WHAT IS CLAIMED

1. A process for fast and homogeneously heating a liquid product to a predetermined temperature by means of resistive heating, to obtain heated liquid product, comprising:
   (a) providing a liquid product;
   (b) providing an apparatus for fast and homogeneously heating a liquid product to a predetermined temperature by means of resistive heating;
   (c) continuously supplying the liquid product to the inlet of the apparatus and flowing the liquid product through the apparatus;
   (d) continuously generating an electrical current through the flowing liquid product in the apparatus, wherein minimal one pulse is applied on each fluid element during passage with a pulse duration of at least 10 microseconds and wherein the electrical field strength is 0.1 to 5 kV/cm; and
   wherein the maximum temperature of the liquid product autonomously remains below 92°C during the resistive heating.

2. A process according to claim 1, wherein the pH of the liquid product is between pH 1.5 and 9.0 preferably above 4.6, preferably between 4.8 and 9.0, more preferably between 5.5 and 8.0, more preferably between 6.0 and 7.5.

3. A process according to claim 1 or claim 2, wherein the liquid product has an electrical conductivity between 0.01 and 10 S/m measured at 20°C, preferably between 0.1 and 3 S/m measured at 20°C, more preferably between 0.2 S/m and 0.8 S/m measured at 20°C.

4. A process according to any of the claims 1-3, wherein the liquid product is a liquid food product or a liquid feed product.

5. A process according to any of the claims 1-4, wherein the liquid product is an ingredient, semi-finished product, or final liquid product, like fruit juice, vegetable juice or smoothie, a jam, a spread, an alcoholic or non-alcoholic beverage, dairy product, plant milk product, liquid egg, a soup or a sauce.

6. A process according to claim 5, wherein the dairy product is selected from milk, a milk product or a liquid composition comprising a milk component or a milk fraction.

7. A process according to any of the claims 1-6, wherein the temperature of the liquid product autonomously remains below 85°C during the resistive heating, preferably below 75°C, more preferably below 60°C.

8. A process according to any of the claims 1-7, wherein the electrical field strength is 0.5 to 5 kV/cm, preferably 2.5 to 4 kV/cm.

9. A process according to any of the claims 1-8, wherein the pulse duration is at least 10 microseconds, preferably 10 to 2000 microseconds, more preferably 50 to 500 microseconds, most preferably 50 to 100 microseconds.

10. A process according to any of the claims 1-9, wherein bipolar pulses are applied.

11. A process according to any one of claims 1 to 10, wherein the process is a process for inactivation of micro-organisms in the liquid product.

12. A process according to any one of claims 1 to 11, wherein the heated liquid product is cooled immediately after flowing through the apparatus.

13. A process according to any one of claims 1 to 12, wherein the liquid product is preheated before being supplied to the apparatus to a temperature in the range of from 20°C to 70°C, preferably from 35°C to 65°C, more preferably from 40°C to 60°C.

14. A process according to any one of claims 1 to 13, wherein the microbial count (cfu) in the liquid product is reduced with at least 2 log cfu/mL, preferably at least 5 log cfu/mL, most preferably 6 log cfu/mL or more.