analyze immediately
Kjeldahl and organic nitrogen	aqueous	1-L HDP	cool, 4 ° C, H 2SO 4 pH<2	28 days
Mercury	aqueous	250-mL HDP	HNO 3 pH < 2	28 days
Mercury	solid	8-oz jar	none required	28 days
Metals (except Cr VI and Hg)	aqueous	500-mL HDP	HNO 3 pH < 2	6 months
Metals (except Cr VI and Hg)	solid	8-oz jar		6 months
Nitrate	aqueous	250-mL HDP	cool, 4 ° C	48 hours
Nitrate	solid	8-oz jar	cool, 4 ° C	analyze immediately
Nitrate-Nitrite	aqueous	250-mL HDP	cool, 4 ° C, H 2SO 4 pH<2	28 days
Nitrate-Nitrite	solid	8-oz jar	cool, 4 ° C	28 days
Nitrite	aqueous	125-mL HDP	cool, 4 ° C	48 hours
Oil and Grease	aqueous	2-L wide-mouth glass	cool, 4 ° C, H 2SO 4 pH<2	28 days
Oil and Grease	solid	2-L wide-mouth glass	cool, 4 ° C	28 days

Compound	Matrix	Container	Preservative	Holding Time
Organic Carbon	aqueous	125-mL HDP	cool, 4 ° C, HCl or H <sub>2</sub> SO <sub>4</sub> pH<2	28 days
Organic Carbon	solid	4-oz jar	cool, 4 ° C	28 days
Orthophosphate	aqueous	125-mL HDP	Cool, 4 ° C	48 hours
Phenolics	aqueous	1-L Boston Round	cool, 4 ° C, H <sub>2</sub> SO <sub>4</sub> pH<2	28 days
Phenolics	solid	8-oz jar (glass only)	cool, 4 ° C	28 days
Phosphorous (elemental)	aqueous	1-L Boston Round	cool, 4 ° C	48 hours
Phosphorous (total)	aqueous	125-mL HDP	cool, 4 ° C, H <sub>2</sub> SO <sub>4</sub> pH<2	28 days
Residue, total	aqueous	250-mL HDP	cool, 4 ° C	7 days
Residue, filterable(TDS)	aqueous	250-mL HDP	cool, 4 ° C	7 days
Residue, non-filterable (TSS)	aqueous	250-mL HDP	cool, 4 ° C	7 days
Residue, settleable	aqueous	Imhoff Cone	cool, 4 ° C	48 hours
Residue, volatile	aqueous	250-mL HDP	cool, 4 ° C	7 days
Silica	aqueous	125-mL HDP	cool, 4 ° C	28 days
Specific conductance	aqueous	250-mL HDP	cool, 4 ° C	28 days
Specific conductance	solid	8-oz jar	cool, 4 ° C	28 days
Sulfate	aqueous	125-mL HDP	cool, 4 ° C	28 days
Sulfate	solid	4-oz jar	cool, 4 ° C	28 days
Sulfide	aqueous	1-L HDP	cool, 4 ° C, ZnAc + NaOH pH>9	7 days
Sulfide	solid	8-oz jar	cool, 4 ° C	7 days
Surfactants	aqueous	500-mL HDP	cool, 4 ° C	48 hours
Turbidity	aqueous	250-mL HDP	cool, 4 ° C	48 hours