CLAIMS

1. An injectable sterile aqueous formulation, used for aesthetic purposes, in the form of a particulate cohesive viscoelastic gel comprising

i) crosslinked hyaluronic acid, or one of its salts, at a concentration of between 1% and 4% (mass/volume); the crosslinking carried out providing the possibility of obtaining a gel based on crosslinked hyaluronic acid with a so-called cohesive structure, and

ii) hydroxyapatite at a concentration of between 5% and 60% (mass/volume), said hydroxyapatite being in the form of particles with an average size of less than or equal to 200 μm;

said injectable sterile aqueous formulation having viscoelastic properties such that tan δ at the frequency of 1 Hz is less than or equal to 0.60.

2. The injectable sterile aqueous formulation according to claim 1, characterized in that the molecular mass of the hyaluronic acid, or of one of its salts, is between $2.5x10^5$ Da and $4x10^6$ Da.

3. The injectable sterile aqueous formulation according to claims 1 or 2, characterized in that the formulation has been sterilized in humid heat.

4. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the concentration of the crosslinked hyaluronic acid or of one of its salts, is between 1% and 3% (mass/volume), preferably between 1.5% and 2.5% (mass/volume).

5. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the concentration of hydroxyapatite

is between 10 and 50% (mass/volume) preferably between 20% and 40% (mass/volume).

6. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the average size of the hydroxyapatite particles is less than or equal to 50 µm and greater than or equal to 10 µm.

7. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the formulation further comprises one or several ceramic materials.

8. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the formulation further comprises one or several anaesthetics.

9. The injectable sterile aqueous formulation according to claim 8, characterized in that one or several anaesthetics are selected from the group comprising lidocaine alone or in combination with adrenaline, procaine, etidocaine alone or in combination with adrenaline, articaine alone or in combination with adrenaline, mepivacaine, pramocaine, quinisocaine, or one or several of the salts of these anaesthetics.

10. The injectable sterile aqueous formulation according to claim 9, characterized in that the anaesthetic is lidocaine hydrochloride.

11. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the formulation further comprises one or several antioxidants.

12. The injectable sterile aqueous formulation according to claim 11, characterized in that said one or several antioxidants are selected from the family of polyols.

13. The injectable sterile aqueous formulation according to claim 12, characterized in that the polyols comprise sorbitol, glycerol, mannitol or propylene glycol.

14. The injectable sterile aqueous formulation according to any of the preceding claims, used for filling and/or restoring volumes and/or replacing biological tissues.

15. A kit containing the injectable sterile aqueous formulation according to any of claims 1 to 14.

16. The kit according to claim 15 in the form of a syringe, an ampoule or a flask.

17. A method for making an injectable sterile aqueous formulation comprising the steps: a) preparing a first mixture comprising at least 1% to 4% by weight of crosslinked hyaluronic acid or of one of its salts, by forming covalent bonds between the chains of said biopolymer by means of bi- or poly-functional molecules, the crosslinking carried out provinding the possibility of obtaining a gel based on crosslinked hyaluronic acid with a so-called cohesive structure, b) purifying said mixture, c) then adding hydroxyapatite at a concentration of between 5% and 60% (mass/volume) by dispersing it homogeneously in the gel based on crosslinked hyaluronic acid, d) converting the gel thereby obtained into a ready-to-use form, e) sterilizing the product in humid heat.

CLAIMS

1. An injectable sterile aqueous formulation for aesthetic purposes in the form of a particulate cohesive viscoelastic gel comprising:

i) crosslinked hyaluronic acid, or one of its salts, at a concentration of between 1% and 4% (mass/volume); the crosslinking carried out leading to a gel based on crosslinked hyaluronic acid with a cohesive structure, and

ii) hydroxyapatite at a concentration of between 5% and 60% (mass/volume), said hydroxyapatite being in the form of particles with an average size of less than or equal to 200 μm;

said injectable sterile aqueous formulation having viscoelastic properties such that tanδ at a frequency of 1 Hz is less than or equal to 0.60.

2. The injectable sterile aqueous formulation according to claim 1, characterized in that the molecular mass of the hyaluronic acid, or of one of its salts, is between $2.5x10^5$ Da and $4x10^6$ Da.

3. The injectable sterile aqueous formulation according to claims 1 or 2, characterized in that the formulation has been sterilized in humid heat.

4. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the concentration of the crosslinked hyaluronic acid, or of one of its salts, is between 1% and 3% (mass/volume).

5. The injectable sterile aqueous formulation according to claim 4, characterized in that the concentration of the crosslinked hyaluronic acid, or one of its salts, is between 1.5% and 2.5% (mass/volume).

6. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the concentration of hydroxyapatite is between 10% and 50% (mass/volume).

7. The injectable sterile aqueous formulation according to claim 6, characterized in that the concentration of hydroxyapatite is between 20% and 40% (mass/volume).

8. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the average size of the hydroxyapatite particles is less than or equal to 50 µm and greater than or equal to 10 µm.

9. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the formulation further comprises one or several ceramic materials.

10. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the formulation further comprises one or several anaesthetics.

11. The injectable sterile aqueous formulation according to claim 10, characterized in that one or several anaesthetics are selected from the group comprising lidocaine alone or in combination with adrenaline, procaine, etidocaine alone or in combination with adrenaline, articaine alone or in combination with adrenaline, mepivacaine, pramocaine, quinisocaine, or one or several of the salts of these anaesthetics.

12. The injectable sterile aqueous formulation according to claim 11, characterized in that the anaesthetic is lidocaine hydrochloride.

13. The injectable sterile aqueous formulation according to any of the preceding claims, characterized in that the formulation further comprises one or several antioxidants.

14. The injectable sterile aqueous formulation according to claim 13, characterized in that said one or several antioxidants are selected from the family of polyols.

15. The injectable sterile aqueous formulation according to claim 14, characterized in that the polyols comprise sorbitol, glycerol, mannitol or propylene glycol.

16. Use of the injectable sterile aqueous formulation according to any one of claims 1 to 15 for cosmetic purposes.

17. The use of claim 16, characterized in that the injectable sterile aqueous formulation is used for filling and/or restoring volumes and/or replacing biological tissues.

18. A kit containing the injectable sterile aqueous formulation according to any of claims 1 to 15.

19. The kit according to claim 18 in the form of a syringe, an ampoule or a flask.

20. A method for making an injectable sterile aqueous formulation comprising the steps: a) preparing a first mixture comprising at least 1% to 4% by weight of crosslinked hyaluronic acid or of one of its salts, by forming covalent bonds between the chains of said biopolymer by means of bi- or poly-functional molecules, the crosslinking carried out leading to a gel based on crosslinked hyaluronic acid with a cohesive structure, b) purifying said mixture, c) then adding hydroxyapatite at a

concentration of between 5% and 60% (mass/volume) by dispersing it homogeneously in the gel based on crosslinked hyaluronic acid, d) converting the gel thereby obtained into a ready-to-use form, e) sterilizing the product in humid heat.