WHAT IS CLAIMED

1. A process for enzymatic inactivation or microbial inactivation of a liquid product, or a combination thereof, the process comprising:
   (a) providing a liquid product;
   (b) providing an apparatus for fast and homogeneously heating said liquid product to a predetermined temperature by means of resistive heating using a pulsed electrical field;
   (c) continuously supplying the liquid product to an inlet of the apparatus and flowing the liquid product through the apparatus;
   (d) continually generating a pulsed 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 an electrical field strength of 0.9 to 3 kV/cm; and
   wherein the maximum temperature of the liquid product autonomously remains between 40°C and 85°C during the resistive heating; and
   wherein the liquid product is preheated before being supplied to the apparatus to a temperature in a range of from 20°C to 70°C.

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 one of claims 1-3, wherein the liquid product is a liquid food product or a liquid feed product.

5. A process according to any one of claims 1-4, wherein the liquid product is an ingredient, or a semi-finished product, or a final liquid product.

6. A process according to claim 5, wherein the liquid product comprises any one of a fruit juice, a vegetable juice, a smoothie, a jam, a spread, an alcoholic beverage, an non-alcoholic beverage, a dairy product, a plant milk product, a liquid egg, a soup or a sauce.

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

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

9. A process according to any one of claims 1-8, wherein the electrical field strength is 2.5 to 3 kV/cm.

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

11. A process according to any one of claims 1-10, wherein the minimal one pulse comprises bipolar pulses.

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 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.

14. A process according to any one of claims 1 to 13, wherein the minimal one pulse that is applied on each fluid element during passage has a rectangular pulse shape.

15. A process according to any one of claims 1 to 14, wherein the liquid product is preheated to the temperature in the range of from 20°C to 70°C before being supplied to the apparatus and before the pulsed electrical current is continually generated through the flowing liquid product.

16. A process according to any one of claims 1 to 15, wherein the liquid product is preheated to the temperature in the range of from 35°C to 65°C, preferably from 40°C to 60°C.