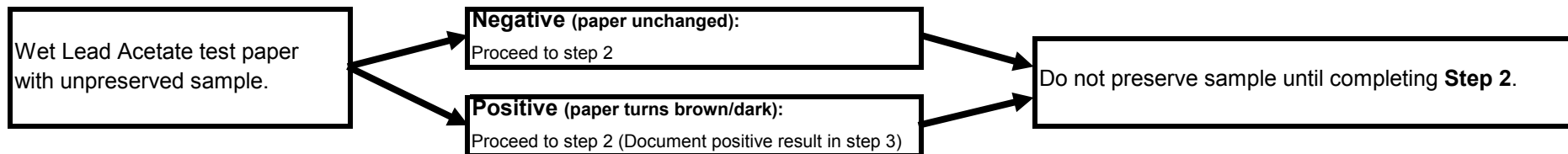


Cyanide Pre-testing, Pre-treatment and Preservation Instructions

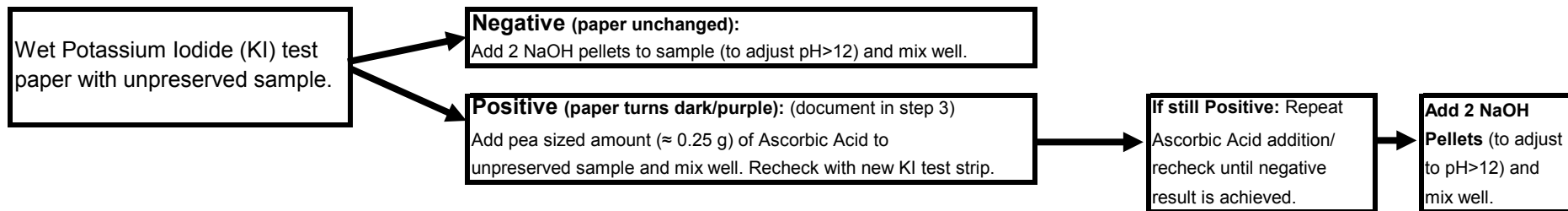
Samples for cyanide testing may have analytical interferences from compounds present in the sample including residual chlorine, hypochlorite, oxidants, and sulfide. The EPA recommends pre-testing, pre-treatment and preservation at the time of sampling (Federal Register, Volume 72, No. 47, Monday, March 12, 2007, Rules and Regulations, Part III, Environmental Protection Agency, 40 CFR, Part 136, Table II, Required Containers, Preservation Techniques and Holding Times).

Always pre-test cyanide samples for sulfide and residual chlorine PRIOR to sample pre-treatment and/or preservation.

Step 1: Cyanide Pre-test for Sulfide using lead acetate test paper.



Step 2: Cyanide Pre-test for Residual Chlorine, Hypochlorite & Oxidants using Potassium Iodide (KI) test paper.



Step 3: Document any **positive** results here:

| | | |
|------------------|---|--|
| Sample ID: _____ | <input type="radio"/> positive for Sulfide (Lead Acetate Paper) | <input type="radio"/> positive for Residual Chlorine, Hypochlorite & Oxidants (KI paper) |
| Sample ID: _____ | <input type="radio"/> positive for Sulfide (Lead Acetate Paper) | <input type="radio"/> positive for Residual Chlorine, Hypochlorite & Oxidants (KI paper) |
| Sample ID: _____ | <input type="radio"/> positive for Sulfide (Lead Acetate Paper) | <input type="radio"/> positive for Residual Chlorine, Hypochlorite & Oxidants (KI paper) |
| Sample ID: _____ | <input type="radio"/> positive for Sulfide (Lead Acetate Paper) | <input type="radio"/> positive for Residual Chlorine, Hypochlorite & Oxidants (KI paper) |

Step 4: Initial here to document that all samples were pre-treated with ascorbic acid (if necessary) and preserved with NaOH to pH>12.

Step 5: Keep samples on ice to ≤6°C until they are received by laboratory. Include this worksheet with samples.



Cyanide Interferences - Matrix Spike Request Form

Samples for NPDES/CWA cyanide testing may have analytical interferences from compounds present in the sample including elemental sulfur, sulfite, thiosulfate and thiocyanate. The EPA recommends that pretreatment procedures be performed at the time of sampling (EPA¹).

To evaluate the presence or absence of these potential interferences we recommend a matrix spike sample. A matrix spike is an amount of cyanide added to the sample at the laboratory and assessed for percent recovery. Matrix spike recoveries in the range of 80% - 120% indicate an absence of interferences without pretreatment. Matrix spike recoveries outside this range may indicate the need for sample pretreatment. The matrix spike should be requested and documented once per matrix or sample source if the compounds listed are present or unknown.

Request a matrix spike _____ for sample ID _____

Request a matrix spike _____ for sample ID _____

Request a matrix spike _____ for sample ID _____

Request a matrix spike _____ for sample ID _____

Request a matrix spike _____ for sample ID _____

Signature _____ date ____/____/____

Requested matrix spike samples are invoiced at standard cyanide testing rates.

Contact us with any questions

¹ Federal Register, Volume 72, No. 47, Monday, March 12, 2007, Rules and Regulations, Part III, Environmental Protection Agency, 40 CFR, Part 136, Table II, Required Containers, Preservation Techniques and Holding Times.