CLAIMS:

1. A transdermal delivery device comprising:

a) a housing including

i) an external body shell comprising a fluid chamber assembly access covering detachably engaged with the external body shell;

ii) an interior compartment including an open-ended delivery outlet and a vapor producing assembly compartment; and

iii) a cartridge retaining container comprising an external covering shell and an internal cartridge compartment configured to hold a compressed gas cartridge, wherein the cartridge retaining container is detachably engaged with the external body shell;

wherein the vapor producing assembly compartment is located between the open-ended delivery outlet and the cartridge retaining container; and

b) a vapor producing assembly including

i) a fluid chamber assembly comprising a fluid container and a removable fluid container cap wherein the fluid chamber includes a liquid; and

ii) a pressure-temperature regulator assembly comprising at least two pressure regulators connected via an adaptor wherein a first pressure regulator is connected to a second pressure regulator, wherein the pressure-temperature regulator assembly is set to reduce the pressure and increase the temperature of a therapeutically effective compressed gas from the compressed gas cartridge;

wherein the vapor producing assembly is substantially contained within the vapor producing assembly compartment.

2. The transdermal delivery device of Claim 1, wherein the device further includes a control switch assembly.

3. The transdermal delivery device of Claim 2, wherein the control switch assembly is a mechanical switch or an electronic switch.

4. The transdermal delivery device of Claim 1, wherein the liquid is water at pH 4.

5. The transdermal delivery device of Claim 1, wherein the compressed gas cartridge is a 16 g compressed gas cartridge.

6. The transdermal delivery device of Claim 1, wherein the therapeutically effective compressed gas is carbon dioxide.

7. The transdermal delivery device of Claims 1-6, wherein the pressure-temperature regulator assembly is configured to reduce the pressure of a gas to below 40 psi (about 275 kPa) and increase the temperature of the gas to at least 0°C.

8. The transdermal delivery device of Claims 1-6, wherein ~~the pressure-temperature regulator assembly is configured to increase the temperature of the gas to at least 0°C.~~the fluid container includes:

an inlet port designed to receive the reduced pressure gas from the pressure-temperature regulator assembly and channel the gas into the liquid to produce a liquid comprising a supersaturated amount of dissolved gas molecules; and

an outlet port designed to release a gas including supersaturated vapor into the open-ended delivery outlet.

9. The transdermal delivery device of Claim 1, wherein the liquid includes a therapeutic agent.

10. The transdermal delivery device of Claim 9, wherein the therapeutic agent is nicotine, ~~an~~ antihistamines, a β-blocker, a calcium channel blocker, a non-steroidal anti-inflammatory drug, a contraceptive, an anti-arrhythmic drug, an insulin, an antiviral, a hormone, an α-interferon, a chemotherapeutic agent, or a combination thereof.

11. A method of ~~generating a composition comprising~~producing a substance ~~including a therapeutically effective amount of dissolved molecular carbon dioxide~~comprising a supersaturated amount of dissolved gas using a transdermal delivery device according to Claims 1-10.

12. The method of Claim 11, wherein the therapeutically effective amount of dissolved molecular carbon dioxide is at least 600 ppm.

13. The method of Claim 11, wherein the therapeutically effective amount of dissolved molecular carbon dioxide is a supersaturated amount of dissolved molecular carbon dioxide.

14. The ~~t~~method of Claim ~~1~~11, wherein the liquid includes a therapeutic agent.

15. The method of Claim 14, wherein the therapeutic agent is nicotine, ~~an~~ antihistamines, a β-blocker, a calcium channel blocker, a non-steroidal anti-inflammatory drug, a contraceptive, an anti-arrhythmic drug, an insulin, an antiviral, a hormone, an α-interferon, a chemotherapeutic agent, or a combination thereof.