CLAIMS

1. A meat analogue composition comprising from 2.0% to 20.0% by weight of a fat composition; from 5.0% to 30.0% by weight of a non-animal protein; from 30.0% to 70.0% by weight of water; from 0.01% to 5% by weight of one or more colourants; and from 0.005% to 5% by weight of one or more alkali ingredients.

2. A meat analogue composition according to Claim 1, wherein the one or more alkali ingredients are encapsulated.

3. A meat analogue composition according to Claim 1 or Claim 2, wherein the meat analogue composition comprises from 0.1% to 5% by weight of the one or more alkali ingredients; preferably wherein the meat analogue composition comprises from 0.1% to 2.5% by weight of the one or more alkali ingredients; preferably, wherein the meat analogue composition comprises from 0.1% to 1% by weight of the one or more alkali ingredients; and advantageously, wherein the meat analogue composition comprises from 0.005% to 1% by weight of the one or more alkali ingredients; preferably, wherein the meat analogue composition comprises from 0.005% to 0.1% by weight of the one or more alkali ingredients.

4. A meat analogue composition according to any preceding claim, wherein the one or more alkali ingredients comprise an alkali metal salt, an alkaline earth metal salt, an ammonium salt, an amine, or a combination thereof.

5. A meat analogue composition according to Claim 4, wherein the one or more alkali ingredients comprise a hydroxide, carbonate, bicarbonate, chloride, gluconate, acetate or sulfide salt of a sodium, potassium, calcium, magnesium or ammonium cation; preferably wherein the one or more encapsulated alkali ingredients comprise sodium bicarbonate, magnesium bicarbonate, potassium bicarbonate, ammonium bicarbonate, sodium hydroxide, potassium hydroxide, calcium hydroxide, magnesium hydroxide, ammonium hydroxide, or any combination thereof.

6. A meat analogue composition according to any preceding claim, wherein the one or more alkali ingredients comprise sodium bicarbonate, magnesium bicarbonate, potassium bicarbonate, ammonium bicarbonate, or a combination thereof; and wherein

the one or more alkali ingredients are present in the meat analogue composition in an amount of from 0.1% to 2.5% by weight, and more preferably from 0.1% to 1% by weight.

7. A meat analogue composition according to any preceding claim, wherein the one or more alkali ingredients comprise sodium hydroxide, potassium hydroxide, calcium hydroxide, magnesium hydroxide, ammonium hydroxide, or any combination thereof; and wherein the one or more alkali ingredients are present in the meat analogue composition in an amount of from 0.005% to 1% by weight, and preferably from 0.005% to 0.1% by weight.

8. A meat analogue composition according to any preceding claim, wherein the one or more alkali ingredients are encapsulated within a fat matrix.

9. A meat analogue composition according to Claim 8, wherein the one or more encapsulated alkali ingredients are encapsulated within a fat matrix of the fat composition.

10. A meat analogue composition according to any preceding claim, wherein the one or more alkali ingredients are encapsulated by a coating.

11. A meat analogue composition according to Claim 10, wherein the coating comprises a water insoluble hydrophobic coating.

12. A meat analogue composition according to Claim 10 or Claim 11, wherein the coating is adapted to degrade at temperatures above 30°C, preferably 45°C, more preferably 60°C and most preferably 75°C.

13. A meat analogue composition according to any one of Claims 10 to 12, wherein the coating comprises a fat coating, a carbohydrate coating, a monoacylglyceride (MAG) coating, or a combination thereof.

14. A meat analogue composition according to any one of Claims 10 to 13, wherein the coating comprises a fat coating, and wherein the fat coating comprises a fat with a melting point of from 40ºC to 80ºC.

15. A meat analogue composition according to any one of Claims 10 to 14, wherein the one or more encapsulated alkali ingredients comprise coated particles with an average particle size of less than 650 µm.

16. A meat analogue composition according to any one of Claims 10 to 15, wherein the one or more encapsulated alkali ingredients comprise coated particles with a coating thickness of from 25% to 50% of total particle thickness.

17. A meat analogue composition according to any preceding claim, wherein the one or more colourants are present in the meat analogue composition in an amount of from 0.5% to 2.5% by weight of the meat analogue composition.

18. A meat analogue composition according to any preceding claim, wherein the one or more colourants comprise natural colourants; nature-identical colourants; synthetic colourants; colouring foodstuffs; or any combination thereof; preferably wherein the one or more colourants comprise anthocyanins, betanins, carotenoids, lycopine, carminic acid, or any combination thereof; more preferably wherein the one or more colourants comprise betanins; and more preferably wherein the one or more betanins comprise red beet.

19. A meat analogue composition according to any preceding claim, wherein the fat composition comprises one or more non-animal derived oils.

20. A meat analogue composition according to any preceding claim, wherein the fat composition comprises palm oil, coconut oil, sunflower oil, or a combination thereof.

21. A meat analogue composition according to any preceding claim, wherein the fat composition comprises from 20% to 85% by weight of saturated fatty acid residues; from 10% to 50% by weight of stearic acid residues (C18:0); and from 2% to 35% by weight of lauric acid residues (C12:0); wherein said percentages of fatty acid residues refers to fatty acids bound as acyl groups in glycerides in the fat composition and being based on the total weight of C4 to C24 fatty acid residues bound as acyl groups present in the fat composition.

22. A meat analogue composition according to any preceding claim, wherein the fat composition comprises an interesterified blend of vegetable oil and fully hydrogenated vegetable oil; preferably, wherein the fat composition comprises (a) from 5% to 95% by weight of the fat composition of a blending vegetable oil and (b) from 5% to 95% by weight of the fat composition of the interesterified blend of vegetable oil and fully hydrogenated vegetable oil.

23. A meat analogue composition according to any preceding claim, wherein the fat composition comprises (a) a fat composition as defined in Claim 26; and (b) (i) a blend of a liquid vegetable oil and a fully hydrogenated liquid vegetable oil, or (ii) a blend of a liquid vegetable oil and a vegetable oil stearin; preferably, wherein the liquid vegetable oil of (b) (i) or (b) (ii) comprises rapeseed oil; the fully hydrogenated liquid vegetable oil of (b) (ii) comprises fully hydrogenated rapeseed oil; and/or the vegetable oil stearin of (b) (ii) comprises palm stearin.

24. A meat analogue composition according to any preceding claim, wherein the meat analogue composition further comprises one or more reducing sugars; preferably wherein the one or more reducing sugars comprise one or more monosaccharide sugars; more preferably wherein the one or more monosaccharide sugars comprise dextrose.

25. A meat analogue composition according to Claim 24, wherein the one or more reducing sugars are present in an amount of from 0.1% to 5% by weight of the meat analogue composition; preferably from 0.5% to 2% by weight of the meat analogue composition.

26. A meat analogue composition according to any preceding claim, wherein the non-animal protein comprises protein derived from fungi, plants, or a combination thereof; preferably, wherein the non-animal protein comprises plant protein; more preferably, wherein the plant protein is selected from algae protein, black bean protein, canola wheat protein, chickpea protein, fava protein, lentil protein, lupin bean protein, mung bean protein, oat protein, pea protein, potato protein, rice protein, soy protein, sunflower seed protein, wheat protein, white bean protein, and protein isolates or concentrates thereof.

27. A meat analogue composition according to any preceding claim, wherein the non-animal protein comprises seitan, rice protein, mushroom protein, legume protein, tempeh, yam flour, tofu, mycoprotein, peanut flour, yuba, or a combination thereof.

28. A meat analogue composition according to any preceding claim, wherein the non-animal protein comprises texturized vegetable proteins, preferably wherein the texturized vegetable proteins comprise texturized pea proteins, texturized fava proteins, or a combination thereof.

29. A meat analogue composition according to any preceding claim, wherein the meat analogue composition further comprises an acidity regulator; preferably wherein the acidity regulator is present in an amount of from 0.1% to 2% by weight of the meat analogue composition.

30. A meat analogue composition according to Claim 29, wherein the acidity regulator comprises citric acid.

31. A meat analogue composition according to any preceding claim, wherein the fat composition is present in the meat analogue composition in an amount of from 7.5% to 20% by weight of the meat analogue composition.

32. A meat analogue composition according to any preceding claim, wherein the meat analogue composition is substantially free of animal protein, preferably, wherein the meat analogue composition is free of animal protein.

33. A meat analogue composition according to any preceding claim, wherein the meat analogue composition is substantially free of animal-derived products, preferably, wherein the meat analogue composition is free of animal-derived products.

34. A meat analogue composition according to any preceding claim, wherein the meat analogue composition further comprises one or more animal-derived products such as animal oils, marine oils, animal-derived proteins, animal-derived polysaccharides, or any combination thereof; preferably, wherein the one or more animal-derived products comprise animal milk proteins, animal milk fats, or a combination thereof.

35. A food product comprising a meat analogue composition according to any preceding claim; preferably, the food product is an uncooked food product, a cooked food product, or a partially cooked food product.

36. A food product according to Claim 35, wherein the food product is a vegetarian or vegan meat substitute food product; preferably, the vegetarian or vegan meat substitute food product is a burger, sausage, meat ball, nugget, patty, mince product, meatloaf, or other product intended to mimic conventional meat-based food products.

37. A food product according to any of Claims 35 or 36, wherein the food product is a cooked food product or a partially cooked food product, and wherein the food product has a pH of from 6 to 9; preferably from 7 to 9; and more preferably from 7 to 8.

38. A food product according to any one of Claims 35 to 37, wherein the food product is a cooked food product or a partially cooked food product, and wherein the food product has a pH greater than the pH of the food product when uncooked.

39. Use of one or more encapsulated alkali ingredients as a browning agent in a meat analogue composition, wherein the meat analogue composition comprises from 2.0% to 20.0% by weight of a fat composition; from 5.0% to 30.0% by weight of a non-animal protein; from 30.0% to 70.0% by weight of water; from 0.01% to 5% by weight of one or more colourants; and from 0.005% to 5% by weight of the one or more alkali ingredients.

40. Use of one or more encapsulated alkali ingredients in a meat analogue composition to improve the tenderness of the meat analogue composition, wherein the meat analogue composition comprises from 2.0% to 20.0% by weight of a fat composition; from 5.0% to 30.0% by weight of a non-animal protein; from 30.0% to 70.0% by weight of water; from 0.01% to 5% by weight of one or more colourants; and from 0.005% to 5% by weight of the one or more alkali ingredients.

41. Use according to Claim 39 or Claim 40, wherein the use further comprises using the meat analogue composition in a food product.

42. Use according to any one of Claims 39 to 41, wherein the meat analogue composition and/or food product are as defined in any one of Claims 1 to 38.

43. Use according to any one of Claims 39 to 42, wherein the use comprises using the one or more alkali ingredients to achieve a red colour to brown colour transition of the meat analogue composition upon cooking.

44. Use according to any one of Claims 39 to 43, wherein the fat composition is as defined in any one or more of Claims 8 to 16; and wherein the use further comprises using the fat matrix or coating to inhibit or prevent interaction of the one or more encapsulated alkali ingredients and one or more colourants in the meat analogue composition prior to cooking of the meat analogue composition.

45. A process of manufacturing a meat analogue composition according to any one of Claims 1 to 34, or a food product according to any one of Claims 35 to 38, wherein the process comprises: combining water; non-animal protein; the fat composition; one or more alkali ingredients; one or more colourants; and optionally one or more additional components so as to form the meat analogue composition; and optionally forming the meat analogue composition into food products.

46. A process according to Claim 45 using a mixture of water; non-animal protein; one or more colourants; and optionally one or more additional components; wherein the process comprises:
(a) combining the mixture with the fat composition and one or more alkali ingredients to form the meat analogue composition; and
(b) optionally forming the meat analogue composition into food products.

47. A non-animal derived fat composition comprising one or more encapsulated alkali ingredients present in an amount of from 0.005% to 40% by weight of the fat composition.

48. A non-animal derived fat composition according to Claim 47, wherein the one or more encapsulated alkali ingredients are present in the fat composition in an amount of from 1% to 20% by weight of the fat composition; preferably, wherein the one or more encapsulated alkali ingredients are present in the fat composition in an amount of from 5% to 15% by weight of the fat composition.

49. A non-animal derived fat according to Claim 47 or Claim 48, wherein the one or more encapsulated alkali ingredients are as defined in any one or more of Claims 4 to 7, and/or wherein the fat composition is as defined in any one or more of Claims 18 to 22.

50. A non-animal derived fat according to any one of Claims 47 to 49, wherein the one or more encapsulated alkali ingredients are dispersed within a fat matrix of the fat composition.