Claims:

1. A shower sterilisation system, said system comprising shower apparatus including water supply means, a shower head and shower conduit means connecting the shower head to the water supply means, and an applicator device located between the water supply means and the shower head for receiving a sterilisation or biocidal composition in use and allowing said sterilisation or biocidal composition to be delivered to one or more parts of said shower apparatus.

2. A system according to claim 1 wherein the applicator device comprises a housing including inlet means and/or outlet means for allowing the flow of water from the shower apparatus therethrough in use.

3. A system according to claim 2 wherein the applicator device includes receiving means located in or forming part of the housing for receiving the sterilisation composition in use.

4. A system according to claims 2 or 3 wherein the housing and/or the receiving means of the applicator device include attachment means and/or access means to allow the composition to be placed in the receiving means in use.

5. A system according to claim 2 wherein the inlet and/or outlet means are provided with connection means for allowing connection of the applicator device to the shower apparatus in use.

6. A system according to claim 3 wherein the receiving means includes an inner portion in fluid communication with an outer portion.

7. A system according to claims 2 and 6 wherein the inlet and outlet means are in fluid communication with the inner portion and outer portion respectively.

8. A system according to claim 3 wherein the receiving means are in the form of a container, basket or cavity provided with delimiting means.

9. A system according to claim 8 wherein the delimiting means includes one or more filters.

10. A system according to claim 1 wherein the applicator device is connected to or provided substantially in-line with one or more parts of the shower apparatus in use.

11. A system according to claim 1 wherein a water flow channel defined in the applicator device is arranged substantially co-axially with a water flow channel defined in the part of the shower apparatus to which the applicator device is connected to in use.

12. A system according to claim 5 wherein the connection means includes any or any combination of one or more screw threads, inter-engaging members, teeth, protruding lug or pin members, quick release fitting or twist-lock connection.

13. A system according to claim 1 wherein adapter means are provided to allow connection of the applicator device to the shower apparatus in use.

14. A system according to claim 13 wherein the adapter means is arranged to engage with connection means of the

applicator device and one or more parts of the shower apparatus.

15. A system according to claim 3 wherein the receiving means includes filter means capable of filtering the fluid flowing through the receiving means in use.

16. A system according to claim 15 wherein the filter means is a mesh or gauze.

17. A system according to claim 15 wherein the filter means is arranged substantially perpendicular to the direction of fluid flow through the device or to a central longitudinal axis defined through an aperture of the inlet and/or outlet means.

18. A system according to claim 3 wherein the receiving means and/or housing is substantially circular in cross section.

19. A system according to claim 2 wherein the housing is substantially Y-shaped or includes an outwardly protruding arm portion from a main body portion to allow insertion of the composition in said arm portion in use.

20. A system according to any preceding claim wherein the composition is locatable in the inner portion of the receiving means in use.

21. A system according to any preceding claim wherein the receiving means is detachably connected to the housing via attachment means.

22. A system according to claim 21 wherein the attachment means include any or any combination of a screw thread, friction fit, inter-engaging members, one or more clips, ties or screws.

23. A system according to any preceding claim wherein the housing includes an access opening defined in a wall of the housing to allow insertion of the composition into the housing and/or receiving means in use.

24. A system according to claim 23 wherein the access opening is in addition to one or more openings or apertures of the inlet and/or outlet means.

25. A system according to claim 23 wherein closure means are provided for closing the access opening in use, the closure means movable between an open position, wherein access to the access opening is possible, and a closed position, wherein the access opening is closed.

26. A system according to claim 25 wherein the closure means are pivotably, slidably or rotatably mounted on the housing to allow movement between the open and closed positions.

27. A system according to claim 26 wherein the closure means are slidably mounted on the housing and the closure means are maintained in the closed position by a rotatable nut or locking member.

28. A system according to claim 1 wherein said composition is substantially soluble in water.

29. A system according to claim 1 wherein the composition is contained within a container, sachet, capsule or bag formed from substantially soluble material.

30. A system according to claim 1 wherein the composition includes a non-aqueous carrier agent.

31. A system according to claim 30 wherein the non-aqueous carrier agent is or includes an alkylene glycol.

32. A system according to claim 31 wherein the alkylene glycol is provided in an amount of between 10-100% by weight of the final composition.

33. A system according to claim 1 wherein the biocidal or sterilisation composition includes any or any combination of anti-microbial, sterilisation, biocidal, descaling or chelating components.

34. A system according to claim 33 wherein the biocidal component is N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine.

35. A system according to claim 34 wherein the N-(3-aminopropyl)-N-dodecylpropane-1, 3-diamine is provided in an amount of 1-5% by weight of the final composition.

36. A system according to claim 1 wherein the composition includes an alkyl alkoxylate.

37. A system according to claim 36 wherein the alkyl alkoxylate is used in an amount of 2-10% by weight of the final composition.

38. A system according to claim 1 wherein an acid sequestering composition is located in the applicator device for use in the system and said acid sequestering composition is used before the biocidal or sterilisation composition.

39. A system according to claim 38 wherein the acid sequestering composition includes an acid.

40. A system according to claim 39 wherein the acid is phosphonic acid.

41. A system according to claim 40 wherein the phosphoric acid is used in an amount of 2-10% by weight of final composition.

42. A method of using shower sterilisation system, said system comprising shower apparatus including water supply means, a shower head and shower conduit means connecting the shower head to the water supply means, said method including the steps of locating an applicator device between the water supply means and the shower head, locating a sterilisation or biocidal composition in the applicator device and delivering said sterilisation or biocidal composition to one or more parts of said shower apparatus.

43. A method according to claim 42 wherein the method includes the step of allowing water to flow through the shower apparatus to cause said sterilisation or biocidal composition to be delivered to the one or more parts of the shower apparatus in use.

44. A method according to claim 42 including the step of allowing the composition to dissolve in the fluid flowing through the apparatus to form a chemical solution.

45. A method according to claim 44 including the step of allowing the chemical solution to stand or rest for a pre-determined period of time within the apparatus to allow any active ingredients of the chemical solution to take effect.

46. A method according to claim 45 wherein the pre-determined period of time is between 5-60 minutes.

47. A method according to claim 46 wherein the pre-determined period of time is approximately 15 minutes.

48. A method according to claim 42 including the step of washing out the apparatus by allowing fluid to flow through the apparatus after a standing time period.

49. A method according to claim 42 wherein the shower apparatus is switched on and warm or hot water is allowed to flow through the apparatus at a temperature above the mains water supply temperature for a pre-determined period of time before placing the composition in the applicator device.

50. An applicator device for delivering a composition to shower apparatus, said applicator device including:
a housing including inlet means and/or outlet means;
receiving means located on or forming part of the housing for receiving a composition in use;

the housing and/or the receiving means having attachment means and/or access means to allow the composition to be placed in the receiving means in use;

wherein the inlet and/or outlet means are provided with connection means for allowing connection of the applicator device to the shower apparatus in use.

AMENDED CLAIMS
received by the International Bureau on 18 jANUARY 2012 (18.01.2012)

1. A method of using a shower sterilisation system, said system comprising shower apparatus including water supply means, a shower head and shower conduit means connecting the shower head to the water supply means, said method including the steps of locating an applicator device between the water supply means and the shower conduit means, locating a sterilisation or biocidal composition in the applicator device, switching the shower apparatus on to allow water to flow through the applicator device to allow the composition to dissolve in the water flowing through the apparatus to form a chemical solution and to deliver said sterilisation or biocidal composition to one or more parts of said shower apparatus, allowing the chemical solution to stand or rest for a pre-determined period of time within the apparatus to allow any active ingredients of the chemical solution to take effect, and switching the shower apparatus back on to flush the chemical solution out of the system.

2. A method according to claim 1 wherein the pre-determined period of time is between 5-60 minutes.

3. A method according to claim 2 wherein the pre-determined period of time is approximately 15 minutes.

4. A method according to claim 1 wherein the shower apparatus is switched on and warm or hot water is allowed to flow through the apparatus at a temperature above the mains water supply temperature for a pre-determined period of time before placing the composition in the applicator device.

5. A method according to claim 1 wherein the applicator device comprises a housing including inlet means and/or outlet means



AMENDED SHEET (ARTICLE 19)

for allowing the flow of water from the shower apparatus therethrough in use, and the applicator device includes receiving means in the form of a container, basket or cavity provided with delimiting means located in or forming part of the housing, said method including the step of locating the sterilisation or biocidal composition in the container, basket or cavity.

6. A method according to claim 1 wherein the composition is contained within a container, sachet, capsule or bag formed from substantially soluble material.

7. A method according to claim 1 wherein the composition includes a non-aqueous carrier agent.

8. A method according to claim 7 wherein the non-aqueous carrier agent is or includes an alkylene glycol.

9. A method according to claim 1 wherein the biocidal composition includes N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine.

10. A method according to claim 9 wherein the N-(3-aminopropyl)-N-dodecylpropane-1, 3-diamine is provided in an amount of 1-5% by weight of the final composition.

11. A method according to claim 1 wherein the composition includes an alkyl alkoxylate.

12. A method according to claim 10 wherein the alkyl alkoxylate is used in an amount of 2-10% by weight of the final composition.

13. A method according to claim 1 including the step of locating an acid sequestering composition in the applicator device before the biocidal or sterilisation composition.

14. A method according to claim 13 wherein the acid sequestering composition includes phosphonic acid.

15. A method according to claim 14 wherein the phosphonic acid is used in an amount of 2-10% by weight of final composition.

Claims:

1. A method of using a shower sterilisation system, said system comprising shower apparatus including water supply means, a shower head and shower conduit means connecting the shower head to the water supply means, said method including the steps of locating an applicator device between the water supply means and the shower conduit means, locating a sterilisation or biocidal composition in the applicator device, switching the shower apparatus on to allow water to flow through the applicator device to allow the composition to dissolve in the water flowing through the apparatus to form a chemical solution and to deliver said sterilisation or biocidal composition to one or more parts of said shower apparatus, allowing the chemical solution to stand or rest for a pre-determined period of time within the apparatus to allow any active ingredients of the chemical solution to take effect, and switching the shower apparatus back on to flush the chemical solution out of the system, and wherein an acid sequestering composition is used in combination with the biocidal or sterilisation composition.

2. A method according to claim 1 wherein the pre-determined period of time is between 5-60 minutes.

3. A method according to claim 2 wherein the pre-determined period of time is approximately 15 minutes.

4. A method according to claim 1 wherein the shower apparatus is switched on and warm or hot water is allowed to flow through the apparatus at a temperature above the mains water supply temperature for a pre-determined

period of time before placing the composition in the applicator device.

5. A method according to claim 1 wherein the applicator device comprises a housing including inlet means and/or outlet means for allowing the flow of water from the shower apparatus therethrough in use, and the applicator device includes receiving means in the form of a container, basket or cavity provided with delimiting means located in or forming part of the housing, said method including the step of locating the sterilisation or biocidal composition in the container, basket or cavity.

6. A method according to claim 1 wherein the composition is contained within a container, sachet, capsule or bag formed from substantially soluble material.

7. A method according to claim 1 wherein the composition includes a non-aqueous carrier agent.

8. A method according to claim 7 wherein the non-aqueous carrier agent is or includes an alkylene glycol.

9. A method according to claim 1 wherein the biocidal composition includes N-(3-aminopropyl)-N-dodecylpropane-1,3-diamine.

10. A method according to claim 9 wherein the N-(3-aminopropyl)-N-dodecylpropane-1, 3-diamine is provided in an amount of 1-5% by weight of the final composition.

11. A method according to claim 1 wherein the composition includes an alkyl alkoxylate.

12. A method according to claim 10 wherein the alkyl alkoxylate is used in an amount of 2-10% by weight of the final composition.

13. A method according to claim 1 wherein the acid sequestering composition is located in the applicator device before use of the biocidal or sterilisation composition.

14. A method according to claim 1 wherein the acid sequestering composition includes phosphonic acid.

15. A method according to claim 14 wherein the phosphonic acid is used in an amount of 2-10% by weight of final composition.