CLAIMS

What is claimed is:

1. A beverage nucleator system for a supercooled beverage container, comprising:

an ultrasonic device with an ultrasonic transmitter; and

a frame with the ultrasonic device positioned therein;

the frame comprising a beverage container aperture therein,

wherein the beverage container aperture is sized to allow for direct contact between the ultrasonic transmitter and the container.

2. The beverage nucleator system of claim 1, wherein the container comprises a bottle with a closure and wherein the beverage container aperture is sized for receiving the closure.

3. The beverage nucleator system of claim 2, wherein the direct contact on the container is on the closure.

4. The beverage nucleator system of any of claims 1-3, wherein the ultrasonic device comprises a contact switch.

5. The beverage nucleator system of claim 4, wherein the contact switch is positioned adjacent to the beverage container aperture.

6. The beverage nucleator system of any of claims 1-5, wherein the frame comprises an upper ledge and wherein the upper ledge comprises the beverage container aperture.

7. The beverage nucleator system of any of claims 1-6, wherein the ultrasonic device comprises a portable ultrasonic device.

8. The beverage nucleator system of any of claims 1-7, wherein the frame comprises a thermoplastic or a stainless steel.

9. The beverage nucleator system of any of claims 1-8, further comprising:

a button positioned on the frame and configured to activate the ultrasonic device.

10. The beverage nucleator system of any of claims 1-9, further comprising:

a pressure sensor configured to activate the ultrasonic device upon sensing a threshold pressure.

11. The beverage nucleator system of any of claims 1-10, wherein the frame and the beverage container aperture are configured to receive a beverage container in an inverted position.

12. The beverage nucleator system of any of claims 1-11, wherein the ultrasonic device is configured to provide an ultrasound signal with a frequency between 5-60 kHz, with a power of 3-100 W, for an amount of time between 100 ms – 30 s.

13. The beverage nucleator system of claim 12, wherein the ultrasonic device is configured to provide an ultrasound signal with a frequency between 20-30 kHz, with a power of 5-10 W, for an amount of time between 1 -5 s.

14. A method of providing an iced beverage product, comprising:

receiving a supercooled beverage in a bottle with a closure such that the closure of the bottle is in direct contact with an ultrasonic transmitter, wherein the bottle is in an inverted position; and

transmitting ultrasonic energy from the ultrasonic transmitter into the beverage through the closure to cause ice crystal nucleation within the beverage.

15. The method of claim 14, wherein receiving the bottle comprises positioning the closure in a beverage container aperture of a frame that has the ultrasonic transmitter positioned therein.

16. The method of any of claims 14-15, further comprising:

activating an ultrasonic device to transmit the ultrasonic energy from the ultrasonic transmitter in response to a contact switch closing, a button being pressed, and/or a pressure sensor sensing a threshold pressure.

17. The method of any of claims 14-16, wherein the ultrasonic energy comprises a frequency between 5-60 kHz, with a power of 3-100 W, for an amount of time between 100 ms – 30 s.

18. The method of claim 17, wherein the ultrasonic energy comprises a frequency between 20-30 kHz, with a power of 5-10 W, for an amount of time between 1 -5 s.