

IN THE CLAIMS

1. (Allowed) A method for treating waste water comprising:
providing a flow-through oxygenator comprising an emitter for electrolytic generation of microbubbles of oxygen comprising an anode separated at a critical distance from a cathode and a power source all in electrical communication with each other,
placing the emitter within a conduit; and
passing waste water through the conduit.

Claims 2-12 are cancelled.

13. (New) A method for producing an oxygenated aqueous composition comprising:
flowing water at a flow rate no greater than 12 gallons per minute through an electrolysis emitter comprising an electrical power source electrically connected to an anode electrode and a cathode electrode contained in a tubular housing,
causing electricity to flow from the power source to the electrodes, and,
producing the composition comprising a suspension comprising oxygen microbubbles and nanobubbles in the water, the microbubbles and nanobubbles having a bubble diameter of less than 50 microns, wherein:
the anode electrode is separated at a critical distance from the cathode such that the critical distance is from 0.005 inches to 0.140 inches;
the power source produces a voltage no greater than about 28.3 volts and an amperage no greater than about 13 amps,
the tubular housing has an inlet and an outlet and a tubular flow axis from the inlet to the outlet;
the water flows in the inlet, out the outlet, is in fluid connection with the electrodes, and the water flowing into the inlet has a conductivity produced by the presence of dissolved solids such that the water supports plant or animal life.

14. (New) A method according to claim 13 wherein the housing contains at least one anode and at least one cathode, the electrodes are of a grid or solid design and are relatively positioned in cross section along the radius of the tubular housing with their long axes substantially parallel to the tubular water flow axis of the housing.

15. (New) A method according to claim 13 wherein the housing has a side arm positioned at an angle relative to the tubular flow axis and the electrodes are located in the side arm.

16. (New) A method according to claim 15 wherein the side arm contains a multiple number of anode and cathode electrodes and the electrodes are plate shaped.

17. (New) A method according to claim 14 wherein a multiple number of anode and cathodes are present and are of grid or solid design.

18. (New) A method according to claim 13 wherein the water has a temperature no greater than about ambient temperature at the inlet and the water temperature is a factor for formation of the suspension.

19. (New) A method according to claim 13 wherein the microbubbles and nanobubbles remain in the water at least in part for a period up to several hours.

20. (New) A method according to claim 19 wherein the period for which the microbubbles and nanobubbles at least in part remain in the water is determined by containing the water with microbubbles and nanobubbles in a two and one half gallon aquarium reservoir container.

21. (New) A method according to claim 13 wherein the microbubbles and nanobubbles supersaturate the water.

22. (New) A method according to claim 13 wherein the bubble diameter of the microbubbles and nanobubbles is less than 0.0006 inches.

23. (New) A method according to claim 13 wherein the separation of electrodes is maintained by a nonconductive spacer.

24. (New) A method according to claim 13 wherein the electrode separation distance is about 0.045 to about 0.06 inches.

25. (New) A method according to claim 13 wherein the microbubbles and nanobubbles are substantially incapable of breaking the surface tension of the water.

26. (New) A method according to claim 13 wherein each anode and cathode electrode of the emitter is positioned so that substantially all points midway between opposing anode and cathode electrodes are closer to a surface of the tubular housing than to a center point within the tubular housing.

27. (New) A method according to claim 26 wherein each anode and cathode electrode of the emitter are positioned so that the electrodes do not obstruct a water flow passage along the center of the tubular housing.