Claims

1. A method for cremating remains, comprising successively:
   i) pre-heating a cremation chamber (1) at a temperature of at least 300°C,
   ii) inserting said remains, into the cremation chamber (1),
   iii) sealing the cremation chamber (1),
   iv) increasing the pressure of the cremation chamber (1) to a pressure above or equal to 2900 psi (20 MPa) in order to take the body fluids of the remains, to a supercritical state,
   v) purging the cremation chamber (1) once the bones and tissues of the remains, have been broken down by the body fluids at a supercritical state.

2. The method according to Claim 1, characterized in that the step of pre-heating the cremation chamber (1) is performed at a temperature of at least 320°C, more preferably at a temperature of at least 340°C and even more preferably at a temperature of at least 370°C.

3. The method according to Claim 1 or Claim 2, characterized in that the step of preheating the cremation chamber (1) is performed with heating elements (4), especially heating rods (4).

4. The method according to any of Claims 1 to 3, characterized in that the step of increasing the pressure of the cremation chamber (1) is performed at a pressure above or equal to 3400 psi, more preferably above or equal to 3800 psi (26.2 MPa).

5. The method according to any of the preceding claims, characterized in that the step of increasing the pressure is performed for a period of time of less than five minutes, preferably less than four minutes and even more preferably less than two minutes.

6. The method according to any of the preceding claims, characterized in that the step of increasing the pressure of the cremation chamber (1) is performed either with compressed air, nitrogen, or a gas containing more than 95% in volume of nitrogen relative to the total volume of said gas.

7. The method according to any of the preceding claims, characterized in that the cremation chamber (1) is purged with air.

8. The method according to any of the preceding claims, characterized in that the breakdown of the bones and tissues of said human remains, leads to the formation of bone fragments and a supercritical fluid mixture wherein the body fluids and the tissues are commingled.

9. The method according to Claim 8, characterized in that, after purging the cremation chamber (1), the supercritical fluid mixture is drained.

10. The method according to Claim 8 or Claim 9, characterized in that the supercritical fluid mixture is pushed through a heat exchanger.

11. The method according to Claim 10, characterized in that the supercritical fluid mixture is cooled back to a liquid state in the heat exchanger.

12. The method according to any of the preceding claims, characterized in that, after purging the cremation chamber (1), the pressure in said chamber (1) is released, and the cremated remains, are collected.

13. The method according to any preceding claim, wherein the remains are human remains.