We claim:

1. A pharmaceutical formulation, comprising:

levonorgestrel butanoate particles having a median particle size ranging from 10 μm to 16 μm;

a wetting agent; and

a dispersing agent, an emulsifier, or a combination thereof;

wherein the levonorgestrel butanoate is present at a concentration ranging from greater than 20 mg/mL to a concentration of 100 mg/mL and provided that if the pharmaceutical formulation comprises a wetting agent and a dispersing agent, then the wetting agent and the dispersing agent are present at a ratio of 2:0.1 to 6:0.1 (wetting agent:dispersing agent).

2. The pharmaceutical formulation of claim 1, wherein the levonorgestrel butanoate particles have a median particle size ranging from greater than 12.6 μm to a median particle size of 15 μm.

3. The pharmaceutical formulation of claim 1 or claim 2, wherein the levonorgestrel butanoate particles have a median particle size of 13 μm to 14 μm.

4. The pharmaceutical formulation of any one of claims 1-3, wherein the formulation comprising the wetting agent and the dispersing agent and the ratio of wetting agent to dispersing agent is 3:0.1 to 5:0.1.

5. The pharmaceutical formulation of any one of claims 1-4, wherein the formulation is formulated to administer a dose of levonorgestrel butanoate that ranges from 30 mg to 90 mg.

6. The pharmaceutical formulation of any one of claims 1-5, wherein the formulation provides a contraceptive effect for at least two months to six months.

7. The pharmaceutical formulation of any one of claims 1-5, wherein the formulation provides a contraceptive effect for at least two months, at least three months, at least four months, at least five months, or at least six months.

8. The pharmaceutical formulation of any one of claims 1-7, wherein the wetting agent is a polysorbate surfactant selected from polysorbate 20, polysorbate 40, polysorbate 60, or polysorbate 80.

9. The pharmaceutical formulation of any one of claims 1-8, wherein the dispersing agent is a sorbitan surfactant selected from sorbitan monolaurate, sorbitan monopalmitate, sorbitan monostearate,

sorbitan monooleate, sorbitan tristearate, sorbitan sesquioleate, sorbitan trioleate; a sulfate surfactant; or any combination thereof.

10. The pharmaceutical formulation of any one of claims 1-9, further comprising a thickening agent selected from carboxymethyl cellulose and/or salt forms thereof; methyl cellulose, hydroxypropylcellulose, hydroxyethylcellulose, hydroxypropylmethylcellulose, and/or crosslinked forms thereof; polyvinyl alcohol; polyvinylpyrrolidone; acacia; gelatin; or any combination thereof.

11. The pharmaceutical formulation of any one of claims 1-10, further comprising a buffer component selected from a phosphate buffer, an acetate buffer, a citrate buffer, a tartrate buffer, an amine-based buffer, or any combination thereof.

12. The pharmaceutical formulation of any one of claims 1-11, further comprising a preservative selected from a paraben compound, a phenylmercuric compound, a benzyl compound, an aromatic compound, an alkyl halide, or any combination thereof.

13. The pharmaceutical formulation of claim 1, wherein:
the levonorgestrel butanoate particles having a median particle size of 13 μm to 14.5 μm;
the wetting agent is polysorbate 80; and
the dispersing agent is present and is sorbitan monopalmitate.

14. The pharmaceutical formulation of claim 1, wherein:
the levonorgestrel butanoate particles having a median particle size of 13.5 μm to 14 μm;
the wetting agent is polysorbate 80; and
the dispersing agent is present and is sorbitan monopalmitate.

15. The pharmaceutical formulation of claim 1, wherein:
the levonorgestrel butanoate particles having a median particle size of 13.7 μm;
the wetting agent is polysorbate 80; and
the dispersing agent is present and is sorbitan monopalmitate.

16. The pharmaceutical formulation of any one of claims 13-15, further comprising sodium carboxymethyl cellulose, sodium phosphate dibasic, sodium dihydrogen phosphate dihydrate, and benzyl alcohol.

17. The pharmaceutical formulation of any one of claims 1-16, wherein the emulsifier is present and is an ionic or non-ionic surfactant.

18. A pharmaceutical formulation, comprising:

levonorgestrel butanoate particles having a median particle size ranging from 12 μm to 15 μm;

a wetting agent;

a dispersing agent, an emulsifier, or a combination thereof;

a thickening agent;

a buffer component; and

a preservative,

wherein the levonorgestrel butanoate is present at a concentration ranging from greater than 20 mg/mL to a concentration of 100 mg/mL and provided that if the pharmaceutical formulation comprises a wetting agent and a dispersing agent, then the wetting agent and the dispersing agent are present at a ratio of 3:0.1 to 5:0.1 (wetting agent:dispersing agent).

19. The pharmaceutical formulation of claim 18, wherein:

the levonorgestrel butanoate particles having a median particle size of 13 μm to 14.5 μm;

the wetting agent is polysorbate 80;

the dispersing agent is present and is sorbitan monopalmitate;

the thickening agent is sodium carboxymethyl cellulose;

the buffer component is a combination of sodium phosphate dibasic and sodium dihydrogen phosphate dihydrate; and

the preservative is benzyl alcohol.

20. The pharmaceutical formulation of claim 18 or claim 19, wherein the levonorgestrel butanoate particles having a median particle size of 13.5 μm to 14 μm.

21. A pharmaceutical formulation, comprising:

levonorgestrel butanoate particles having a median particle size ranging from 11 μm to 15 μm;

at least one dispersing agent;

a thickening agent;

a buffer component; and

a preservative,

wherein the levonorgestrel butanoate is present at a concentration ranging from greater than 20 mg/mL to a concentration of 100 mg/mL.

22. The pharmaceutical formulation of claim 21, wherein the levonorgestrel butanoate particles have a median particle size ranging from greater than 11.3 μm to a median particle size of 14.2 μm.

23. The pharmaceutical formulation of any one of claims 21 or 22, wherein the dispersing agent is sorbitan monopalmitate.

24. The pharmaceutical formulation of any one of claims 21-23, wherein the formulation is formulated to administer a dose of levonorgestrel butanoate that ranges from 30 mg to 90 mg.

25. A method of making the pharmaceutical formulation according to any one of claims 1-24, comprising:

subjecting levonorgestrel butanoate to sterile filtration to provide a filtrate comprising sterile levonorgestrel butanoate;

producing levonorgestrel butanoate particles from the filtrate; and

combining the levonorgestrel butanoate particles with one or more of the wetting agent, the dispersing agent, the emulsifier, or the combination thereof; wherein the method does not comprise using irradiation for any sterilization.

26. The method of claim 25, wherein producing levonorgestrel butanoate particles from the filtrate comprises spray drying the filtrate.

27. The method of claim 26, wherein spray drying the filtrate controls the median particle size of the levonorgestrel butanoate particles.

28. A method of making the pharmaceutical formulation according to any one of claims 1-24, comprising micronizing levonorgestrel butanoate to provide the levonorgestrel butanoate particles and combining the levonorgestrel butanoate particles with one or more of the wetting agent, the dispersing agent, the emulsifier, or the combination thereof; wherein the method does not comprise using irradiation for any sterilization.

29. The method of any one of claims 25-28, wherein the method does not comprise using gamma or e-beam irradiation.

30. A formulation according to any one of claims 1-24 for use in providing contraception to a subject via injection, wherein a dosage of the levonorgestrel butanoate ranges from 20 mg to 140 mg.

31. The formulation for use according to claim 30, wherein injection comprises subcutaneous injection.

32. The formulation for use according to claim 30, wherein injection comprises intramuscular injection.

33. The formulation for use according to any one of claims 30-32, wherein the concentration of levonorgestrel butanoate in the formulation is 70 mg/mL.

34. A formulation according to any one of claims 1-24 for use in treating or preventing a progestin-related disease or condition in a subject.