Claims

1. Method for producing a single-phase phase-stable liquid, in which

   a. in a first step, a lipophilic liquid is mixed with a hydrophilic liquid, so that a mixture of the liquids is obtained,

   b. in a second step, the static pressure of the mixture is brought below the vapor pressure of at least one of the liquids, so that cavitation bubbles occur, and

   c. in a third step, the cavitation bubbles are caused to implode, a single-phase phase-stable liquid being obtained,

   wherein the mixture is set in rotational motion before the second step, and where the rotational motion of the mixture is generated by a worm (9) with a helical tapering tube.

2. Method according to Claim 1, characterized in that the lowering of the static pressure in the second step is brought about by the outlet of the mixture from a nozzle.

~~3. Method according to either one of Claims 1 and 2, characterized in that the mixture is set in rotational motion before the second step.~~

43. Method according to Claim 31, characterized in that the rotational motion of the mixture is generated by ~~a worm (9) with a helical tapering tube,~~ a hyperbolic funnel, a centrifugal pump (4), a tube having internal swirl-generating shapes (10), a turbine or by a plurality of these devices.

54. Method according to Claim 41, characterized in that the tapering tube of the worm (9) widens again in the throughflow direction toward the

end of the worm (9), in which case however, especially preferably, the outlet orifice of the worm (9) is smaller than the inlet orifice.

65. Method according to one of Claims 2 to 54, characterized in that there is a convergent and, in particular, convergent/divergent nozzle.

76. Method according to one of Claims 43 to 65, characterized in that the mixture is first set in rotational motion by means of a centrifugal pump (4), and the mixture is subsequently accelerated further in the worm (9), in particular the mixture is subsequently conducted through the tube (10) having internal swirl-generating shapes.

87. Method according to one of Claims 43 to 76, characterized in that the swirl-generating shapes have at least partially a helicoidal form.

98. Method according to one of Claims 43 to 87, characterized in that the tube of the worm (9) has at its smallest diameter a diameter of at most 30% of the diameter of the inlet.

109. Method according to one of Claims 43 to 98, characterized in that the liquid surrounds the outlet of the nozzle~~, and, in particular, the outlet of the nozzle is not arranged in gaseous surroundings~~.