



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. Adjust the calibration knob until the meter reads 7.0.
4. Rinse the electrode thoroughly with deionized water and place in the test sample.
5. Allow the reading to stabilize.
6. If the reading is in the range of pH 6.0 to 8.0, record the reading and repeat the measurement with a second sample of the test sample.
7. If the reading is outside the range of pH 6.0 to 8.0, repeat the calibration with pH 7 buffer and then insert the electrode into pH 4 or pH 10 buffer, depending on the preliminary reading, until stabilized.
 - a. Use the slope function to adjust the meter reading to pH 4 or pH 10.
8. Rinse the electrode thoroughly with deionized water and place in the test sample.
9. Allow the reading to stabilize.
10. Record the reading.
11. Rinse the electrode with deionized water.
12. Repeat the measurement with a second sample of the test material, repeating steps 9 through 11.
13. 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).