CLAIMS

1. A hair straightening composition having a pH of 4 or less and comprising:

- glyoxylic acid and/or a hydrate thereof and/or a salt thereof at a concentration, at a total concentration in the range of 0.1 to 40 %, based on the weight of the total composition; and

- at least one polymeric thickening agent selected from methyl hydroxyethyl cellulose (MHEC), methyl ethyl hydroxyethyl cellulose (MEHEC), xanthan gum, hydroxypropyl xanthan gum, dehydro xanthan gum, polyquaternium-37 and polyquaternium-22 having a viscosity of at least 500 mPa·s measured at a polymer concentration of 1% by weight, in water and at 20°C with a Brookfield viscometer, at a total concentration in the range of 0.01 to 15 % by weight, based on the total of the composition.

2. The hair straightening composition according to claim 1, which is a two-part composition comprising the parts A and B, which are provided for separate storage and for mixing prior to the application to the hair,

wherein part A comprises glyoxylic acid and part B comprises at least one of a fragrance, a surfactant or a conditioning component, and

wherein the polymeric thickening agent is contained in either or both of part A and part B.

3. The hair straightening composition according to claim 2, wherein the fragrance is one or more fragrance raw materials having citric note, selected from Limonene, Pinene, Citral, Dihydromyrcenol, Pamplefleur, Lemon oil, Orange oil, Mandarin oil and Lime oil.

4. The hair straightening composition according to any one of the claims 1 to 3, which comprises glyoxylic acid and/or a hydrate thereof and/or a salt thereof at a total concentration in the range of 0.5 to 40 % by weight, based on the weight of the total composition.

5. The hair straightening composition according to claim 4, which comprises glyoxylic acid and/or a hydrate thereof and/or a salt thereof at a total concentration in the range of 2.5 to 40 % by weight, based on the weight of the total composition.

6. The hair straightening composition according to any of the claims 1 to 5, wherein the straightening composition has a pH of 1 to 3.

7. The hair straightening composition according to any of the claims 1 to 6, wherein the hair straightening composition further comprises one or more surfactants selected from nonionic, anionic, cationic and amphoteric ones.

8. The hair straightening composition according to claim 7, wherein the straightening composition comprises cationic surfactant.

9. The hair straightening composition according to any of the claims 1 to 8, which is an emulsion.

10. The hair straightening composition according to claim 9, which comprises at least one higher alcohol having 8 to 22 carbon atoms.

11. The hair straightening composition according to any of the claims 1 to 10, which further comprises a silicone.

12. The hair straightening composition according to any of the claims 1 to 11, which contains less than 2 wt. % of sulfur-based reducing agents.

13. The hair straightening composition according to claim 12, wherein the straightening composition is free of sulfur-based reducing agents .

14. Use of the hair straightening composition as defined in any of the claims 1 to 13 for straightening the hair.

15. The use according to claim 14, wherein the composition is not used in combination with a reducing composition or in combination with an alkaline relaxer.

16. Process for semi-permanent hair straightening, comprising the following steps performed in this order:
(a) application of the hair straightening composition as defined in any of the claims 1 to 13 onto the hair;
(b) leaving the composition on the hair for 1 to 120 minutes;
(d) drying the hair; and
(e) treating the hair with an iron having a surface temperature of 180 ± 50°C.

17. The process according to claim 16, wherein the combination with the application of a reducing composition and combination with the application of an alkaline relaxer are excluded.

18. The process according to claim 16 or 17, wherein in step (b), the composition is left on the hair for 10 to 60 minutes.

19. Kit for hair straightening, comprising the hair straightening composition as defined in any of the claims 1 to 13 and a straightening iron.