CN Sampling Instructions

Revision 001

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Revision History

Revision #	Change:	Date
000	Initial Writing of SOP	6/26/2012
001	Changed BOL# from 5501 to 4501 to better fit in Automated section numbering	6/4/2014

Table of Contents

Section 1. Purpose

1.1 This SOP provides guidance for preservation and dechlorination of samples requiring Cyanide analysis.

Section 2. Applicability

2.1 This SOP is applicable to both Non-chlorinated and Chlorinated waters requiring Cyanide analysis.

Section 3. Personnel Qualification and Responsibilities

3.1 Any Bureau of Laboratories client requesting Cyanide analysis shall follow the procedures in this SOP.

Section 4. Definitions

4.1 Standard Operating Procedure (SOP) - a written document that describes, in detail, how to perform an activity, work process, or test method. SOPs may be written for a repetitive technical activity or for an administrative process.

Section 5. Summary

5.1 This SOP describes the process to be used for the preservation and dechlorination of samples requiring Cyanide analysis.

Section 6. Guidance for Preservation and Dechlorination of Samples Requiring Cyanide Analysis

6.1 If the sample is from a Non-chlorinated source

6.1.1 Preserve the sample by adding enough Sodium Hydroxide to produce a sample pH of 12 or greater.

6.1.2 NEVER add Ascorbic Acid to a sample from a non-chlorinated water source. This can lead to erroneous Cyanide test results.

6.1.3 Maintain the sample temperature at 4°C from the time of collection until receipt at the Bureau of Laboratories.

6.2 If the sample is from a chlorinated source

6.2.1 Collect the sample using a 500 mL sample container.

6.2.2 First preserve the sample by adding enough Sodium Hydroxide to produce a sample pH of 12 or greater.

6.2.3 De-chlorinate the 500 mL sample by adding 0.1 grams of Ascorbic Acid (from Green-Labeled amber vial).

6.2.4 Mix the sample, then test for the presence of free chlorine using KI starch paper (A drop of the sample on the KI starch paper should produce no color change, but the paper will turn blue if the sample contains free chlorine).

6.2.4.1 If there is no free chlorine detected, add another 0.03 grams of Ascorbic Acid (from Red-Labeled amber vial).

6.2.5 If free chlorine is detected after the addition of the first vial of Ascorbic Acid, add another 0.1 grams of Ascorbic Acid (from another Green-Labeled amber vial) and

test again using KI starch paper. When the testing indicates there is no free chlorine, add 0.03 grams of Ascorbic Acid (from Red-Labeled amber vial).

6.2.6 Do not add extra Ascorbic Acid beyond what has been described in these instructions as it can lead to erroneous Cyanide test results.

6.2.7 Maintain the sample temperature at 4°C from the time of collection until receipt at the Bureau of Laboratories.

6.2.8 De-chlorinated samples must be analyzed by the laboratory within 24 hours from the time of collection. Boldly label the Sample Submission Sheet: **CN Sample from Chlorinated Source: 24-Hour Holding Time**. It is also suggested that you call in advance (Bureau of Laboratories: 717-346-7200).

Section 7. Quality Assurance and Quality Control

7.1 Ensure that the Sodium Hydroxide used for sample preservation or the Ascorbic Acid used for dechlorination of a sample from a chlorinated source is not expired.

Section 8. References

8.1 EPA Method Kelada-01, *Kelada Automated Test Methods for Total Cyanide, Acid Dissociable Cyanide, and Thiocyanate*, Revision 1.2, August 2001.

8.2 40 CFR Part 136.3 *Guidelines Establishing Test Procedures for the Analysis of Pollutants,* Table II, Footnotes.