to altering the flavor of living organism applicable fluid, such as tea and mineral water.

[0006]

Therefore, equipment for producing living organism applicable hydrogen-contained fluid is desired which does not change constituents of living organism applicable fluid.

[0007]

Besides, only "food additives" are officially permitted as additives allowed for contacting with articles of food under the Food Sanitation Act.

[0008]

Accordingly, when producing living organism applicable hydrogen-contained fluid using hydrogen generating agent, it violates the Food Sanitation Act to cause magnesium or hydrogenated product as the hydrogen generating agent to directly contact with living organism fluid.

[Means for solving the Problems]

[0009]

In an aspect, there is provided a selective hydrogen adding equipment for living organism applicable fluid, comprising: a hydrogen generating system that contains a hydrogen generating agent as an essential component; and a hydrogen bubble forming implement that stores the hydrogen generating system and has a gas/liquid separating section including a gas-permeable film or an open-close type valve, wherein a living organism applicable hydrogen-contained fluid is obtained through causing the hydrogen generating system and a generating-purpose water to react in the hydrogen bubble forming implement and supplying hydrogen gas generated in the hydrogen bubble forming implement into living organism applicable fluid via the gas/liquid separating section.

wherein the hydrogen generating agent is processed by a thermal insulation process for suppressing a reaction heat due to hydrogen generating reaction from directly transferring to the gas-permeable film or the open-close type valve of the gas/liquid separating section.

wherein the thermal insulation process is to use as the hydrogen generating agent a metal raw material including hydrogenated metal or metal having higher ionization tendency than hydrogen and the metal raw material is such that the temperature thereof is below 50 degrees C when measured by a metal raw material heat generation temperature measurement method or the metal raw material requires 5 seconds or more before reaching 50 degrees C.

and wherein the metal raw material heat generation temperature measurement method is a method for measuring temperature of the metal raw material when causing a hydrogen generating system, which is comprised of metal raw material 500 mg and malic acid (if the metal raw material is aluminum as being amphoteric metal, aluminum potassium sulfate) 500 mg, to react in a tube with tap water 500 mg of water temperature 25 to 26 degrees C as the generating-purpose water.

Through preparing a hydrogen generating system which contains a hydrogen generating agent such as metal aluminum or metal magnesium as an essential constituent, storing the hydrogen generating system in a hydrogen bubble forming implement having a gas/liquid separating section which is devised so as to release hydrogen gas while substantially not making water flow in, and/or to release hydrogen gas while substantially not making water flow out, and causing the hydrogen generating agent and generating-purpose water to react in the hydrogen bubble forming implement, the hydrogen gas generated from the hydrogen bubble forming implement is dissolved into living organism applicable fluid substantially without causing the generating-purpose water having been used for the hydrogen generating reaction to flow out into the living organism applicable fluid, thereby to solve the problems. Further, the hydrogen gas is supplied to a closed container gas phase section storing the living organism applicable fluid thereby to solve the problems. Furthermore, high pressure and high concentration hydrogen gas in the gas phase is dissolved into the living organism applicable fluid through shaking of the closed container, thereby providing high concentration or supersaturated living organism applicable hydrogen-contained fluid to solve the problems.

[Advantageous Effect of the Invention]

[0010]

By supplying hydrogen into the living organism applicable fluid using such

What is claimed is:

1. A selective hydrogen adding equipment for living organism applicable fluid, comprising: a hydrogen generating system that contains a hydrogen generating agent as an essential component; and a hydrogen bubble forming implement that stores the hydrogen generating system and has a gas/liquid separating section including a gas-permeable film or an open-close type valve, wherein a living organism applicable hydrogen-contained fluid is obtained through causing the hydrogen generating system and a generating-purpose water to react in the hydrogen bubble forming implement and supplying hydrogen gas generated in the hydrogen bubble forming implement into living organism applicable fluid via the gas/liquid separating section,

wherein the hydrogen generating agent is processed by a thermal insulation process for suppressing a reaction heat due to hydrogen generating reaction from directly transferring to the gas-permeable film or the open-close type valve of the gas/liquid separating section,

wherein the thermal insulation process is to use as the hydrogen generating agent a metal raw material including hydrogenated metal or metal having higher ionization tendency than hydrogen and the metal raw material is such that the temperature thereof is below 50 degrees C or requires 5 seconds or more before reaching 50 degrees C when measured by a metal raw material heat generation temperature measurement method,

and wherein the metal raw material heat generation temperature measurement method is a method for measuring temperature of the metal raw material when causing a hydrogen generating system, which is comprised of metal raw material 500 mg and malic acid (if the metal raw material is aluminum as being amphoteric metal, aluminum potassium sulfate) 500 mg, to react in a tube with tap water 500 mg of water temperature 25 to 26 degrees C as the generating-purpose water.

2. The selective hydrogen adding equipment for living organism applicable fluid as set forth in claim 1, wherein the metal raw material is obtained from at least one of magnesium, aluminum, zinc, iron, and cobalt.

3. The selective hydrogen adding equipment for living organism applicable fluid as set forth in claim 1, wherein the gas-permeable film is poorly-permeable or non-permeable for water and permeable for hydrogen gas thereby to substantially avoid the generating-purpose water to flow out from the hydrogen bubble forming implement.

4. The selective hydrogen adding equipment for living organism applicable fluid as set forth in claim 1, wherein the open-close type valve is opened by a gas pressure of hydrogen gas generated in an internal of the hydrogen bubble forming implement owing to a reaction between the hydrogen generating system and the generating-purpose water thereby to exhaust hydrogen gas to an external of the hydrogen bubble forming implement while the open-close type valve is closed after the exhaust.

5. The selective hydrogen adding equipment for living organism applicable fluid as set forth in claim 1, wherein the selective hydrogen adding equipment for living organism applicable fluid is stored in a closed container.

6. The selective hydrogen adding equipment for living organism applicable fluid as set forth in claim 5, wherein the closed container is shaken to provide living organism applicable hydrogen-contained fluid.

What is claimed is:

1. A selective hydrogen adding equipment for living organism applicable fluid, comprising: a hydrogen generating system that contains a hydrogen generating agent as an essential component; and a hydrogen bubble forming implement that stores the hydrogen generating system and has a gas/liquid separating section including a gas-permeable film or an open-close type valve, wherein a living organism applicable hydrogen-contained fluid is obtained through causing the hydrogen generating system and a generating-purpose water to react in the hydrogen bubble forming implement and supplying hydrogen gas generated in the hydrogen bubble forming implement into living organism applicable fluid via the gas/liquid separating section,

wherein the hydrogen generating agent is processed by a thermal insulation process for suppressing a reaction heat due to hydrogen generating reaction from directly transferring to the gas-permeable film or the open-close type valve of the gas/liquid separating section,

wherein the thermal insulation process is to use as the hydrogen generating agent a metal raw material including hydrogenated metal or metal having higher ionization tendency than hydrogen and the metal raw material is such that the temperature thereof is below 50 degrees C when measured by a metal raw material heat generation temperature measurement method or the metal raw material requires 5 seconds or more before reaching 50 degrees C,

and wherein the metal raw material heat generation temperature measurement method is a method for measuring temperature of the metal raw material when causing a hydrogen generating system, which is comprised of metal raw material 500 mg and malic acid (if the metal raw material is aluminum as being amphoteric metal, aluminum potassium sulfate) 500 mg, to react in a tube with tap water 500 mg of water temperature 25 to 26 degrees C as the generating-purpose water.

2. The selective hydrogen adding equipment for living organism applicable fluid as set forth in claim 1, wherein the metal raw material is obtained from at least one of magnesium, aluminum, zinc, iron, and cobalt.

3. The selective hydrogen adding equipment for living organism applicable fluid as set forth in claim 1, wherein the gas-permeable film is poorly-permeable or non-permeable for water and permeable for hydrogen gas thereby to substantially avoid the generating-purpose water to flow out from the hydrogen bubble forming implement.

4. The selective hydrogen adding equipment for living organism applicable fluid as set forth in claim 1, wherein the open-close type valve is opened by a gas pressure of hydrogen gas generated in an internal of the hydrogen bubble forming implement owing to a reaction between the hydrogen generating system and the generating-purpose water thereby to exhaust hydrogen gas to an external of the hydrogen bubble forming implement while the open-close type valve is closed after the exhaust.

5. The selective hydrogen adding equipment for living organism applicable fluid as set forth in claim 1, wherein the selective hydrogen adding equipment for living organism applicable fluid is stored in a closed container.

6. The selective hydrogen adding equipment for living organism applicable fluid as set forth in claim 5, wherein the closed container is shaken to provide living organism applicable hydrogen-contained fluid.