WHAT IS CLAIMED IS:

1. A method of making a mixed allergen product substantially free of replication viable organisms, comprising:

providing bulk mixed allergen material comprising 2 to 20 individual complete food allergens selected from the group consisting of almond, cashew, cod, egg, hazelnut, milk, oat, peanut, pecan, pistachio, salmon, sesame, shrimp, soy, walnut, and wheat; and

sterilizing the bulk mixed allergen material by dry heat sterilization, wherein the dry heat sterilization is at a temperature of 65 ºC to 175 ºC for 30 minutes to 72 hours,

thereby obtaining the mixed allergen product.

2. The method of claim 1, further comprising providing 2 to 20 individual complete food allergens, and blending the 2 to 20 individual complete food allergens together to obtain the bulk mixed allergen material.

~~3. The method of claim 2, wherein the individual complete food allergens are selected from the group consisting of almond, cashew, cod, egg, hazelnut, milk, oat, peanut, pecan, pistachio, salmon, sesame, shrimp, soy, walnut, and wheat.~~

~~4~~3. The method of claim 2~~ or 3~~, wherein blending further comprises blending the 2 to 20 individual complete food allergens with one or more than one bulking agent.

~~5~~4. The method of ~~any one of claims 2 to 4~~claim 2 or claim 3, wherein blending comprises loading the 2 to 20 individual complete food allergens into a ribbon blender set at about 10 Hz to about 50 Hz for about 10 minutes to about 50 minutes.

~~6~~5. The method of any one of claims 2 to ~~5~~4, wherein after blending, the bulk mixed allergen material is discharged into lined drums.

~~7. The method of any one of claims 1 to 6, wherein the dry heat sterilization is at a temperature of about 65 ºC to about 175 ºC for about 18 hours to about 72 hours.~~

~~8~~6. The method of any one of claims 1 to 5~~ 7~~, wherein the dry heat sterilization comprises using a sterilization system having a furnace and a heating chamber, wherein the furnace provides about 250,000 BTUs (263,763,963 Joules) to about 750,000 BTUs (791,291,889 Joules) of heat to the heating chamber.

~~9~~7. The method of any one of claim~~s~~ ~~7 or 8~~1 to 6, wherein the bulk mixed allergen material is first packaged into thermoresistant packaging before sterilizing.

~~10~~8. The method of any one of claims ~~7 to 9~~1 to 7, wherein temperature probes are placed with the bulk mixed allergen material during sterilizing to monitor the temperature of the dry heat sterilization.

~~11~~9. The method of any one of claims 1 to ~~10~~8, wherein the mixed allergen product has one or more of

(a) at least about a 1 log reduction to at least about a 4 log reduction in aerobic bacterial organism plate counts as compared to corresponding bulk mixed allergen material that has not been sterilized;

(b) less than about 100,000 CFU/g of aerobic bacterial organisms; and

(c) less than about 10 CFU/g of coliforms.

~~12. The method of any one of claims 1 to 11, wherein the mixed allergen product has less than about 100,000 CFU/g of aerobic bacterial organisms.~~

~~13. The method of any one of claims 1 to 12, wherein the mixed allergen product has less than about 10 CFU/g of coliforms.~~

~~14~~10. The method of any one of claims 1 to ~~13~~9, wherein the mixed allergen product has one or more of

(a) less than about 10 CFU/g of *Escherichia coli*;

(b) less than about 10 CFU/g of *Enterobacteriaceae*;

(c) less than about 10 CFU/g of *Salmonella*; and

(d) less than about 10 CFU/g of *Cronobacter*.

~~15. The method of any one of claims 1 to 14, wherein the mixed allergen product has less than about 10 CFU/g of *Enterobacteriaceae*.~~

~~16. The method of any one of claims 1 to 15, wherein the mixed allergen product has less than about 10 CFU/g of *Salmonella*.~~

~~17. The method of any one of claims 1 to 16, wherein the mixed allergen product has less than about 10 CFU/g of *Cronobacter*.~~

~~18~~11. The method of any one of claims 1 to ~~17~~10, wherein the mixed allergen product is negative in a PCR-based assay for one or more of

(a) *Listeria* species or *Cronobacter* species per 25 grams of the mixed allergen product; and

(b) *Salmonella* species per 375 g of the mixed allergen product.

~~19~~12. The method of any one of claims 1 to ~~18~~11, wherein the mixed allergen product has one or more of

(a) less than about 10 CFU/g of mold;

(b) less than about 10 CFU/g of *Staphylococcus aureus*; and

(c) less than about 10 CFU/g of yeast.

~~20. The method of any one of claims 1 to 19, wherein the mixed allergen product is negative in a PCR-based assay for *Salmonella* species per 375 g of the mixed allergen product.~~

~~21. The method of any one of claims 1 to 20, wherein the mixed allergen product has less than about 10 CFU/g of *Staphylococcus aureus*.~~

~~22. The method of any one of claims 1 to 21, wherein the mixed allergen product has less than about 10 CFU/g of yeast.~~

~~23~~13. The method of any one of claims 1 to ~~22~~12, wherein the mixed allergen product has a fat content of about 10 % to about 20 % by weight.

~~24~~14. The method of any one of claims 1 to ~~23~~13, wherein protein integrity of the mixed allergen product is substantially similar to protein integrity of corresponding bulk mixed allergen material that has not been sterilized.

~~25~~15. The method of claim ~~24~~14, wherein the protein integrity of the mixed allergen product is determined by SDS-PAGE.

~~26~~16. The method of any one of claims 1 to ~~25~~15, wherein the mixed allergen product has one or more of

(a) a protein content of about 40 % to about 50 % by weight;

(b) 1 % to 10 % moisture by weight; and

(c) a water activity of 0.1 to 0.6.

~~27. The method of any one of claims 1 to 26, wherein the mixed allergen product has about 1 % to about 10 % moisture by weight.~~

~~28. The method of any one of claims 1 to 27, wherein the mixed allergen product has a water activity of about 0.1 to about 0.6.~~

~~29~~17. The method of any one of claims 1 to ~~28~~16, wherein less than about 10 % by weight of the mixed allergen product are particles having a diameter greater than 500 µm.

~~30~~18. The method of any one of claims 1 to ~~29~~17, wherein the mixed allergen product is darker in color as compared to corresponding bulk mixed allergen material that has not been sterilized.

~~31~~19. The method of any one of claims 1 to ~~30~~18, wherein the mixed allergen product has a substantially similar taste profile as compared to corresponding bulk mixed allergen material that has not been sterilized.

~~32~~20. The method of any one of claims 1 to ~~31~~19, wherein sterilizing further comprises one or more than one further application of dry heat sterilization.

~~33~~21. A method of making a mixed allergen product substantially free of replication viable organisms, comprising:

providing 2 to 20 individual complete food allergens selected from the group consisting of almond, cashew, cod, egg, hazelnut, milk, oat, peanut, pecan, pistachio, salmon, sesame, shrimp, soy, walnut, and wheat;

sterilizing each of the 2 to 20 individual complete food allergens by dry heat sterilization at a temperature of about 65 ºC to about 175 ºC for about 30 minutes to about 72 hours, thereby obtaining 2 to 20 sterilized individual complete food allergens; and

blending the 2 to 20 sterilized individual complete food allergens together, thereby obtaining the mixed allergen product.

~~34~~22. A method of any one of claims 1 to ~~33~~21, further comprising blending the mixed allergen product with

(a) one or more than one probiotic; or

(b) one or more than one probiotic selected from the group consisting of *Lactobacillus rhamnosus*, *Anaerostipes caccae*, and *Bifidobacterium longum*.

~~35. The method of claim 34, wherein the one or more than one probiotic is selected from the group consisting of *Lactobacillus rhamnosus*, *Anaerostipes caccae*, and *Bifidobacterium longum*.~~

~~36~~23. A method of any one of claims 1 to ~~35~~22, further comprising blending the mixed allergen product with

(a) one or more than one prebiotic; or

(b) with fructooligosaccharide.

~~37. The method of claim 36, wherein the prebiotic is fructooligosaccharide.~~

~~38~~24. The method of any one of claims 1 to ~~37~~23, further comprising

(a) filtering the mixed allergen product; or

(b) filtering the mixed allergen product through a screen ranging from a #5 mesh (US) (4.76 mm) screen to a #10 mesh (US) (1.68 mm) screen on a shaker for 1 minute to 10 minutes.

~~39. The method of claim 38, wherein the mixed allergen product is filtered through a screen ranging from a #5 mesh (US) screen to a #10 mesh (US) screen on a shaker for about 1 minute to about 10 minutes.~~

~~40~~25. The method of any one of claims 1 to ~~39~~24, further comprising passing the mixed allergen product through a rare earth magnet, metal detector, and metal separator.

~~41. A mixed allergen product substantially free of replication viable organisms prepared by the method of any one of claims 1 to 40.~~