Test Strip Considerations when Testing Peroxyacetic Acid Germicides Formulated for Dialyzer Reprocessing

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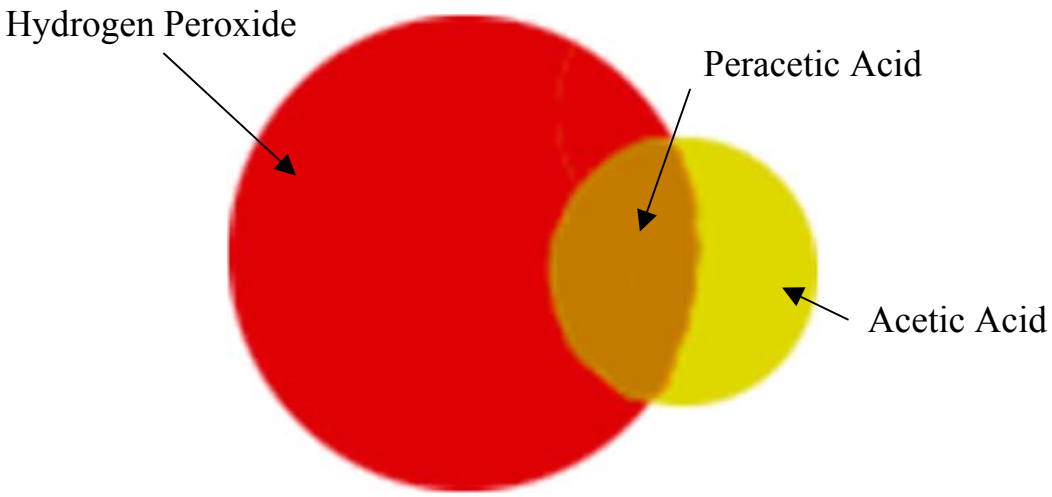

1) During the manufacturing process for peroxyacetic acid germicides intended for dialyzer reprocessing, peracetic acid forms from the combination of hydrogen peroxide and acetic acid. Peroxide concentration percentage (by volume) is approximately 3.5 times that of acetic acid and approximately 6 times that of the peracetic acid formed during the initial brewing of the compound chemical solution.
2) Reduction of peroxide in the compound solution will also reduce the peracetic acid. The peroxide amount in a given volume amount of solution is significantly greater than the peracetic acid and acetic acid amount. Therefore a peroxide type residual test strip may be used to safely determine residual rinse levels for the compound, as the peracetic acid level (and acetic acid level) will always be at a rinse level which is less than that of the peroxide.
3) Peracetic acid is the key chemical component in the peroxyacetic acid type dialyzer reprocessing germicides. Its presence in a specified minimum amount (500 ppm) is essential for intended performance against various organisms. Therefore, a **potency** test for dialyzer reprocessing peroxyacetic acid solutions should be a direct test for peracetic acid. RPC's K100-0105 Peracetic Acid Potency tests strips are a direct test for peracetic acid (500 ppm) and do not respond to peroxide. High range peroxide test strips are of questionable value when used to test for potency of a compound peroxyacetic acid solution. Peroxyacetic acid solutions are unstable in that time, heat, and light can have a significant reducing effect on the peracetic acid in the solution. These factors may also concurrently affect the peroxide in the solution but not necessarily by a linear amount. It is possible for peracetic acid to be reduced via a return to the peroxide and acetic acid forms. This action may result in low levels of peracetic acid relative to the peroxide and acetic acid in the solution. Use of a high range peroxide test strip for potency testing may show a misleading positive result (for peroxide) when in fact the peracetic acid level in the solution may be at an inadequate level for proper germicidal action.