## CLAIMS

**WHAT IS CLAIMED IS:**

1. A composition for purification of water by obtaining a biocidal activity in water, the composition comprising:

   a 5 ppb to 100 ppb transition metal ion $M^{n+}$ releasing compound, wherein transition metal $M^{n+}$ is silver ion ($Ag^{+}$) and $M^{n+}$ releasing compound is selected from the group consisting of silver nitrate, silver acetate, silver fluoride, silver sulfate, and silver nitrate; along with

   a 5 ppm to 100 ppm $CO_3^{2-}$ ion releasing compound, wherein the $CO_3^{2-}$ ion releasing compound is one of $Na_2CO_3$ and $K_2CO_3$; or

   a 5 ppm to 40 ppm $SiO_3^{2-}$ ion releasing compound, wherein the $SiO_3^{2-}$ ion releasing compound is one of $Na_2SiO_3$ and $K_2SiO_3$.

2. The composition as claimed in claim 1, wherein the source of silver ion includes dissolution of ion from silver releasing compound present in the form of silver nanoparticles.

3. The composition as claimed in claim 1, wherein the source of silver ion includes dissolution of ion from silver releasing compound present in the form of silver electrode.

4. The composition as claimed in any one of claims 1-3, wherein the composition acts as a biocide with water having chloride concentration up to 1000 ppm.

5. The composition as claimed in any one of claims 1-4, wherein the composition provides disinfection ability against gram positive bacteria.

6. The composition as claimed in any one of claims 1-5, wherein the composition further sterilize drinking water for more than about 48 hour of storage.

7. The composition as claimed in any one of claims 1-6, wherein the composition lowers the concentration of silver ion required at least by 60% when compared

with traditional use of $Ag^+$ ion for obtaining complete virus deactivation efficiency.

8. The composition as claimed in any one of claims 1-7, wherein the composition further the standing time required for obtaining complete microbial deactivation efficiency at least by 50% when compared with traditional use of silver ion.

9. The composition as claimed in any one of claims 1-8, wherein the composition further provides antiviral activity in water containing 1000 times wider input virus concentration range when compared with traditional use of silver ion.

10. A composition for obtaining biocidal activity in water, the composition comprising:

a 5 ppb to 5 ppm transition metal ion $M^{n+}$ releasing compound, wherein transition metal ion $M^{n+}$ includes one or more of $Fe^{3+}$, $Zn^{2+}$, $Cu^{2+}$, and $Ag^+$ and wherein the $M^{n+}$ releasing compound is selected from the group consisting of metal nitrate, metal acetate, metal fluoride, metal sulfate and silver nitrate; along with

a 5 ppm to 100 ppm $CO_3^{2-}$ ion releasing compound, wherein the $CO_3^{2-}$ ion releasing compound is one of $Na_2CO_3$ or $K_2CO_3$; or

a 5 ppm to 40 ppm $SiO_3^{2-}$ ion releasing compound, wherein the $SiO_3^{2-}$ ion releasing compound is one of $Na_2SiO_3$ or $K_2SiO_3$.

11. A water purification device comprising:

a tank having an inlet and an outlet for passage of water therethrough; and

a filtration unit present inside the tank, the filtration unit comprising:

at least one filtration medium for releasing metal ion in the water; along with

at least one capsule for releasing $CO_3^{2-}$ ions in the water, wherein $CO_3^{2-}$ ions are released by a compound comprising at least one of $Na_2CO_3$ and $K_2CO_3$; or

at least one capsule for releasing $SiO_3^{2-}$ ions in the water, wherein $SiO_3^{2-}$ ions are released by a compound comprising at least one of $Na_2SiO_3$ and $K_2SiO_3$.

12. The water purification device of claim 11, wherein the filtration medium for releasing metal ion in the water comprises silver nanoparticles impregnated on organic templated boehmite nanoarchitecture.

13. The water purification device of claims 11 or 12, wherein the capsule is prepared by granulating finely ground $Na_2CO_3$.

14. The water purification device of any one of claims 11-13, wherein the capsule is housed in a see-through housing in the filtration unit.

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a 5 ppm to 40 ppm $SiO_3^{2-}$ ion releasing compound, wherein the $SiO_3^{2-}$ ion releasing compound is one of $Na_2SiO_3$ and $K_2SiO_3$.

2. The composition as claimed in claim 1, wherein the source of silver ion includes dissolution of ion from silver releasing compound present in the form of silver nanoparticles.

3. The composition as claimed in claim 1, wherein the source of silver ion includes dissolution of ion from silver releasing compound present in the form of silver electrode.

4. A method of treating a contaminated water source comprising the addition of a composition as claimed in any one of claims 1-3, to a water source having a chloride concentration up to 1000 ppm wherein the composition once added, acts as a biocide.

5. A method of treating a contaminated water source comprising the addition of a composition as claimed in any one of claims 1-3, to a water source to provide a disinfectant ability against gram positive bacteria.

6. A method of treating contaminated drinking water comprising the addition of a composition as claimed in any one of claims 1-3, to the drinking water; and storing an amount of the drinking water; wherein the composition, once added sterilizes the stored drinking water for more than about 48 hours.

7. A method of treating a virus contaminated water source comprising the addition of a composition as claimed in any one of claims 1-3.

8. A composition for obtaining biocidal activity in water, the composition comprising:

a 5 ppb to 5 ppm transition metal ion $M^{n+}$ releasing compound, wherein transition metal ion $M^{n+}$ includes one or more of $Fe^{3+}$, $Zn^{2+}$, $Cu^{2+}$, and $Ag^{+}$ and wherein the $M^{n+}$ releasing compound is selected from the group consisting of metal nitrate, metal acetate, metal fluoride, metal sulfate and silver nitrate; along with

a 5 ppm to 100 ppm $CO_3^{2-}$ ion releasing compound, wherein the $CO_3^{2-}$ ion releasing compound is one of $Na_2CO_3$ and $K_2CO_3$; or

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