Evaluation of Wildland Fire Chemicals

STANDARD TEST PROCEDURES

STP 4.4 pH

Summary: The pH of wildland fire chemicals can be used as part of an assessment of product stability over time as well as for quality assurance. In addition, pH of the water used to prepare some of the fire chemicals can have a significant impact on their physical characteristics.

Equipment:

Electronic pH meter with combination electrode
Standard buffer solutions – pH 4, pH 7, and pH 10

Method:

1. Turn the pH meter on and allow the meter and electrode to stabilize in fresh, pH 7 buffer solution.
2. Ensure that the electrode is clean and thoroughly rinsed with deionized water.
3. Calibrate the pH using LF-4.4 and applicable standard buffer solutions.

   NOTE: Never place pH probe directly into stock standards, always use a secondary container.

4. Following calibration and validation, rinse the electrode thoroughly with deionized water and place in the test sample.
5. Allow the reading to stabilize.
6. Record the reading.
7. Rinse the electrode with deionized water.
8. Repeating steps 4 through 7 as needed to accommodate samples.
9. Rinse the electrode thoroughly and replace in fresh storage solution.

References:

American Society for Testing and Materials. Standard Test Methods for pH of Water; D1293-99(2005).

LF-4.4 Orion Star A211 Benchtop pH Calibration Log