WHAT IS CLAIMED IS:

1. An aqueous solution comprising (a) monochloramine at a concentration of 1 ppm to 500 ppm and (b) peracetic acid at a concentration of 1 ppm to 500 ppm, wherein components (a) and (b) are present in a synergistically microbicidally effective combined amount to control the growth of at least one microorganism, wherein the pH of the aqueous solution is from 5 to 12 and wherein said microorganism is *Pseudomonas aeruginosa* or *Enterobacter aerogenes*.

2. The aqueous solution of claim 1, wherein the pH of the aqueous solution is from 7 to 10.

3. The aqueous solution of claim 1, wherein the aqueous solution further comprises at least one base.

4. The aqueous solution of claim 1, wherein at least one pH control agent is present in a concentration so that the aqueous solution has a pH of from 5 to 12.

5. The aqueous solution of claim 3, wherein the base comprises sodium hydroxide.

6. The aqueous solution of claim 3, wherein the base is present in a concentration so that the aqueous solution has a pH of from 7 to 10.

7. The aqueous solution of claim 4, wherein the pH control agent is at least one base or at least one acid.

8. A non-therapeutic method of controlling the growth of at least one microorganism in or on a product, material, or medium susceptible to attack by a microorganism, wherein said microorganism is *Pseudomonas aeruginosa* or *Enterobacter aerogenes,* the method comprising treating the product, material or medium with an aqueous solution as claimed in any preceding claim.

9. The method of claim 8, wherein component a) and at least one base are combined in an aqueous fluid before adding the aqueous fluid to said product, material, or medium, wherein component b) is further added to the aqueous fluid before the adding or separately applied to the said product, material, or medium.

10. The method of claim 8, wherein said monochloramine is formed in-situ in said medium or in the presence of said product or material.

11. The method of claim 8, wherein the material or medium is wood pulp or paper, wood chips, lumber, paints, leathers, adhesives, coatings, animal hides, tanning liquor, paper mill liquor, fiberglass, dairy processing, poultry processing, meat packing facilities, meat processing, metalworking fluids, petrochemicals, pharmaceutical formulations, cooling water, recreational water, dyes, clays, mineral slurries, cationic surfactants, formulations with cationic surfactants, influent water, waste water, pasteurizers, retort cookers, cosmetic formulations, toiletry formulations, textiles, geological drilling lubricants, or agrochemical compositions for crop or seed protection.

12. The method of claim 8, wherein the material or medium is in the form of a solid, a dispersion, an emulsion, or a solution.

13. A non-therapeutic method for preventing or slowing down spoilage of a product, material, or medium caused by a microorganism selected from *Pseudomonas aeruginosa* or

Enterobacter aerogenes, wherein the method comprises applying to the product, material, or medium an aqueous solution as claimed in any of claims 1 to 7.

14. The method of claim 13, wherein component a) and at least one base are combined in an aqueous fluid before adding the aqueous fluid to said product, material, or medium, wherein component b) is further added to the aqueous fluid before the adding or separately applied to the said product, material, or medium.

15. The method of claim 13, wherein said material or medium is a surface, device, and/or machinery utilized in meat, vegetable, or fruit preparation or processing or packing.