

DWTU PFAS Cation Water Chemistry Subtask Group

December 13, 2024 Meeting Summary



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MEETING PARTICIPANTS

- Larry Gottlieb, ResinTech, Chair
- Phil Dietz, IAPMO
- Allie Gaucher, NSF
- Zac Gleason, WQA
- Stanley Gorzelnik, U.S. Environmental Protection Agency
- Gabe Necula, NSF
- Arvind Patil, Protect Plus/Ricura Technologies
- Eric Yeggy, WQA
- Jaime Young, IAPMO
- Monica Milla, NSF, Secretariat

INTRODUCTION

M. Milla took attendance, read the anti-trust statement, and noted a quorum was achieved.

L. Gottlieb called the meeting to order.

KEY SUMMARY POINTS

1. Approve [11/19/24 Meeting Summary](#)

Z. Gleason motioned to approve the summary. A. Patil seconded. All in favor, none opposed.

- Meeting summary was approved.

2. Ballot Review

L. Gottlieb shared the ballot he prepared, which included changes to the orders of addition and the specific concentrations of salts.

Specific changes included starting with the addition of calcium chloride to achieve 141 mg per liter of calcium as calcium carbonate. He also mentioned adjustments to the quantities of magnesium sulfate and sodium sulfate to achieve the desired concentrations.

He sought feedback to ensure the accuracy and completeness.

Calcium to Magnesium Ratio: The group discussed updating the calcium to magnesium ratio to 3:1 as calcium carbonate and 4:1 as ion.

- The group agreed that because they measure calcium carbonate, the 3:1 ratio should be used.

pH Adjustment and Chloride Concentration: The group discussed the need to adjust the pH of the test tank solution using hydrochloric acid. Hydrochloric acid is necessary to bring the pH down to the target of 7.5, as the initial pH is around 8. It was noted that using hydrochloric acid increases the chloride ion concentration, which needs to be monitored to avoid overshooting the target concentration.

- The group decided to keep the hydrochloric acid adjustment in the procedure.

Chloride Concentration Requirement: The group discussed the chloride concentration requirement, debating whether to set a specific target or a range.

- The group agreed that the concentration should be ≥ 100 ppm to ensure consistency across different laboratories.

Impact on Carbon Systems: The group discussed the impact of the water chemistry on carbon systems, concluding that the updated formulation would benefit both carbon and ion exchange systems.

Hardness and Ratio Considerations: The group discussed the appropriate hardness level and the calcium to magnesium ratio.

- They agreed to a total hardness of 150 mg/L with an overall average tolerance of ± 20 and a single point tolerance of ± 30 .
- They agreed on maintaining a 3:1 calcium to magnesium ratio as calcium carbonate. They discussed the importance of this ratio in ensuring the test water's consistency and relevance to real-world conditions.

Standard Affected: In response to a question from the secretariat, the group confirmed that the ballot applies to NSF/ANSI 53 only as the changes are specifically relevant to that standard. The group may consider updating NSF/ANSI 58 in the future, but it has different requirements and may need separate consideration.

4. Lab Stability Testing the PFAS Water Recipe

Five labs (IAPMO-CA, IAPMO-NJ, NSF, ResinTech, and WQA) tested the water solution for stability. The tests involved adding salts and ensuring the formula was correct.

- The results were consistent across laboratories.
- The pH of the test water was slightly above 8.
- L. Gottlieb mentioned the need to leave the provision to add acid to adjust the pH.

5. Next Steps

L. Gottlieb and M. Milla agreed to update the ballot with the discussed changes.

L. Gottlieb motioned to finalize the ballot with the changes agreed and present it to the main PFAS Task Group for input. A. Patil and J. Young seconded simultaneously. All in favor, none opposed.

- The ballot will be updated and shared with the main PFAS Task Group.

L. Gottlieb expressed gratitude to the team for their input and collaboration in refining the ballot.

6. Next Meeting

The PFAS Cation Water Chemistry Subtask Group work is complete and no other subtask group calls are anticipated. The ballot will be discussed at a meeting of the PFAS Task Group in January.

The meeting was adjourned.

ACTION ITEMS

- M. Milla to update Table 7.8 in the ballot to:
 - Add total hardness value of 150 mg/L with an overall average tolerance of ± 20 and a single point tolerance of ± 30
 - Add a footnote that the ratio of calcium to magnesium should be approximately 3:1 as calcium carbonate
- M. Milla to issue Doodle and schedule next full PFAS Task Group meeting for January for the subtask group to present the ballot