CLAIMS

1. Device for inhaling a substance (1) comprising:

- a cold liquid atomiser (2),
- an assembly (E) comprising said atomiser (2) and a first tank (3) containing at least one substance to be inhaled in liquid form or in solution, said atomiser (2) being in fluid communication with said first tank (3),
- a second tank (4) arranged to contain a pressurised gas and being in fluid communication with said assembly (E),
- a mouthpiece (5) in fluid communication with an outlet of said atomiser (2),
- a trigger (6) arranged to release a quantity of said gas outside of said second tank (4) and towards said assembly (E),
- a pump (P) arranged to suction, inject and compress the ambient air in said second tank (4), and
- a stop valve (11) located upstream from said cold liquid atomiser (2), said stop valve (11) comprising a second inlet and a second outlet, the second inlet being connected by a first fluid connection to an outlet of said second tank (4) arranged to contain a pressurised gas and the second outlet being connected by a second fluid connection to a first inlet of said cold liquid atomiser (2), said stop valve (11) being configured to be and remain closed as long as a pressure P_1 of said pressurised gas at said second inlet is less than a reference minimum pressure P_{min} and being configured to open when and as long as said pressure P_1 of said pressurised gas at said second inlet is greater than or equal to the pressure P_{min}.

2. Device for inhaling a substance (1) according to claim 1, wherein an inlet of said first tank (3) is in fluid communication with said second tank (4).

3. Device for inhaling a substance (1) according to claim 1, wherein a first inlet (e1) of said cold liquid atomiser (2) is in fluid communication with said second tank (4) and in that a second inlet (e2) of said cold liquid atomiser (2) is in fluid communication with said first tank (3).

4. Device for inhaling a substance (1) according to claim 3, wherein said cold liquid atomiser (2) is located at least partially in said first tank (3).

5. Device for inhaling a substance (1) according to any one of the preceding claims, wherein said at least one substance to be inhaled in liquid form or in solution contained in said first tank (3) is not pressurised there.

6. Device for inhaling a substance (1) according to any one of the preceding claims, wherein said second tank comprises a porous material, in particular a microporous material, for example a zeolite.

7. Device for inhaling a substance (1) according to any one of the preceding claims, wherein said pump (P) is a manual pump.

8. Device for inhaling a substance according to claim 7, wherein said manual pump (P) is a two-way pump.

9. Device for inhaling a substance according to claim 7 or 8 further comprising an additional piston other than a piston of said pump when it is manual, said additional piston being activated by a pressurised gas contained in said second tank (4), the pressurised gas enabling the additional piston to perform a displacement movement accompanying a movement performed by the extensor muscles of a user during a manual pumping performed with said manual pump (P).

10. Device for inhaling a substance according to claim 7 or 8 further comprising a device arranged to transform a mechanical energy into electrical energy, in particular a device arranged to transform a mechanical energy provided by a user into an electrical energy to activate the pump (P) when the pump is manual.

11. Device for inhaling a substance (1) according to any one of the preceding claims further comprising a mechanism for closing said second tank (4), for example a one-way valve.

12. Device for inhaling a substance (1) according to any one of the preceding claims further comprising a mechanism for closing an inlet or an outlet of said cold liquid atomiser (2).

13. Device for inhaling a substance (1) according to any one of the preceding claims, wherein said cold liquid atomiser, for example a cold mister or a cold nebuliser, is a cold liquid atomiser arranged to lead, by atomisation, to an aerosol, for example to a mist or to a nebulisate, having droplets having a droplet size between 0.05 and 100µm.

14. Device for inhaling a substance (1) according to any one of the preceding claims further comprising a compartment comprising an aroma or an aromatic substance and being in fluid communication with said cold liquid atomiser (2).

15. Device for inhaling a substance (1) according to any one of the preceding claims, wherein said pressure P_{min} is between 0.1 and 1 bar, more preferably between 0.2 and 0.7 bar, more preferably still between 0.3 and 0.4 bar.

16. Device for inhaling a substance (1) according to any one of the preceding claims comprising a safety valve comprising an inlet fluidically connected to the second tank arranged to contain a pressurised gas, and an outlet in fluid communication with an outer surrounding environment, said safety valve being configured to be and remain closed as long as a pressure P_{in} at its inlet is less than a predetermined safety pressure $P_{sécurité}$ and being configured to open when and as long as said pressure P_{in} at its inlet is greater than the predetermined safety pressure $P_{sécurité}$.

17. Device for inhaling a substance (1) according to claim 16, wherein the inlet of said safety valve is fluidically connected directly to a wall or to an outlet of said second tank arranged to contain a pressurised gas.

18. Device for inhaling a substance (1) according to claim 16 or 17, wherein said predetermined safety pressure $P_{sécurité}$ is between 10 and 12 bar, more preferably between 5 and 20 bar.

19. Device for inhaling a substance (1) according to any one of the preceding claims comprising a pressure regulator (10) located between said second tank (4) arranged to contain a pressurised gas and said cold liquid atomiser (2).

20. Device for inhaling a substance (1) according to any one of the preceding claims, characterised in that it has no battery.

21. Device for inhaling a substance (1) according to any one of the preceding claims, characterised in that it further comprises a device or a chamber for mixing said substance to be inhaled in liquid form or in solution and said pressurised gas.

22. Assembly comprising a device for inhaling a substance (1) according to any one of the preceding claims and a station for filling said second tank with gas, in particular with air and/or recharging with electrical energy of the device for inhaling a substance.

23. Use of a device for inhaling a substance (1) according to any one of claims 1 to 21, to atomise at least one substance to be inhaled.