

**Errata in the 23rd Edition of  
Standard Methods for the Examination of Water and Wastewater**

(updated 29 May 2018; errata are presented in section and page-number order)

1. In Section 2020B (p. 2-4), the Solids section of Table 2020:II should be as follows:

		Calibrate or Standardize	QCS	MB	LFB	Duplicates	LFM
2540B	Solids	—	—	×	×	×	—
2540C		—	—	×	×	×	—
2540D		—	—	×	×	×	—
2540E		—	—	×	×	×	—
2540F		—	—	—	—	×	—
2540G		—	—	—	—	×	—

2. In Section 2540A.4 (p. 2-68), the second sentence should be “The analytical range for 2540B–D is 2.5 to 200 mg/L...”

3. In Section 3500 Other Metals (p. 3-109), the last sentence in 3500-In Indium should be “The inductively coupled plasma mass spectrometric method (Section 3125) also may be applied successfully in most cases (with lower detection levels), even though indium is not specifically listed as an analyte in the method.”

4. In Section 3500 Other Metals (p. 3-111), the last sentence in 3500-Pt Platinum should be “The inductively coupled plasma mass spectrometric method (Section 3125) also may be applied successfully in most cases (with lower detection levels), even though platinum is not specifically listed as an analyte in the method.”

5. In Section 3500 Other Metals (p. 3-113), the last sentence in 3500-Th Thorium should be “The inductively coupled plasma mass spectrometric method (Section 3125) also may be applied successfully in most cases (with lower detection levels), even though thorium is not specifically listed as an analyte in the method.”

6. Section 4500-NO<sub>3</sub><sup>-</sup>.B.1b (p. 4-127) should be followed by:

“c. *Quality Control (QC)*: The QC practices considered to be an integral part of each method are summarized in Table 4020:I and 4500-NO<sub>3</sub><sup>-</sup>.A.3.”

7. Section 4500-NO<sub>3</sub><sup>-</sup>.C.1b (p. 4-128) should be followed by:

“c. *Quality Control (QC)*: The QC practices considered to be an integral part of each method are summarized in Table 4020:I and 4500-NO<sub>3</sub><sup>-</sup>.A.3.”

8. In Section 4500-NO<sub>3</sub><sup>-</sup>.C.3a (p. 4-128), the subhead should be “a. Stock nitrate solution A, ...”

9. In Section 4500-NO<sub>3</sub><sup>-</sup>.C.3b (p. 4-128), the subhead should be “b. Stock nitrate solution B, ...”

10. Section 4500-NO<sub>3</sub><sup>-</sup>.D.1b (p. 4-129) should be followed by:

“c. *Quality Control (QC)*: The QC practices considered to be an integral part of each method are summarized in Table 4020:I and 4500-NO<sub>3</sub><sup>-</sup>.A.3.”

11. In Section 4500-NO<sub>3</sub><sup>-</sup>.D.3b (p. 4-129), the last sentence should be “Solution is stable for at least 6 months if kept refrigerated at 2–6°C.”

12. In Section 4500-NO<sub>3</sub><sup>-</sup>.D.7 (p. 4-130), the fourth bibliography item should be followed by:

“HAUTMAN, D.P. & D. A. MUNCH. 1997. Determination of Inorganic Anions in Drinking Water by Ion Chromatography; EPA Method 300.1, Rev. 1.0. U.S. Environmental Protection Agency, Cincinnati, Ohio.”

13. Section 4500-NO<sub>3</sub><sup>-</sup>.E.1b (p. 4-131) should be followed by:

“c. *Quality Control (QC)*: The QC practices considered to be an integral part of each method are summarized in Table 4020:I and 4500-NO<sub>3</sub><sup>-</sup>.A.3.”

14. Section 4500-NO<sub>3</sub><sup>-</sup>.F.1c (p. 4-133) should be followed by:

“d. *Quality Control (QC)*: The QC practices considered to be an integral part of each method are summarized in Table 4020:I and 4500-NO<sub>3</sub><sup>-</sup>.A.3.”

15. Section 4500-NO<sub>3</sub><sup>-</sup>.F.3h (p. 4-133) should be as follows:

“h. *Ammonium chloride–EDTA solution*: Dissolve 85 g NH<sub>4</sub>Cl and 1 g EDTA disodium salt in reagent water and dilute to 1 L with reagent water. Adjust pH to 8.5 with NH<sub>4</sub>OH (¶f above) or HCl (¶e above). This solution is stable for 1 year; however, using pH paper or a pH electrode, verify that pH is between 8 and 9 before use. Add 0.5 mL polyoxyethylene (23) lauryl ether<sup>1</sup> per liter of reagent just before use.”

16. In Section 4500-NO<sub>3</sub><sup>-</sup>.F.3n (p. 4-134), the subhead should be “n. Stock nitrite solution, ...”

17. Section 4500-NO<sub>3</sub><sup>-</sup>.F.3o (p. 4-134) should be as follows:

“o. *Intermediate nitrite solution*: Dilute 1.0 mL stock nitrite solution to 100 mL with water; 1.00 mL = 1.0 µg NO<sub>2</sub><sup>-</sup>-N. Prepare fresh daily.”

18. Section 4500-NO<sub>3</sub><sup>-</sup>.H.1c (p. 4-135) should be followed by:

“d. *Quality Control (QC)*: The QC practices considered to be an integral part of each method are summarized in Table 4020:I and 4500-NO<sub>3</sub><sup>-</sup>.A.3.”

19. In Section 4500-NO<sub>3</sub><sup>-</sup>.H.3i (p. 4-135), the first sentence should be “Using KNO<sub>3</sub> from a different source than that used for stock nitrate solution A, ...”

20. In Section 4500-NO<sub>3</sub><sup>-</sup>.H.4 (p. 4-135), the next-to-last sentence should be “If NO<sub>3</sub><sup>-</sup>-N peak is lower than NO<sub>2</sub><sup>-</sup>-N peak, increase concentration of N<sub>2</sub>H<sub>4</sub> • H<sub>2</sub>SO<sub>4</sub> until they are equal; if NO<sub>3</sub><sup>-</sup>-N peak is higher than NO<sub>2</sub><sup>-</sup>-N peak, reduce concentration of N<sub>2</sub>H<sub>4</sub> • H<sub>2</sub>SO<sub>4</sub>.”

21. Section 4500-NO<sub>3</sub><sup>-</sup>.I.1b (p. 4-136) should be followed by:

“c. *Quality Control (QC)*: The QC practices considered to be an integral part of each method are summarized in Table 4020:I and 4500-NO<sub>3</sub><sup>-</sup>.A.3.”

22. In Section 5210B.6c (p. 5-10), the third sentence should be: “Determine initial and final DO for each bottle (5210B.5g and i), and average results.”

23. In Section 5220B.5 (p. 5-19), the equation should be as follows:

$$\text{COD as mg O}_2/\text{L} = \frac{(A - B) \times M \times 8000}{\text{mL sample}}$$

24. In Section 5220C.5 (p. 5-21), the equation should be as follows:

$$\text{COD as mg O}_2/\text{L} = \frac{(A - B) \times M \times 8000}{\text{mL sample}}$$

25. In Section 7500-Ra.B.4e (p. 7-36), the second footnote in the right-hand column should be as follows:

“|| If original concentrations of isotopes of radium other than <sup>226</sup>Ra are of interest, note date and time of this original precipitation as the separation of the isotopes from their parents; use a minimal settling time and complete procedure through 7500-Ra.B.4j without delay. Assuming the presence of and separation of parents, decay of <sup>223</sup>Ra and <sup>224</sup>Ra begins at the time of the first precipitation, but ingrowth of decay products is timed from the second precipitation (7500-Ra.B.4i). The time of the first precipitation is not needed if the objective is to check the final precipitate for its <sup>226</sup>Ra content only.”

26. In Section 8510 (p. 8-84), the footnote should be “\* Approved by Standard Methods Committee, 2016. ...”

27. In Section 9020, Table 9020:II (p. 9-14), the Maximum Acceptable Limit for Conductivity Test should be “ $<2 \mu\text{mhos/cm}$  ( $\mu\text{siemens/cm}$ ) at  $25^\circ\text{C}$ ”

28. In Section 9222B.4g (p. 9-85), the third sentence should be “(See Section 9020B.10.)”

29. In Section 9230B.3 (p. 9-119), the first sentence in the third paragraph should be “Then, using a sterile inoculating loop, transfer brownish-black colonies with brown halos to the following media: two tubes of BHI broth—one with 6.5% NaCl (incubate at  $35 \pm 0.5^\circ\text{C}$  for  $48 \pm 3$  h) and one without NaCl (incubate at  $45 \pm 0.5^\circ\text{C}$  for  $48 \pm 3$  h).”

30. In Section 9230B.3 (p. 9-119), the first sentence in the fourth paragraph should be “If growth is observed after incubation in BHI broth with 6.5% NaCl at  $35 \pm 0.5^\circ\text{C}$  and in broth at  $45 \pm 0.5^\circ\text{C}$ , then the colony is a confirmed member of the *Enterococcus* genus.”

31. In Section 9230C.5 (p. 9-121), the third paragraph should be “Transfer, using a sterile inoculating loop, a loopful of the BHI broth to each of the following media: bile esculin agar (incubate at  $35 \pm 0.5^\circ\text{C}$  for  $48 \pm 3$  h); BHI broth (incubate at  $45 \pm 0.5^\circ\text{C}$  for  $48 \pm 3$  h), and BHI broth with 6.5% NaCl (incubate at  $35 \pm 0.5^\circ\text{C}$  for  $48 \pm 3$  h).”

32. In Section 9230C.5 (p. 9-121), the fourth paragraph should be “Growth of catalase-negative, Gram-positive cocci on bile esculin agar (9230C.2g), in 6.5% NaCl broth at  $35 \pm 0.5^\circ\text{C}$ , and in BHI broth at  $45 \pm 0.5^\circ\text{C}$  confirms that the colony belongs to the *Enterococcus* genus. Growth on a BHI agar plate incubated at  $10 \pm 0.5^\circ\text{C}$  for  $48 \pm 3$  h is further verification that the colony belongs to the genus *Enterococcus*.”