# EPA rMUR2

Presenter:
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Laboratory and Environmental Compliance Manager, DSRSD

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BAY AREA
CLEAN WATER
AGENCIES

# Agenda

What is rMUR2?

When do you need to make updates?

Editorial versus Technical Changes to Methods

Method specific changes

What’s next?

# rMUR2 (Routine Methods Update Rule 2)

## Recent Action

### Routine Methods Update Rule 2 - 2023

The EPA has promulgated a final **routine MUR**, **rMUR 2**, as allowed under the CWA, on April 16, 2024. In rMUR 2, the EPA approved:

- Revised EPA bacteria methods.
- New or revised methods published by voluntary consensus standard bodies, such as ASTM International and the Standard Methods Committee.
- Methods reviewed under the Alternate Test Procedures (ATP) program.

### Documents

All supporting materials for rMUR 2 can be found on the EPA's docket at regulations.gov. The Docket Number is EPA-HQ-OW-2022-0901.

- Final rMUR 2 Federal Register Notice (April 16, 2024).
- Fact Sheet; Final Rule: Clean Water Act Methods Update Rule for the Analysis of Effluent (pdf) (625.32 KB, April 2024, EPA 821-R-24-009) .

Source: https://www.epa.gov/cwa-methods/methods-update-rules

# Timing of adopting QC updates v method updates

QC ELAP response:

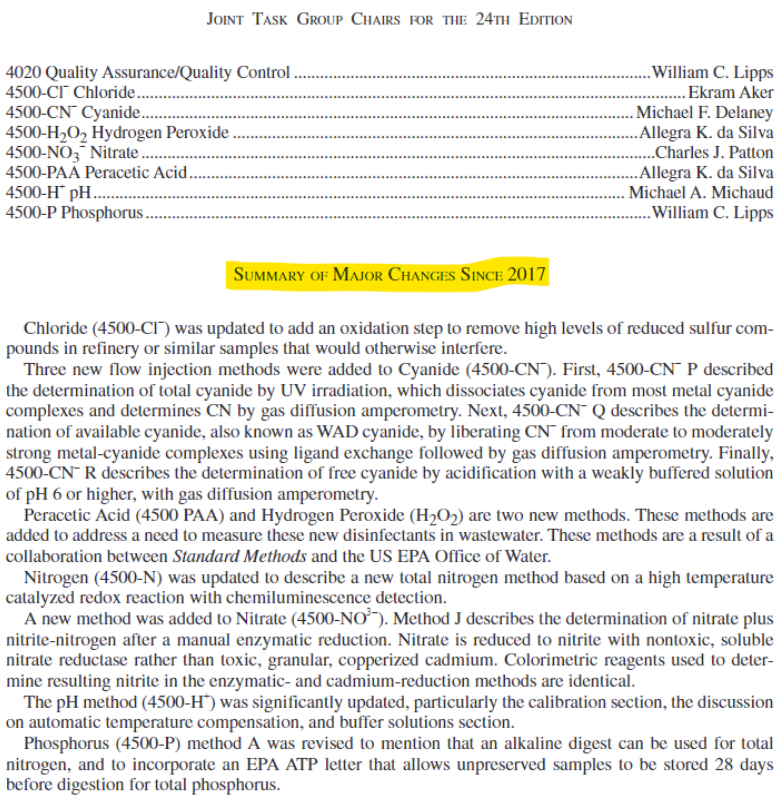
- For non-potable waters relevant to Clean Water Act compliance, such as National Pollutant Discharge Elimination System (NPDES) permits or water discharge permits, 40 CFR 136 specifies the applicable edition.
- For example, footnote 84 in Table IB of 40 CFR 136
  - *[84] Please refer to the following applicable Quality Control Sections: Part 2000 Methods, Physical and Aggregate Properties 2020 (2021); Part 3000 Methods, Metals, 3020 (2021); Part 4000 Methods, Inorganic Nonmetallic Constituents, 4020 (2022); Part 5000 Methods, and Aggregate Organic Constituents, 5020 (2022). These Quality Control Standards are available for download at www.standardmethods.org at no charge.*
- Please be aware that, as future MURs are released, this information may be revised/updated. Consequently, ELAP **recommends** that labs use the most recent edition of the SM QC as well (unless otherwise directed by the footnote).

Method

- After ELAP adopts the method.

# Where can you find an overview of the changes?

Right after the title page of the section there is a summary of major changes to each method



JOINT TASK GROUP CHAIRS FOR THE 24TH EDITION

4020 Quality Assurance/Quality Control ..... William C. Lipps
4500-$Cl^-$ Chloride ..... Ekram Aker
4500-$CN^-$ Cyanide ..... Michael F. Delaney
4500-$H_2O_2$ Hydrogen Peroxide ..... Allegra K. da Silva
4500-$NO_3^-$ Nitrate ..... Charles J. Patton
4500-PAA Peracetic Acid ..... Allegra K. da Silva
4500-$H^+$ pH ..... Michael A. Michaud
4500-P Phosphorus ..... William C. Lipps

SUMMARY OF MAJOR CHANGES SINCE 2017

Chloride (4500-$Cl^-$) was updated to add an oxidation step to remove high levels of reduced sulfur compounds in refinery or similar samples that would otherwise interfere.

Three new flow injection methods were added to Cyanide (4500-$CN^-$). First, 4500-$CN^-$ P described the determination of total cyanide by UV irradiation, which dissociates cyanide from most metal cyanide complexes and determines CN by gas diffusion amperometry. Next, 4500-$CN^-$ Q describes the determination of available cyanide, also known as WAD cyanide, by liberating $CN^-$ from moderate to moderately strong metal-cyanide complexes using ligand exchange followed by gas diffusion amperometry. Finally, 4500-$CN^-$ R describes the determination of free cyanide by acidification with a weakly buffered solution of pH 6 or higher, with gas diffusion amperometry.

Peracetic Acid (4500 PAA) and Hydrogen Peroxide ($H_2O_2$) are two new methods. These methods are added to address a need to measure these new disinfectants in wastewater. These methods are a result of a collaboration between *Standard Methods* and the US EPA Office of Water.

Nitrogen (4500-N) was updated to describe a new total nitrogen method based on a high temperature catalyzed redox reaction with chemiluminescence detection.

A new method was added to Nitrate (4500-$NO^{2-}$). Method J describes the determination of nitrate plus nitrite-nitrogen after a manual enzymatic reduction. Nitrate is reduced to nitrite with nontoxic, soluble nitrate reductase rather than toxic, granular, copperized cadmium. Colorimetric reagents used to determine resulting nitrite in the enzymatic- and cadmium-reduction methods are identical.

The pH method (4500-$H^+$) was significantly updated, particularly the calibration section, the discussion on automatic temperature compensation, and buffer solutions section.

Phosphorus (4500-P) method A was revised to mention that an alkaline digest can be used for total nitrogen, and to incorporate an EPA ATP letter that allows unpreserved samples to be stored 28 days before digestion for total phosphorus.

Source: January 2018:**PART 4000 TITLE PAGE**
Standard Methods For the Examination of Water and Wastewater, 23rd. **https://doi.org/10.2105/SMWW.2882.067**

# Editorial versus Technical Changes


Source:
https://www.standardmethods.org/page/supportingdocs

# Editorial versus Technical Changes

| New and Updated Methods for Standard Methods 24th Edition | | | | |
|---|---|---|---|---|
| **Part 1000** | | **Approval Year** | **Editorial?** | **Technical?** |
| **Method** | 1020 Quality Assurance | 2021 | yes | no |
| | 1050 Expression of Results | 2021 | yes | no |
| **Part 4000** | | | | |
| **Method** | 4500-CN Cyanide P. Total cyanide by Segmented Flow Injection, UV-Irradiation with Gas Diffusion, and Amperometric Measurement **(NEW)** | 2021 | no | NEW |
| | 4500-CN Cyanide Q. Weak and Dissociable Cyanide by Flow Injection, Gas Diffusion, and Amperometric Measurment **(NEW)** | 2021 | no | NEW |
| | 4500-CN Cyanide R. Free Cyanide by Flow Injection, Gas Diffusion, and Amperometric Measurement **(NEW)** | 2021 | no | NEW |
| | 4500-N Nitrogen E. Total Nitrogen Determination by Redox and Chemiluminescence Detection **(NEW)** | 2021 | no | NEW |
| | 4500-NO3 Nitrogen (Nitrate) J. Enzymatic Reduction Manual Method **(NEW)** | 2018 | no | NEW |
| | 4500-H2O2 Hydrogen Peroxide (Residual) A. Introduction **(NEW)** | 2020 | no | NEW |
| | 4500-H2O2 Hydrogen Peroxide (Residual) B. Ferric Thiocyanate Colorimetric Method **(NEW)** | 2020 | no | NEW |
| | 4500-PAA Peracetic Acid (Residual) A. Introduction **(NEW)** | 2019 | no | NEW |
| | 4500-PAA Peracetic Acid (Residual) B. DPD-Colorimetric Method **(NEW)** | 2019 | no | NEW |
| | 4500-Cl- Chloride A. Introduction | 2021 | yes | no |
| | 4500-Cl- Chloride B. Argentometric Method | 2021 | no | yes |
| | 4500-Cl Chlorine (Residual) | 2021 | yes | no |
| | 4500-H+ pH | 2021 | no | yes |
| | 4500-P Phosphorous | 2021 | yes | no |
| **Part 5000** | | | | |
| **Method** | 5310 Total Organic Carbon E. Supercritical Water Oxidation Method **(NEW)** | 2022 | no | NEW |
| | 5220 Chemical Oxygen Demand (COD) A. Introduction | 2022 | no | yes |
| | 5220 Chemical Oxygen Demand (COD) B. Open Reflux Method | 2022 | no | yes |
| | 5220 Chemical Oxygen Demand (COD) C. Closed Reflux, Titrimetric Method | 2022 | no | yes |
| | 5220 Chemical Oxygen Demand (COD) D. Closed Reflux, Colorimetric Method | 2022 | no | yes |
| | 5310 Total Organic Carbon B. High Temperature Combustion Method | 2022 | no | yes |
| **Part 7000** | | | | |
| **Method** | 7110 Gross Alpha and Gross Beta Radioactivity (Total, Suspended, and Dissolved) E. Evaporation Method for Simultaneous Gross Alpha-Beta **(NEW)** | 2021 | no | NEW |
| | 7110 Gross Alpha and Gross Beta Radioactivity (Total, Suspended, and Dissolved) A. Introduction | 2021 | no | yes |
| | 7110 Gross Alpha and Gross Beta Radioactivity (Total, Suspended, and Dissolved) B. Evaporation Method for Gross Alpha-Beta | 2021 | no | yes |
| | 7110 Gross Alpha and Gross Beta Radioactivity (Total, Suspended, and Dissolved) C. Coprecipitation Method for Gross Alpha Radioactivity in Water | 2021 | no | yes |
| | 7110 Gross Alpha and Gross Beta Radioactivity (Total, Suspended, and Dissolved) D. Liquid Scintillation Spectroscopic Method for Gross Alpha-Beta | 2021 | no | yes |
| | 7120 Gamma-Emitting Radionuclides A. Introduction | 2021 | no | yes |
| | 7120 Gamma-Emitting Radionuclides B. Gamma Spectrometry Method | 2021 | no | yes |
| | 7500-3H Tritium A. Introduction | 2022 | no | yes |
| | 7500-3H Tritium B. Liquid Scintillation Spectrometric Method | 2022 | no | yes |
| **Part 8000** | | | | |
| **Method** | 8050 Bacterial Bioluminescence | 2022 | no | yes |
| | 8080 Sediment Porewater Testing | 2019 | no | yes |
| **Part 9000** | | | | |
| **Method** | 9224 Detection of Coliphages G. Commercial Methods - Fast Phage Procedure **(NEW)** | 2022 | no | NEW |
| | 9224 Detection of Coliphages H. Membrane Filter Procedure **(NEW)** | 2022 | no | NEW |
| | 9230 Fecal Enterococci E. Quantitative PCR for Enterococci **(NEW)** | 2022 | no | NEW |
| | 9750 *Naegleria fowleri A.* Introduction **(NEW)** | 2021 | no | NEW |
| | 9750 *Naegleria fowleri* B. Detection Methods **(NEW)** | 2021 | no | NEW |
| | 9020 Quality Assurance/Quality Control A. Introduction | 2022 | yes | no |
| | 9020 Quality Assurance/Quality Control B. Intralaboratory Quality Control Guidelines | 2022 | yes | no |
| | 9030 Laboratory apparatus | 2022 | no | yes |
| | 9040 Washing Labware | 2022 | no | yes |
| | 9050 Culture Media and Buffered Dilution Water | 2022 | no | yes |
| | 9212 Stressed, Injured, or Viable But Nonculturable Bacteria A. Introduction | 2022 | no | yes |
| | 9212 Stressed, Injured, or Viable But Nonculturable Bacteria B. Recovery Enhancement for Injured Cells | 2022 | no | yes |
| | 9213 Recreational Waters G. Enzyme Substrate Test for *Pseudomonas aeruginosa* | 2022 | no | yes |
| | 9711 Pathogenic Protozoa A. Introduction | 2022 | no | yes |
| | 9711 Pathogenic ProtozoaB. Detection of *Giardia* and *Cryptosporidium* in Water | 2022 | no | yes |

Source:
https://www.standardmethods.org/page/supportingdocs

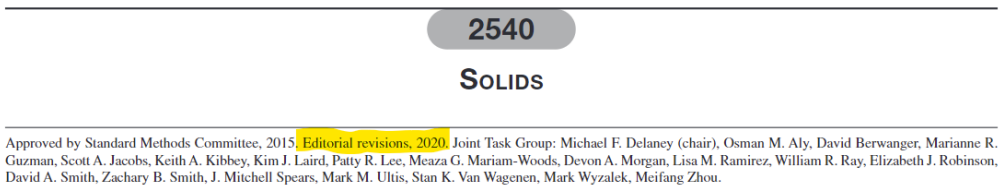
# Editorial versus Technical Changes

Editorial

- Wording changes for clarity
- Formatting

Technical

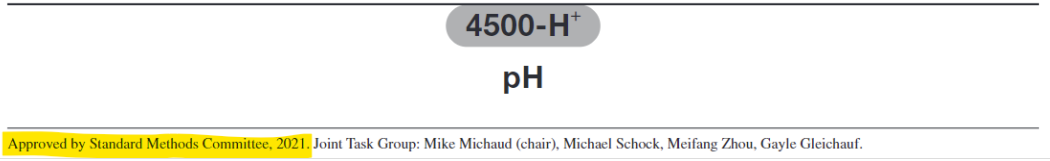
- Procedural changes- check for the “Approved by Standard Methods Committee” date.



2540

SOLIDS

Approved by Standard Methods Committee, 2015. Editorial revisions, 2020. Joint Task Group: Michael F. Delaney (chair), Osman M. Aly, David Berwanger, Marianne R. Guzman, Scott A. Jacobs, Keith A. Kibbey, Kim J. Laird, Patty R. Lee, Meaza G. Mariam-Woods, Devon A. Morgan, Lisa M. Ramirez, William R. Ray, Elizabeth J. Robinson, David A. Smith, Zachary B. Smith, J. Mitchell Spears, Mark M. Ultis, Stan K. Van Wagenen, Mark Wyzalek, Meifang Zhou.



4500-$H^+$

pH

Approved by Standard Methods Committee, 2021. Joint Task Group: Mike Michaud (chair), Michael Schock, Meifang Zhou, Gayle Gleichauf.

# Method changes

| Method | Number of Accredited Labs | Contributing Member |
|---|---|---|
| **SM 2130 B (Turbidity)** | 23 | Tiffany Ishaya |
| **SM 2510 B (Conductivity)** | 23 | Kunning Zhu |
| **SM 2320 B (Alkalinity)** | 21 | Dan Jackson |
| **SM 2340 C (Hardness)** | 18 | Megan Kaufman |
| **SM 2540 B (TS)** | 10 (2011), 8 (2015) | Blake Brown |
| **SM 2540 C (TDS)** | 9 (2011), 9 (2015) | Amy Saylor |
| **SM 2540 D (TSS)** | 20 (2011), 26 (2015) | Anita Setty |
| **SM 2540 E (Fixed and Vol. Solids)** | 5 (2011), 5 (2015) | Brittany Rossi Worthen |
| **SM 2540 F** | 9 (2011), 4 (2015) | Amy Saylor |
| **SM 4500 H+ B (pH)** | 31 | Hank Vink |
| **SM 4500 CN-E** | 4 (2011), 6 (2016) | Suguna Pillay |
| **SM 4500-O G (DO)** | 5 (2011), 3 (2016) | Brittany Rossi Worthen |
| **SM 4500 NH3 D** | 12 | Nicole Van Aken |

# Method changes

Technical

SM 4500 H+

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ A Introduction | | | |
| SM 4500 A 1 | Milligrams $CaCO_3$ per liter | Milligrams per liter of **$CaCO_3$** | |
| SM 4500 A 1 | pH as defined by Sorenson is -log[H+]; it is the “intensity” factor of acidity | The basicity of acidity of a solution is estimated by pH, a scale defined as the -log[H+]. | |
| SM 4500 A 1 | “activity” | Activity | |

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ A Introduction | | | |
| SM 4500 A 1 | The approximate equivalence to molarity, [H+] can be presumed only in very dilute solutions | Equivalence to molarity, [H+] can be presumed only in very dilute solutions | |
| SM 4500 A 1 | | **Equation 2:**<br>Where:<br>A = activity<br>P= $-\log_{10}$ of a number | |

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ 2 Apparatus | | | |
| SM 4500 B 2b | | added “The half-cell may be a separate electrode or may be combined with the glass electrode as a combination electrode.” | |
| SM 4500 B 2b | | gave a more generalized description of the reference electrode, removed advice related to asbestos fiber electrodes | |

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ 2b Apparatus, reference electrode | | | |
| SM 4500 B 2b | Commonly used are calomel and silver: silver-chloride electrode. Either is available with several types of liquid junctions | Commonly used references are calomel, iodide-triiodide, and silver:silver-chloride electrodes. These are available with several types of liquid junctions. | Added iodide-triiodide and reworded |

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ 2c Apparatus, glass electrode | | | |
| SM 4500 B.2.c | | removed specific reference fill solutions | |
| SM 4500 B.2.c | | removed requirement to use specific electrodes for pH >10 and <1, giving a more general advice of looking at range recommended by manufacturer | |

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ B General Apparatus (2.d beakers), (2.e stirrer) | | | |
| SM 4500 B 2d | | Added an entire section on temperature compensation | (NEW)Provides guidance for manual and automatic temperature compensation |
| SM 4500 B 2e | | Updated to 4500-H+B.2.e, Recommends PET or PTFE beakers | |

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ B.3.a Reagents, General Preparation | | | |
| SM 4500-H+B.3.a | | added Carbon dioxide absorption, extreme temperature exposure, or contamination to list of factors that can deteriorate pH Buffer Solutions | |
| SM 4500-H+ B.3.a | | if preparing own buffers, distilled water updated to reagent water | If you make your own buffers, read carefully |

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ B.3.a Reagents, General Preparation | | | |
| SM 4500-H+B.3a | | "Keep standard buffer bottles tightly closed when not in use. Store at ambient temperature in a dry environment, away from heat sources and sunlight. Pour buffer into a separate container for calibration. Discard buffer after use or when the buffer cannot meet the criteria in Table 4500-H+:1. Do not insert an electrode into the buffer bottle or pour used buffer back into the bottle. The absorption of atmospheric carbon dioxide into alkaline solutions (such as pH 10 or higher) can change the pH of the buffer. Once the alkaline buffer is prepared or a new bottle is opened, the shelf life is limited. Discard a buffer if there is a change in appearance (such as if sediment or mold appears) or if the performance cannot meet the criteria stated in Table 4500-H+:1." | Added more guidance for storage of buffers |

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ B.3 Reagents (3.c Saturated calcium hydroxide solution) (3.d Auxiliary Solutions) | | | |
| SM 4500-H+B.3.c | Distilled water | Reagent grade water | |
| SM 4500-H+B.3.d | Auxiliary Solutions: 0.1N NaOH, 0.1 HCL (dilute five volumes 6N HCL with one volume distilled water), and acid potassium fluoride solution ( dissolve 2 g KF in 2 mL conc $H_2SO_4$ and dilute to 100 mL with distilled water). | D. sodium hydroxide solution: 0.1N<br>E. Hydrochloric acid solution: 0.1N<br>F. Hydrochloric acid solution: 5N HCL | 24th edition expanded auxiliary solutions into 3 subsections |

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ B.4 Procedure | | | |
| SM 4500-H+ B.4.a | | Treat as new section, revised throughout | Read carefully |

# Method comparison: SM 4500 H+

**SM 4500 H+ 4.a Key points:**

1. Table 4500-H+:1 Recommended Slopes added
2. pH buffer removed as storage
3. Shake bulb, blot wording expanded
4. Rinse with reagent water
5. Removed instructions to adjust temperature dial – point to manufacturer
6. Discusses looking at both slopes, not an average slope, must be within 3% of value in Table 4500-H+:1

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ B.4 Procedure | | | |
| SM 4500-H+ B.4.b | | added (calibration verification) | (New)Gives detailed instructions on what 4020:I footnote 5 always required and specifies that pH samples cannot be diluted |
| SM 4500-H+ B.4.d | | Samples out of equilibrium with atmosphere | (New) Guidance on measuring pH on closed systems |

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ B 5.a Troubleshooting (Potentiometer) | | | |
| 4500-H+ 5.a | “Observe change in pH when instrument calibration knob is adjusted. If potentiometer is operating properly, it will respond rapidly and evenly to changes in calibration over a wide scale range. A faulty potentiometer will fail to respond, will act erratically, or will show a drift upon adjustment.” | Removed | SM refers you to manufacturers troubleshooting info now |

# Method comparison: SM 4500 H+

| Section | 23rd Ed- 2011 | 24th Ed- 2021 | Notes |
|---|---|---|---|
| SM 4500-H+ B 5.b Troubleshooting (Electrodes) | | | |
| SM 4500-H+ 5.b | | added additional comparison results between different electrodes for troubleshooting | |
| SM 4500-H+ 5.b | | added that the manufacturer recommended troubleshooting procedures for clogged junctions should be followed | |

# Method changes

Editorial

# Editorial Changes in brief

These edits include:

- removal of reference to specific brand names and trademarks,
- incorporation of footnotes into the text,
- reformatting of figures, tables,
- reference lists, removal of bibliographical references that are no longer available,
- small editorial changes based on current style guides
- changes to scientific publishing standards
- minor clarifications to procedures based on input from users.
    - For example, the revisions replace distilled water with reagent water in all methods.

Source: https://www.federalregister.gov/documents/2024/04/16/2024-07412/clean-water-act-methods-update-rule-for-the-analysis-of-effluent

# Editorial Changes

SM2320 B Alkalinity

- Addition of drying oven
- Dilute with reagent water

SM 2130 B Turbidity

- Distilled to reagent water
- Manufacturer reference removed

SM2510 B Conductivity

- Addition of drying oven
- Distilled to reagent water

# Editorial Changes

**SM2540 A Solids Introductions**

- Removes “medium quality or better” in reference to reagent water to rinse filters and filtered solids and cleaning glassware.
- New revision specifies hold time in hours (7 days, 168 hours)
- Uses ambient temperature instead of room temperature.
  - Ambient temperature: temperature of the surrounding area
  - Room temperature: $59^{o}F$–$77^{o}F$

# Editorial Changes

**SM 2540 B Total Dried Solids from 103$^{0}$C to 105$^{0}$C**

- Hot plate or block for sample evaporation. Must be capable of maintaining a temperature greater than 100$^{0}$C without boiling samples.
- New revision does not include evaporating samples using a hot block. This may be an accidental omission considering the apparatus list.

**SM 2540 B Total Dried Solids from 103$^{0}$C to 105$^{0}$C**

- Evaporation temperature: does not specify "$\geq$2$^{0}$C below boiling" to prevent splattering
- Calculation of:
  - 2020: total solids mg/L
  - 2015: mg total solids/L

# Editorial Changes

**SM 2540 C Total Dissolved Solids**

- LFB prep reworded
- Forceps added to apparatus list
- Preparation of glass-fiber filter disk: gives the option of more than 3 successive washes of 20mL or more of reagent-grade water.
- Calculation of:
  - 2020: total dissolved solids mg/L
  - 2015: mg total dissolved solids/L

**SM 2540 D Total Suspended Solids Dried from 103$^{0}$C to 105$^{0}$C**

- LFB add a purchased option
- Calculation of:
  - 2020: total suspended solids mg/L
  - 2015: mg total suspended solids/L

# Editorial Changes

**SM 2540 E Fixed and Volatile Solids Ignited at 550$^{0}$C**

- Repeat cycles of drying , cooling desiccating and weighing until the change is less than 0.5mg.
  - The option of 4% of the previous weight is removed from the 2020 rev.

**SM 2540 E Fixed and Volatile Solids Ignited at 550$^{0}$C**

- Calculation of:
  - 2020:
    - volatile solids mg/L
    - fixed solids mg/L
  - 2015:
    - mg volatile solids/L
    - Fixed solids mg/L

# Editorial Changes

**SM 2540 F Settleable Solids**

- When applicable, correct the recorded volume for interference from pockets of liquid volume as described in 2540 F.1b.
  - Added reminder

# Editorial Changes

**SM 4500 CN- Cyanide Introduction**

- Rewording for clarity
- Additional information to support new methods P-R

# Editorial Changes

**SM 4500-$NH_3$ D Ammonia**

- Removed “When the words should or preferably are used, the QC is recommended; when must is used, the QC is mandatory”
- Removed standard manufacturer reference

**SM 4500-O G Oxygen (Dissolved)**

- Replaces distilled water for reagent water

# What's Next?

## Current Action

### Proposal for Methods Update Rule 22 - 2024

The EPA plans to propose a new **Methods Update Rule (MUR)**, **MUR 22**, in late 2024, as allowed under the Clean Water Act (CWA). This MUR is not a "routine MUR" because it will propose new parameters and methods. The EPA intends to propose new methods for the following:

- PFAS Method 1633 (the result of a DoD collaboration).
- Adsorbable organic fluorine (AOF) Method 1621.
- Polychlorinated biphenyl (PCB) congeners Method 1628.

The rule may also include other parameters proposed by Voluntary Consensus Standard Bodies (VCSB) as is consistent with the National Technology Transfer Act. The EPA anticipates proposing VCSB methods for measuring PFAS, peracetic acid, and hydrogen peroxide, assuming the VCSB provide adequate validation data. The EPA is not considering method revisions or Alternate Test Procedures that would be addressed more routinely in a routine MUR.

Source: https://www.epa.gov/cwa-methods/methods-update-rules

# Thank you

BACWA Lab Committee Members:

Heidi Birdsell, Connie Sanchez, Tiffany Ishaya, Kunning Zhu, Dan Jackson, Megan Kaufman, Blake Brown, Amy Saylor, Anita Setty, Brittany Rossi Worthen, Hank Vink, Suguna Pillay, Nicole Van Aken