CLAIMS

1. A kit comprising:

a first solid composition comprising:

(a) a peroxidase enzymatic catalysing agent, wherein the peroxidase enzymatic catalysing agent is selected from Lactoperoxidase, Myeloperoxidase, Eosinophil peroxidase, Urea peroxidase and plant-derived peroxidases;

(b) an oxidizable substrate selected from:

(i) chlorides such as sodium chloride, iodides such as potassium iodide and sodium iodide; or

(ii) sodium thiocyanate, potassium thiocyanate, sodium bisulfite, sodium hydrosulfite, sodium metabisulfite, sodium nitrite, potassium nitrite, sodium hypochlorite and a combination thereof;

(c) optionally at least one inert filler;

(d) a buffer system, wherein the buffer system is selected from citric acid : trisodium citrate; calcium lactate : citric acid; sodium L (+)-tartrate dehydrate : citric acid; calcium lactate : DL-malate : malic acid and Sodium L (+)-tartrate : tartaric acid, and

a second solid composition comprising:

(e) at least one oxidising agent, wherein the oxidising agent is selected from calcium peroxide, sodium peroxide, sodium percarbonate and the combination of dextrose and glucose oxidase; and

(f) optionally at least one inert filler.

2. A kit comprising:

a first solid composition comprising:

(a) a peroxidase enzymatic catalysing agent, wherein the peroxidase enzymatic catalysing agent is selected from Lactoperoxidase, Myeloperoxidase, Eosinophil peroxidase, Urea peroxidase and plant-derived peroxidases;

(b) optionally at least one inert filler,

a second solid composition comprising:

(c) an oxidizable substrate selected from:

(i) chlorides such as sodium chloride, iodides such as potassium iodide and sodium iodide; or

(ii) sodium thiocyanate, potassium thiocyanate, sodium bisulfite, sodium hydrosulfite, sodium metabisulfite, sodium nitrite, potassium nitrite, sodium hypochlorite and a combination thereof;

(d) optionally at least one inert filler;

(e) a buffer system, wherein the buffer system is selected from citric acid : trisodium citrate; calcium lactate : citric acid; sodium L (+)-tartrate dehydrate : citric acid; calcium lactate : DL-malate : malic acid and Sodium L (+)-tartrate : tartaric acid, and

a third solid composition comprising:

(f) at least one oxidising agent, wherein the oxidising agent is selected from calcium peroxide, sodium peroxide, sodium percarbonate and the combination of dextrose and glucose oxidase; and

(g) optionally at least one inert filler.

3. The kit according to claim 1 or claim 2, wherein the solid composition comprises at least one inert filler which is selected from microcrystalline cellulose, calcium carbonate, dextrose monohydrate, magnesium stearate, dicalcium phosphate, lactose powder, multifunctional starch, partially depolymerized cellulose, partially pre-gelatinized starches, highly functional starch, bentonite, silica and combinations thereof.

4. The kit according to any preceding claim, wherein the oxidizable substrate and/or the oxidizing agent is encapsulated.

5. The kit according to any preceding claim, wherein the kit does not comprise:
   (i) a coagulant;
   (ii) a thickening agent, preferably wherein the formulation does not contain a clay such as bentonite; and/or
   (iii) a flocculant.

6. The kit according to any preceding claim wherein each of the first and second and optionally third composition is contained separately in a sachet, container or capsule.

7. The kit according to any preceding claim, wherein the
   (a) peroxidase enzymatic catalysing agent is Lactoperoxidase,

(b) oxidizable substrate is sodium thiocyanate and/or potassium thiocyanate and/or potassium iodide;
(c) at least one oxidising agent is calcium peroxide; and
(d) at least one inert filler is microcrystalline cellulose.

8. A method of sterilising water comprising the step of:
using the kit according to any one of claims 1 to 7, wherein the first, second and optionally third solid compositions are added to the water to be sterilised.

9. A method of preparing an antibacterial solution, disinfectant, antifungal solution and antiviral solution comprising the steps of:
(i) using the kit according to any one of claims 1 to 7, wherein the first, second and optionally third solid compositions are added to the water,
(ii) optionally adding further other anti-infectious, antimicrobial, antiviral, antibiotic, antifungal agents, preservatives or disinfection agents.

10. Use of an aqueous system comprising: (i) the kit according to any one of claims 1 to 7, and (ii) water; as an antibacterial solution, disinfectant, antifungal solution or antiviral solution for:
(i) cleaning, washing and disinfecting materials including surfaces, equipment and medical devices;
(ii) the preparation of solutions intended for pharmaceutical and cosmetic products;
(iii) introducing into the air and applying on to surfaces to kill pathogens; and
(iv) creating fine spray or mist prior to inhalation by human and/or animals.

11. Use of an aqueous system comprising: (i) the kit according to any one of claims 1 to 7, and (ii) water; as an antibacterial solution, disinfectant antifungal solution or antiviral solution alone or in combination with other anti-infectious, antimicrobial, antiviral agents for the removal of pathogens in agriculture in the form of a spray or mist on fields of flowers or crops or used in greenhouses or used in storage facilities for perishable goods.

12. A method of using the antibacterial solution, disinfectant antifungal solution or antiviral solution according to claim 9 for:

a. cleaning, washing and disinfecting materials including surfaces, equipment and medical devices;
b. the preparation of solutions intended for pharmaceutical and cosmetic products;
c. introducing into the air and applying on to surfaces to kill pathogens; and
d. creating fine spray or mist prior to inhalation by human and/or animals.

13. A method of using the antibacterial solution, disinfectant antifungal solution or antiviral solution according to claim 9, alone or in combination with other anti-infectious, antimicrobial, antiviral agents for the removal of pathogens in agriculture in the form of a spray or mist on fields of flowers or crops or used in greenhouses or used in storage facilities for perishable goods.