

What is claimed is:

1. A method for killing pathogens on a surface, the method comprising applying a composition to the surface, the composition comprising:
 - a. at least one quaternary ammonium compound;
 - b. a polymer comprising one or more types of monomer units selected from the group consisting of cationic monomer units, anionic monomer units, amphoteric monomer units, non-ionic monomer units, and combinations thereof, wherein at least one cationic monomer unit, at least one amphoteric monomer unit or at least one anionic monomer unit is present when the polymer comprises one or more non-ionic monomer units;
 - c. a surfactant selected from the group consisting of cationic surfactants, amphoteric surfactants, non-ionic surfactants, and combinations thereof; and
 - d. optionally, an organic acid,

wherein the pH of the composition is less than 5; and the composition achieves at least 0.5 log reduction in the amount of live pathogens on the surface, wherein the pathogens are selected from the group consisting of bacterial spores, fungal spores, non-enveloped viruses and combinations thereof within about 60 minutes, under conditions of standard temperature and pressure.

2. The method of claim 1, wherein the composition achieves at least 3 log reduction in the amount of live pathogens within about 60 minutes, under conditions of standard temperature and pressure.
3. The method of claim 1, wherein the composition achieves at least 3 log reduction in the amount of live pathogens within about 30 minutes, under conditions of standard temperature and pressure.
4. The method of claim 1, wherein the composition achieves at least 3 log reduction in the amount of live pathogens within about 10 minutes, under conditions of standard temperature and pressure.

5. The method of claim 1, wherein the pathogens are selected from the group consisting of bacterial spores.
6. The method of claim 1, wherein the pathogens are selected from the group consisting of fungal spores.
7. The method of claim 1, wherein the pathogens are selected from the group consisting of non-enveloped viruses.
8. The method of claim 1, wherein the quaternary ammonium compound is selected from the group consisting of monoalkyldimethylbenzyl ammonium salts, dialkyldimethyl ammonium salts, and combinations thereof.
9. The method of claim 1, wherein the polymer comprises only cationic monomer units.
10. The method of claim 1, wherein the polymer comprises only anionic monomer units.
11. The method of claim 1, wherein the composition further comprises an organic acid selected from the group consisting of citric, malic, maleic, lactic, succinic, glutaric, adipic acids and combinations thereof.
12. The method of claim 1, wherein the surfactant is selected from the group consisting of alkyl amines, ethoxylated alkyl amines, cationic amine oxides, and combinations thereof.
13. The method of claim 1, wherein the surfactant is selected from the group consisting of betaines.
14. The method of claim 1, wherein the surfactant is selected from the group consisting of alcohol ethoxylates.
15. The method of claim 1, wherein the composition further comprises an additive selected from the group consisting of polar carrier solvents, chelating agents, fragrances, preservatives, dyes, corrosion inhibitors, builders, cleansing solvents, and combinations thereof.

16. The method of claim 1, wherein the surface comprises a substrate selected from plastic, laminate, metal, glass, ceramic tile, paper, fabric, finished wood, unfinished wood, and combinations thereof.
17. The method of claim 1, wherein the composition is applied to the surface by spraying, pouring, wiping, or mopping.
18. The method of claim 1, wherein the composition further comprises at least one germinant in an amount sufficient to initiate germination of bacterial spores present on the surface.
19. The method of claim 1, wherein the composition further comprises an additive selected from the group consisting of ethanolamines, amino acids, thio-alcohols, thiolamines, and combinations thereof.
20. The method of claim 1 further comprising the step of treating the surface using a technique selected from the group consisting of ultrasonication, filtration, UV irradiation, heating, freezing, drying, and combinations thereof.