

-continued

| Ingredients: |     |
|--------------|-----|
| Moisture     | 2.5 |

The general procedure of Example 1 was followed with the below conditions:

1. Add the sodium acid pyrophosphate and the 75% phosphoric acid to sufficient water to create a mixture with between 55-65% total solids when all the ingredients have been added. Add the starch and heat to 185° F. and hold for 10 minutes. Add the mono- and di-glycerides and hold for an additional 5 minutes.
2. Add the sodium stearoyl lactylate to the soy oil, heated to 140° F., and mix for at least 5 minutes.
3. Add the starch mixture to the oil mixture with agitation, and then add the corn syrup solids. Agitate for 15 minutes at a temperature of 150° F.
4. Pump the mixture through a 60 T valve at 80 psig to the dryer surge tank.
5. Preheat the mixture to 180° F. on the way to the homogenizer.
6. Homogenize at 2700 psig single stage or 500 psig second stage, 2700 psig total.
7. Spray dry:
  - inlet temperature: 330°-350° F.
  - outlet temperature: 180°-185° F.
  - nozzles: 6×48-27, 1×40-28
  - line pressure: 1000-1500 psig

The so produced emulsion is an acid stable general purpose creamer.

#### EXAMPLE 7

A similar procedure as Example 1 was used, but with the following ingredients:

|                                  |      |
|----------------------------------|------|
| Starch (National 1817)           | 5.0% |
| Corn syrup solids                | 27.5 |
| 75% phosphoric acid              | 0.16 |
| SAPP (sodium acid pyrophosphate) | 0.14 |
| Moisture                         | 1.6  |
| Partially hydrogenated soy oil   | 65.0 |
| Sodium stearoyl-2-lactylate      | 0.6  |

A powdered shortening was produced with a high fat content, i.e. 65%, which is most useful in cake mixes and sauces.

We claim:

1. A high stability, protein-free, rapidly cold water soluble, fat emulsion, which comprises on a solids basis:
  - (a) 10 to 75% of an edible fat having an average particle size of 4 microns or less;
  - (b) 0.1 to 3% of an edible emulsifier; and
  - (c) 8 to 20%, based on the weight of the fat, of an edible, hydrated, substantially undextrinized lipophilic starch, which is predominately in a submicroscopic form;
 the remainder of the solids being principally an edible filler.
2. The composition of claim 1 wherein the emulsion is a dry, powdered emulsion.
3. The composition of claim 1 wherein the emulsion is a water emulsion containing up to 50% of the said solids.

4. The composition of claim 1 wherein the average particle size of the fat is from 0.5 to 1.5 microns.

5. The composition of claim 1 wherein there is from 15 to 40% fat and the composition is a coffee whitener.

6. The composition of claim 5 wherein there is from 32 to 37% fat.

7. The composition of claim 3 in a refrigerated or frozen form.

8. The composition of claim 1 wherein the fat is selected from the group consisting of coconut oil, soybean oil, corn oil, safflower seed oil, rape seed oil and mixtures thereof.

9. The composition of claim 1 wherein the emulsifier is selected from the group consisting of mono- and di-glycerides, sodium stearoyl lactylate, lecithin and mixtures thereof.

10. The composition of claim 1 wherein the starch is selected from a lipophilic modification of waxy maize, rice, wheat, corn, potato, tapioca starches and mixtures thereof.

11. The composition of claim 1 wherein the starch is essentially only in submicroscopic in form.

12. The composition of claim 1 wherein the filler is a carbohydrate.

13. The composition of claim 12 wherein the filler is selected from the group consisting of corn syrup solids and malto-dextrins.

14. The composition of claim 1 which also includes one or more of flavors, colors, stabilizers, preservatives and anti-caking agents.

15. The composition of claim 2 in a freeze-dried form.

16. The composition of claim 2 in a spray-dried form.

17. A method for producing the composition of claim 1 comprising forming an admixture of the fat, emulsifier, starch and filler with water, mechanically shearing the admixture such that the fat is divided into an average particle size of 4 microns or less and drying the sheared admixture to a moisture content of 7% or less, and wherein the starch is predominately in a submicroscopic form.

18. The method of claim 17 wherein the starch is cooked in water at an elevated temperature sufficient to cause the starch granules to hydrate and swell such that when the granules are added to the admixture the shearing will produce the submicroscopic form thereof.

19. The method of claim 17 wherein the admixture is cooked, prior to shearing, at an elevated temperature sufficient to cause the starch granules to hydrate and swell such that the shearing will produce the submicroscopic form of the starch.

20. The method of claim 17 wherein the starch is essentially in submicroscopic form.

21. The method of claim 17 wherein the elevated temperature is at least 175° F.

22. The method of claim 21 wherein the elevated temperature is at least 180° F.

23. The method of claim 17 wherein the shearing is carried out in a dairy homogenizer at a total pressure of at least 1000 psig.

24. The method of claim 17 wherein the drying is carried out in a freeze dryer or a vacuum dryer or a spray dryer.

25. The method of claim 24, wherein the dryer is a spray dryer.

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