

5

mixing chamber 1 and through the inner wall 3 of the mixing chamber 1 above, and offset from the first open end portion 5 of the mixture delivery tube 4 into order to provide an outlet for the liquid diluent which facilitates a uniform flow thereof down, and along, the inner wall 3 of the active agent mixing chamber 1, and to prevent unintended clogging or obstruction of the first open end portion 8 of the liquid delivery tube 7 by the active agent prior to, or during, the admixing process. Preferably, the first open end portion 8 of the liquid delivery tube 7 is disposed along inner wall 3 of active agent mixing chamber 1, which disposition is as depicted in FIG. 1. The first open end portion 8 of the liquid delivery tube 7 is also proximally disposed a suitable distance below the underside of the sealing means 12 so as to prevent blockage or obstruction of the first open end portion 8 thereby, thus allowing unobstructed passage of the liquid diluent through the liquid delivery tube 7 and into the active agent mixing chamber 1. The hollow liquid delivery tube 7 may also be formed from a material or materials identical to, similar to, or different from, those disclosed hereinabove for forming the active agent mixing chamber 1 and mixture delivery tube 4. Where appropriate to facilitate initial dissolution or suspension of the active agent, or a formulation thereof, in the liquid diluent, the active agent and a small amount of the liquid diluent may be admixed in the mixing chamber 1 prior to drawing larger amounts of the liquid diluent thereinto by means of vacuum and/or suction as described hereinabove.

For convenience in mounting the apparatus on a liquid reservoir 11 prior to, or during operation, the apparatus may, if desired, further comprise mounting means 10, preferably disposed on the outer wall 2 of the active agent mixing chamber 1. The mounting means 10 may comprise any conventional arrangement known to one of ordinary skill in the art, or apparent in light of the instant disclosure, for mounting a medicament dispensing apparatus on a liquid reservoir 11, including, for example, an elongate hook or lip, a ridge or groove, or any similar, or different, means. The material comprising the mounting means 10 may comprise the same, or different, material or materials used to form the active agent mixing chamber 1. The liquid reservoir 11 may comprise any conventional device or apparatus designed to retain a liquid diluent including, for example, a drinking cup or glass, a bowl or mug, and the like.

The apparatus thus described may be conveniently operated in the following, exemplary manner. The apparatus is first charged with an active agent by physically pouring, adding, or otherwise transferring the active agent into the mixing chamber 1. The mixing chamber 1 is then sealed with sealing means 12. The charged apparatus is then most conveniently placed on a liquid reservoir 11 and secured thereon such that the second open end portion 9 of the liquid delivery tube is maintained below the level of the liquid diluent contained in the liquid reservoir 11. A vacuum is then imparted to the mixing chamber 1, thereby drawing a liquid diluent thereinto, preferably by mouth suction imparted through the mixture delivery tube 4, thereby admixing the active agent with the liquid diluent. Although the mixing dynamics resulting from the process of actively combining the liquid diluent and the active agent, or a formulation thereof, inside the mixing chamber 1 is typically sufficient to create a solution or suspension of desired and/or appropriate consistency for delivery through the mixture delivery tube 4, such dynamics may, if desired, be augmented by physical manipulation, i.e. shaking, agitating, etc., the apparatus immediately following, or during, the process of dilution. Once the liquid diluent and the active agent, or a formulation

6

thereof, have been admixed to a desired consistency inside the mixing chamber 1, negative pressure, preferably by mouth suction, is maintained therein by the user thereof, thereby drawing the solution or suspension formed in the mixing chamber 1 through the mixture delivery tube 4 and into the oral cavity of the user. Any small amount of residual active agent/liquid diluent admixture remaining in the mixing chamber 1 following essentially complete dispensation may be finally dispensed into the oral cavity of the user by inclining the apparatus at an angle sufficient to permit flow of the residual amount of admixture into the mixture delivery tube 4 and into the oral cavity of the user.

What is claimed is:

1. An apparatus comprising:

- (i) a sealable, active agent mixing chamber comprising outer and inner walls, said inner wall defining a compartment for containing and admixing an active agent, or a pharmaceutical formulation thereof, with a liquid diluent to form a solution or suspension;
- (ii) a hollow mixture delivery tube comprising first and second open end portions; and
- (iii) at least one hollow liquid delivery tube comprising first and second open end portions; and
- (iv) sealing means for removably sealing said active agent mixing chamber;

wherein:

said first open end portion of said hollow mixture delivery tube is inserted into said outer wall of said active agent mixing chamber and through said inner wall of said mixing chamber, said first open end portion forming a passage thereinto;

and said first open end portion of said hollow liquid delivery tube is inserted into said outer wall of said active agent mixing chamber and through said inner wall of said mixing chamber above, and offset from, said first open end portion of said mixture delivery tube, said first open end portion also forming an opening into said mixing chamber, such that upon charging said mixing chamber with an active agent or a pharmaceutical formulation thereof, sealing said mixing chamber with said sealing means, placing said second open end portion of said liquid delivery tube into a liquid reservoir, and imparting negative pressure on said second open end portion of said mixture delivery tube, liquid is drawn through said liquid delivery tube into said mixing chamber thereby admixing said active agent with said liquid diluent to form a solution or suspension, and said solution or suspension thus formed is drawn into said first end portion, and out through said second open end portion, of said mixture delivery tube.

2. An apparatus according to claim 1 wherein said first open end portion of said mixture delivery tube is inserted into said outer wall of said mixing chamber at an angle tangential to said outer wall of said active agent mixing chamber.

3. An apparatus according to claim 1 wherein said first open end portion of said liquid delivery tube is inserted along said inner wall of active agent mixing chamber.

4. An apparatus according to claim 1 further comprising mounting means disposed thereon.

5. An apparatus according to claim 4 wherein said mounting means is disposed on said outer wall of said active agent mixing chamber.