TRAINING PROGRAM FOR OEPRATORS OF EFFLUENT TREATMENT PLANTS

PROGRAM - DAY 8 SESSION 6:ETP MONITORING

Chart for Wastewater Sampling

This chart has been adopted from EPA Guidelines: Regulatory Monitoring and Testing - *Water and wastewater sampling* (2007). The parameters listed are limited to those that are regulated under Schedule 10 – Effluent Discharge Limits for Industrial Units of Bangladesh Environmental Conservation Rules 1997 (ECR'1997).

Parameter	Container type	Typical volume (mL)	Filling technique	Preservation	Holding time	Notes
PHYSICAL & AGGREGATE SAMPLES						
Acidity & Alkalinity	Plastic or Glass	500	fill container completely to exclude air	Refrigerate or cool at 4°C	24 hours	preferable to analyze sample in field
Color—true	Plastic or Glass	500	fill container completely to exclude air	refrigerate and store in the dark	2 days	
Conductivity (at 25°C)	Plastic or Glass	100	fill container completely to exclude air		24 hours	preferably carried out in field
Dissolved Oxygen	Glass			fix oxygen in the field and store in the dark (as per method of analysis used)	24 hours	preferably carried out in field
pH	Plastic or Glass	100				carry out test as soon as possible and preferably in situ

Solids (suspended or dissolved)	Plastic	500	For dissolved: fill container completely to exclude air	Cool, 4°C	7 days	
Turbidity	Plastic	250		Cool, 4°C	2 days	
ORGANICS						
Biochemical oxygen demand (BOD_5 20°C)	Plastic	500	fill container completely to exclude air	Refrigerate or cool at 4°C and store in the dark	1 day	
Chemical oxygen demand (COD)	Plastic	500	fill container completely to exclude air	Acidify with sulfuric acid to pH 1 to 2, refrigerate and store in dark	1 week	
Oil and grease	Amber Glass	1000	do not fill container completely	Acidify with sulfuric acid to pH 1 to 2, and refrigerate	28 days	
Phenolics	Amber Glass	1000		Acidify with sulfuric acid to pH 1 to 2, and refrigerate	28 days	
METALS						
Beryllium, cadmium, chromium, cobalt Copper, lead, manganese, Molybdenum, Nickel, silver,tin zinc	Plastic	500		acidify with nitric acid to pH 1 to 2	1 month	
Boron	Plastic	100	fill container completely to exclude air		1 month	
Chromium (VI)	Plastic	100	fill container completely to	Refrigerate	1 day	sample container should be rinsed thoroughly

			exclude air			
Iron (Fe)	Plastic	500	fill container completely to exclude air	acidify with nitric acid to pH 1 to 2	1 month	
Mercury	Glass	500		acidify with nitric acid to pH 1 to 2	1 month	
Selenium	Plastic	500		acidify with nitric or hydrochloric acid to pH 1 to 2	1 month	
INORGANIC						
Ammonia	Glass	500		Refrigerate	1 day	strict protocol required to reduce effects of contamination
Chlorine	Amber Glass	500		Keep out of direct sunlight, analyze immediately	5 minutes	this analysis should be carried out in the field within 5 minutes of sample collection
Cyanide	Plastic	1 liter		add sodium hydroxide to pH >12, refrigerate and store in the dark	14 days	
Fluoride	Plastic	500			28 days	
Nitrate	Plastic	250		Cool, 4°C	2 days	
Sulfide	Plastic	500		Preserve with zinc acetate for laboratory analysis. pH > 9	7 days	
Dissolved Phosphorus	Plastic	150		field filter through cellulose acetate membrane and refrigerate or field filter and freeze	2 days	
Total Nitrogen	Plastic or Glass	500		Refrigerate or Freeze	25 days	