foaming agent and a fibrinogen precipitating substance ~~and optionally a coagulation inducing agent~~, wherein the fibrinogen precipitating substance is a fibrinogen cleaving substance, wherein albumin as foaming agent is present in native form and wherein albumin is present in the preparation as foaming agent from 5 to 40 % w/v.

Another aspect of the present disclosure is a method for preparing a pharmaceutical hemostatic liquid foam, wherein a pharmaceutical hemostatic liquid foam base preparation according to the present disclosure is contacted with a foaming gas so as to obtain a pharmaceutical hemostatic liquid foam.

~~Another aspect of~~ The present disclosure also provides ~~is~~ a transient pharmaceutical hemostatic liquid foam obtainable by a method according to the present disclosure, preferably for use as a hemostat, especially for the treatment of wounds.

Another aspect of the present disclosure is a transient pharmaceutical hemostatic liquid foam obtainable by a method according to the present disclosure.

Another aspect of the present disclosure is a transient pharmaceutical hemostatic liquid foam obtainable by a method according to the present disclosure, for use as a hemostat.

Another aspect of the present disclosure is a transient pharmaceutical hemostatic liquid foam obtainable by a method according to the present disclosure, for use as a hemostat for the treatment of wounds.

There is disclosed a combination product, preferably a ready-to-use combination product, comprising a pharmaceutical hemostatic liquid foam base preparation according to the present disclosure and a foaming gas.

Another aspect of the present disclosure is a combination product, preferably a ready-to-use combination product, comprising a pharmaceutical hemostatic liquid foam base preparation according to the present disclosure and a foaming gas, preferably a foaming gas selected from the group consisting of air, N_2, O_2, N_2O, CO_2, or partly fluorinated hydrocarbons (HFCs), especially 1,1,1,2-Tetrafluoroethane (HFC134a) or 1,1,1,2,3,3,3-Heptafluoropropane (HFC227ea).

Another aspect of the present disclosure is a kit for producing a transient pharmaceutical hemostatic liquid foam

according to the present disclosure, comprising

(a) a first container comprising a pharmaceutical hemostatic liquid foam base preparation according to the present disclosure, and

(b) a second container containing a foaming gas.

~~Another aspect of~~ The present disclosure also provides~~is~~ the use of a pharmaceutical preparation according to the present disclosure for the manufacture of a hemostat, especially a hemostat for the treatment of wounds.

Another aspect of the present disclosure is the use of a pharmaceutical preparation according to the present disclosure for the manufacture of a hemostat.

Another aspect of the present disclosure is the use of a pharmaceutical preparation according to the present disclosure for the manufacture of a hemostat for the treatment of wounds.

Brief description of the figures

Fig. 1 shows the structure of skin (A), the view of created skin lesion (B) and application of flowable hemostatic foam according to the present invention (C).

Fig.2 shows the degree of Bleeding Scale Scores (Bleeding score:

0	no bleeding	-product saturated with blood
1	ooze	-blood out of product but no blood drop
2	very mild	-blood drop on the product

Claims:

1. A pharmaceutical hemostatic liquid foam base preparation comprising albumin as foaming agent and a fibrinogen precipitating substance, wherein the fibrinogen precipitating substance is a fibrinogen cleaving substance ~~and optionally a coagulation inducing agent~~, wherein albumin as foaming agent is present in native form and wherein albumin is present in the preparation as foaming agent from 5 to 40 % w/v.

2. Pharmaceutical preparation according to claim 1, wherein albumin is present in the preparation as foaming agent from ~~2 to 40 %, preferably from~~ 5 to 25 % w/v, more preferably from 10 to 20%, especially about 15 %.

3. Pharmaceutical preparation according to claim 1 or 2, wherein the fibrinogen precipitating substance is ~~a fibrinogen cleaving substance, preferably~~ selected from the group consisting of thrombin, a snake venom protease or a thrombin precursor.

4. Pharmaceutical preparation according to any one of claims 1 to 3, wherein albumin as foaming agent is present in a non-crosslinked form.

5. Pharmaceutical preparation according to any one of claims 1 to 4, wherein the preparation is essentially free of detergents.

6. Pharmaceutical preparation according to any one of claims 1 to 5, wherein the fibrinogen precipitating substance is thrombin, preferably present in a concentration of 0.1 IU/ml to 10000 IU/ml, more preferred of 1 IU/ml to 8000 IU/ml, especially 100 to 5000 IU/ml.

7. Method for preparing a pharmaceutical hemostatic liquid foam, wherein a pharmaceutical hemostatic liquid foam base preparation according to any one of claims 1 to 6 is contacted with a foaming gas so as to obtain a pharmaceutical hemostatic liquid foam.

8. Method according to claim 7, wherein the foaming gas is selected from the group consisting of air, N_2, O_2, N_2O, CO_2, propane, butane, dimethylether, or partly fluorinated hydrocarbons (HFCs), especially 1,1,1,2-Tetrafluoroethane (HFC134a) or 1,1,1,2,3,3,3-Heptafluoropropane (HFC227ea).

9. Method according to claim 7 or 8, wherein the foaming gas is provided under pressure.

10. Method according to any one of claims 7 to 9, wherein the pharmaceutical hemostatic liquid foam base preparation is provided in a first container and the foaming gas is provided in a second container, and wherein the first and the second container is connected so as to allow the pharmaceutical hemostatic liquid foam base preparation to be mixed with the foaming gas to obtain a foam, preferably wherein the first and the second container is connected with a mixing device, especially a mixing device selected from the group consisting of a filter material, a porous disc device, a three-dimensional lattice or a matrix material.

11. Method according to any one of claims 7 to 10, wherein the pharmaceutical hemostatic liquid foam base preparation and the foaming gas is provided in a container and the foam obtained by mixing the pharmaceutical hemostatic liquid foam base preparation with the foaming gas.

12. A combination product, preferably a ready-to-use combination product, comprising a pharmaceutical hemostatic liquid foam base preparation according to any one of claims 1 to 6 and a foaming gas, preferably a foaming gas selected from the group consisting of air, N_2, O_2, N_2O, CO_2, or partly fluorinated hydrocarbons (HFCs), especially 1,1,1,2-Tetrafluoroethane (HFC134a) or 1,1,1,2,3,3,3-Heptafluoropropane (HFC227ea).

13. Transient pharmaceutical hemostatic liquid foam obtainable by a method according to any one of claims 7 to 11~~, preferably for use as a hemostat, especially for the treatment of wounds~~.

14. Transient pharmaceutical hemostatic liquid foam obtainable by a method according to any one of claims 7 to 11, for use as a hemostat.

15. Transient pharmaceutical hemostatic liquid foam obtainable by a method according to any one of claims 7 to 11, for use as a hemostat for the treatment of wounds.

~~14~~16. Kit for producing a transient pharmaceutical hemostatic liquid foam according to any one of claims 13 to 15, comprising
(a) a first container comprising a pharmaceutical hemostatic liquid foam base preparation according to any one of claims 1 to ~~7~~6, and
(b) a second container containing a foaming gas.

~~15~~17. Kit according to claim ~~14~~16, wherein the foaming gas is selected from the group consisting of air, N_2, O_2, N_2O, CO_2, propane, butane, dimethylether, or partly fluorinated hydrocarbons (HFCs), especially 1,1,1,2-Tetrafluoroethane (HFC134a) or 1,1,1,2,3,3,3-Heptafluoropropane (HFC227ea).

~~16~~18. Kit according to claim ~~14~~ 16 or ~~15~~17, wherein the first and the second container are connectable by a mixing device, especially a mixing device selected from the group consisting of a filter material, a porous disc device, a three-dimensional lattice or a matrix material.

~~17~~19. Kit according to any one of claims ~~14~~ 16 to ~~16~~18, wherein the containers are syringe containers.

~~18~~20. Use of a pharmaceutical preparation according to any one of claims 1 to 6 for the manufacture of a hemostat~~, especially a hemostat for the treatment of wounds~~.

21. Use of a pharmaceutical preparation according to any one of claims 1 to 6 for the manufacture of a hemostat for the treatment of wounds.