Claims

We claim:

1. A hydrogen peroxide-acetyl precursor solution, comprising:

   a. aqueous hydrogen peroxide;

   b. triacetin;

   c. a trace amount of peracetic acid; and

   d. water.

2. The solution of claim 1, wherein said aqueous hydrogen peroxide is about 23% to about 40% and said triacetin is about 20% to about 53%, and further wherein the mole ratio of said hydrogen peroxide to said triacetin is about 2.98:1 to about 12.84:1.

3. The solution of claim 2, wherein said aqueous hydrogen peroxide is about 27% and said triacetin is about 46%, and further wherein said mole ratio of said hydrogen peroxide to said triacetin is about 3.8:1.

4. A method of preparing a hydrogen peroxide-triacetin solution, comprising:

   a. introducing triacetin to a solution of aqueous hydrogen peroxide; and

   b. allowing the triacetin and the solution of aqueous hydrogen peroxide to mix to form a hydrogen peroxide-triacetin solution.

5. A non-equilibrium solution of peracetic acid made by a method comprising:

   a. providing water on a site;

b. providing a hydrogen peroxide-triacetin solution on the site having a point-of-use;

c. introducing the hydrogen peroxide-triacetin solution to the water;

d. mixing the hydrogen peroxide-triacetin solution and the water to form a mixture;

e. providing an aqueous source of an alkali metal or earth alkali metal hydroxide on the site having the point-of-use;

f. adding the aqueous source of the alkali metal or earth alkali metal hydroxide to the mixture; and

g. forming a reaction medium comprising a non-equilibrium solution of peracetic acid for use at the point-of-use of peracetic acid.

6. An on site non-equilibrium peracetic acid generation system, comprising:

a first container comprising a first solution wherein said first solution comprises:

aqueous hydrogen peroxide;

triacetin;

a trace amount of peracetic acid; and

water;

a second container comprising a second solution wherein said second solution comprises:

an aqueous source of an alkali metal or earth alkali metal hydroxide; and

means for mixing the first solution, water, and the second solution to generate a non-equilibrium peracetic acid solution.