



Standard Practice for Sampling, Preservation and Mitigating Interferences in Water Samples for Analysis of Cyanide¹

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1. Scope

1.1 This practice is applicable for the collection and preservation of water samples for the analysis of cyanide. This practice addresses the mitigation of known interferences prior to the analysis of cyanide. Responsibilities of field sampling personnel and the laboratory are indicated.

1.2 The sampling, preservation and mitigation of interference procedures described in this practice are recommended for the analysis of total cyanide, available cyanide, weak acid dissociable cyanide, and free cyanide by Test Methods [D2036](#), [D4282](#), [D4374](#), [D6888](#), [D6994](#), [D7237](#), [D7284](#), and [D7511](#). The information supplied in this practice can also be applied to other analytical methods for cyanide, for example, EPA Method 335.4.

1.3 The values stated in SI units are to be regarded as standard. No other units of measurement are included in this standard.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 ASTM Standards:²

[D1129 Terminology Relating to Water](#)

[D1193 Specification for Reagent Water](#)

[D2036 Test Methods for Cyanides in Water](#)

[D3370 Practices for Sampling Water from Closed Conduits](#)

[D3694 Practices for Preparation of Sample Containers and for Preservation of Organic Constituents](#)

¹ This practice is under the jurisdiction of ASTM Committee [D19](#) on Water and is the direct responsibility of Subcommittee [D19.06](#) on Methods for Analysis for Organic Substances in Water.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

[D3856 Guide for Management Systems in Laboratories Engaged in Analysis of Water](#)

[D4282 Test Method for Determination of Free Cyanide in Water and Wastewater by Microdiffusion](#)

[D4374 Test Methods for Cyanides in Water—Automated Methods for Total Cyanide, Weak Acid Dissociable Cyanide, and Thiocyanate \(Withdrawn 2012\)³](#)

[D4411 Guide for Sampling Fluvial Sediment in Motion](#)

[D4840 Guide for Sample Chain-of-Custody Procedures](#)

[D4841 Practice for Estimation of Holding Time for Water Samples Containing Organic and Inorganic Constituents](#)

[D5847 Practice for Writing Quality Control Specifications for Standard Test Methods for Water Analysis](#)

[D6888 Test Method for Available Cyanide with Ligand Displacement and Flow Injection Analysis \(FIA\) Utilizing Gas Diffusion Separation and Amperometric Detection](#)

[D6994 Test Method for Determination of Metal Cyanide Complexes in Wastewater, Surface Water, Groundwater and Drinking Water Using Anion Exchange Chromatography with UV Detection](#)

[D6696 Guide for Understanding Cyanide Species](#)

[D7237 Test Method for Free Cyanide and Aquatic Free Cyanide with Flow Injection Analysis \(FIA\) Utilizing Gas Diffusion Separation and Amperometric Detection](#)

[D7284 Test Method for Total Cyanide in Water by Micro Distillation followed by Flow Injection Analysis with Gas Diffusion Separation and Amperometric Detection](#)

[D7511 Test Method for Total Cyanide by Segmented Flow Injection Analysis, In-Line Ultraviolet Digestion and Amperometric Detection](#)

2.2 U.S. EPA Methods:⁴

[EPA Method OIA-1677 Available Cyanide by Flow Injection with Ligand Exchange](#)

[EPA Method 335.2 Cyanide, Total \(Titrimetric; Spectrophotometric\)](#)

[EPA Method 335.4 Determination of Total Cyanide by Semi-Automated Colorimetry](#)

³ The last approved version of this historical standard is referenced on www.astm.org.

⁴ Available from United States Environmental Protection Agency (EPA), William Jefferson Clinton Bldg., 1200 Pennsylvania Ave., NW, Washington, DC 20460, <http://www.epa.gov>.