Fact Sheet

Monitoring Hexavalent Chromium in Drinking Water

Information for Laboratories Performing Drinking Water Analysis

Regulatory Requirements for Water Systems

Beginning October 1, 2024, public drinking water systems will be required to monitor for hexavalent chromium [Cr (VI)], in order to demonstrate compliance with a Maximum Contaminant Level (MCL) of 0.010 mg/L. The Division of Drinking Water (Division) incorporated two analytical methods into the regulations that water systems must utilize, EPA 218.6 revision 3.3 (1994) and EPA 218.7 version 1.0 (2011), and water systems must use an Environmental Laboratory Accreditation Program (ELAP) accredited laboratory for the analysis.

To fulfill the California Safe Drinking Water Act requirements, ELAP-accredited laboratories will need to meet the Detection Limit for Purposes of Reporting (DLR) to be able to upload results to the California Laboratory Intake Portal (CLIP). The laboratory must appropriately conduct and document its Limit of Quantitation (LOQ) in accordance with 2016 TNI standard, revision 2.1, volume 1 module 4 requirements, incorporated by reference in ELAP's regulations.

DLR – i.e. the laboratory's highest allowable Limit of Quantitation	**MCL** – i.e. the drinking water standard
0.0001 mg/L (0.1 ppb)	0.010 mg/L (10 ppb)

Method Selection

Laboratories conducting analysis for drinking water compliance must utilize either EPA 218.6 or EPA 218.7 as written. The two methods contain significant differences and must be followed as written. Laboratories cannot pick and choose requirements from the two different methods. **Laboratories must meet the minimum requirements specified in the method it uses.** Laboratories or water systems interested in utilizing the extended holding time defined in EPA 218.7 are encouraged to seek accreditation to use EPA 218.7.

Unincorporated Guidance

Allowances or requirements of other programs, such as those identified in the Code of Federal Regulations, title 40 part 136, cannot be applied to drinking water compliance samples tested under the Division's requirements. Similarly, old guidance from the US EPA's Unregulated Contaminant Monitoring Rule and old guidance from ELAP when the program was under the California Department of Public Health cannot be followed.

Under the new regulations, **alterations to the method's defined sample collection and preservation sections are not permitted**. Because no additional requirements outside of the method-defined parameters were incorporated into the Division's regulation, the methods must be followed without modification. **Laboratories must abide by the holding time and buffers defined in the method the laboratory uses**.

Method Comparison

This list is non-exhaustive and does not supersede or overwrite the requirements within the methods. While ELAP has made every effort to ensure the accuracy of the items below, the laboratory must comply with the requirements within the specific method in which they seek or hold accreditation. Commonly used acronyms or synonyms are used to create parallels between the method terms.

Requirement	EPA 218.6	EPA 218.7
DLR – Maximum LOQ/MRL	0.0001 mg/L (0.1 ppb) (§ 64432)	0.0001 mg/L (0.1 ppb) (§ 64432)
Holding Time	24 hours (Section 8.3)	14 days when preserved (Section 8.4)
Temperature Preservative	4°C (Section 8.3)	6°C (recommended) (Section 8.3)
Chemical Preservative	pH 9-9.5 with $(NH_4)_2SO_4/NH_4OH$ (Sections 7.9 and 8.2) **NOTE**: Concentration differs from 218.7 option	pH > 8 with **either**: $(NH_4)_2SO_4/NH_4OH$ **or** $CO_3^{-2}/HCO_3^{-}/(NH_4)_2SO_4$ (Section 8.1)
Sample Container	HDPE (Section 6.3)	HDPE or polypropylene, see section 4.1 for exceptions (Section 6.1)
Column type	high-capacity anion exchange resin (Section 6.1.7)	Flexible, see section 6.5.4
Eluent	$(NH_4)_2SO_4/NH_4OH$ (Section 7.7)	Flexible, see section 7.1
Linear Dynamic Range	Part of the IDP (Section 9.2.3)	Not required
QC Recovery Summary		
Second Source (QCS/ICV)	90-110% (Section 9.3.5)	85-115% (section 9.2.5)
Blanks (LRB/MB)	1 per Batch < MDL (Section 9.3.1)	1 per Batch <1/3 MRL/LOQ (Section 9.3.1)
Positive Controls (LFB/LCS)	1 per Batch 90-110% (Sections 9.3.2, 9.3.3)	1 per Batch, may count as CCC. 85-115% (section 10.3.1)

Requirement	EPA 218.6	EPA 218.7
Calibration Verification (IPC/CCC/CCV)	1 per 10 samples 95-105% (Section 9.3.4)	Beginning, end, and 1 per 10 samples. (Section 9.3.2) Mid-point: 85-115% low CCC at MRL/LOQ: 50-150% (section 10.3.1)
Matrix Spikes (LFM/LFMD/MS/MSD)	10% of samples (Section 9.4)	1 per analysis batch, and LFMD or duplicate (Section 9.3.4)

Additional Resources

More information on the rulemaking may be found on the Division's website at https://waterboards.ca.gov/drinking_water/certlic/drinkingwater/SWRCBDDW-21-003_hexavalent_chromium.html

Technical Questions regarding methods or laboratory technical requirements can be directed to elapca_technical@waterboards.ca.gov.