**WHAT IS CLAIMED IS:**

1. L-glucose monohydrate.

2. The L-glucose monohydrate of claim 1, having an X-ray powder diffraction (XRPD) pattern comprising one or more characteristic peaks at ~~about~~ 9.24, ~~about~~ 18.46, ~~about~~ 19.78, ~~about~~ 20.24 and ~~about~~ 28.36 ± 0.2 degrees 2θ.

3. The L-glucose monohydrate of claim 1, having an X-ray powder diffraction (XRPD) pattern comprising characteristic peaks at ~~about~~ 9.24, ~~about~~ 18.46, ~~about~~ 19.78, ~~about~~ 20.24 and ~~about~~ 28.36 ± 0.2 degrees 2θ.

~~4. The L-glucose monohydrate of claim 1, having an X-ray powder diffraction (XRPD) pattern comprising one or more characteristic peaks at about 9.24, about 12.78, about 14.60, about 16.48, about 18.46, about 19.32, about 19.78, about 20.24, about 20.56, about 21.70, about 22.84, about 23.50, about 25.52, about 26.56, about 27.62, about 27.84, about 28.36, about 29.40, about 30.80, about 30.98, about 31.22, about 32.38, about 33.44, about 33.82, about 35.24, about 35.72, about 36.96 and about 40.18 ± 0.2 degrees 2θ.~~

~~5. The L-glucose monohydrate of claim 1, having an X-ray powder diffraction (XRPD) pattern comprising characteristic peaks at about 9.24, about 12.78, about 14.60, about 16.48, about 18.46, about 19.32, about 19.78, about 20.24, about 20.56, about 21.70, about 22.84, about 23.50, about 25.52, about 26.56, about 27.62, about 27.84, about 28.36, about 29.40, about 30.80, about 30.98, about 31.22, about 32.38, about 33.44, about 33.82, about 35.24, about 35.72, about 36.96 and about 40.18 ± 0.2 degrees 2θ.~~

~~6. The L-glucose monohydrate of claim 1, having an X-ray powder diffraction pattern substantially as shown in Figure 1.~~

~~7~~4. The L-glucose monohydrate of claim 1, having an optical rotation of from ~~about~~ -52.5 to ~~about~~ -53.3 degrees, calculated with reference to anhydrous L-glucose.

~~8. The L-glucose monohydrate of claim 1, which is free from D-glucose and D-glucose monohydrate.~~

~~9~~5. The L-glucose monohydrate of claim 1, which is at least ~~about~~ 99% pure.

~~10. The L-glucose monohydrate of claim 1, which is at least about 99.999% pure.~~

~~11~~6. A process for preparing L-glucose monohydrate, comprising (a) adding L-glycine to water and heating under reduced pressure, and (b) cooling the resultant solution to form L-glucose monohydrate.

~~12. A process for preparing L-glucose monohydrate, comprising:~~

~~(a) dispersing an amount from about 0.9 moles per liter to about 1.5 moles per liter of a source of L-glucose in water at a temperature of from about 55 °C to not more than about 65 °C at a reduced pressure of at least about 700 mm Hg less than atmospheric pressure, reducing the amount of water present such that the amount of water present is from about 28% to about 30% by weight of the solution, and heating the dispersion to a temperature of from about 80 °C to about 82 °C to form a solution; and~~

~~(b) cooling the solution to a temperature of from about 50 °C to about 55 °C to induce crystallization, further cooling the resulting slurry to a temperature of from about 25 °C to about 30 °C, and adding an amount of ethanol that is from about 4.5 mL of ethanol to about 5 mL of ethanol per gram of L-glucose dispersed in step (a) to form L-glucose monohydrate.~~

~~13. The process according to claim 12, further comprising: (c) isolating the L-glucose monohydrate formed in step (b).~~

~~14. The process according to claim 12, wherein the amount of L-glucose provided in step (a) is about 1.33 moles of L-glucose per liter of water.~~

~~15. The process according to claim 12, wherein L-glucose monohydrate is added in step (b) to induce crystallization.~~

~~16. The process according to claim 12, wherein the amount of ethanol added in step (b) is about 4.85 mL per gram of L-glucose used in step (a).~~

~~17. The process according to claim 13, wherein the L-glucose monohydrate is isolated by centrifugation.~~

~~18~~7. L-glucose monohydrate prepared by a process according to claim 6~~11 or claim 12~~.

~~19~~8. A composition comprising at least ~~about~~ 50% by weight of L-glucose monohydrate and one or more adjunct ingredients.

~~20~~9. A composition comprising: a) at least ~~about~~ 50% by weight of L-glucose monohydrate; and b) anhydrous L-glucose.

~~21. The composition according to claim 20, comprising at least about 70% by weight of L-glucose monohydrate.~~

~~22~~10. The composition according to claim ~~20~~9, comprising at least ~~about~~ 75% by weight of L-glucose monohydrate.

~~23. The composition according to claim 20, comprising at least about 80% by weight of L-glucose monohydrate.~~

~~24. The composition according to claim 20, comprising at least about 85% by weight of L-glucose monohydrate.~~

~~25. The composition according to claim 20, comprising at least about 90% by weight of L-glucose monohydrate.~~

~~26~~11. The composition according to claim ~~20~~9, comprising at least ~~about~~ 95% by weight of L-glucose monohydrate.

~~27~~12. The composition according to claim ~~20~~9, comprising at least ~~about~~ 99% by weight of L-glucose monohydrate.

~~28. The composition according to claim 20, comprising at least about 99.999% by weight of L-glucose monohydrate.~~

~~29~~13. A method for colonic cleansing comprising administering to a subject in one or more doses a composition comprising an amount of an L-sugar that is greater than ~~about~~ 48 g wherein said L-sugar comprises L-glucose monohydrate.

~~30~~14. The method of claim ~~29~~13, wherein the amount of an L-sugar is from ~~about~~ 48 g to ~~about~~ 200 g.

~~31. The method of claim 29, wherein the amount of an L-sugar is from about 50 g to about 150 g.~~

~~32~~15. The method of claim ~~29~~13, wherein the amount of an L-sugar is from ~~about~~ 60 g to ~~about~~ 140 g.

~~33. The method of claim 29, wherein the amount of an L-sugar is from about 70 g to about 130 g.~~

~~34. The method of claim 29, wherein the amount of an L-sugar is from about 80 g to about 120 g.~~

~~35~~16. The method of claim ~~29~~13, wherein the amount of an L-sugar is from ~~about~~ 90 g to ~~about~~ 110 g.

~~36. The method of claim 29, wherein the L-sugar comprises L-glucose.~~

~~37. The method of claim 29, wherein the L-sugar comprises L-glucose monohydrate.~~

~~38~~17. The method of claim ~~29~~13, wherein the administering comprises administering a first dose of the composition comprising the L-sugar and a second dose of the composition comprising the L-sugar.

~~39. The method of claim 38, wherein the first dose comprises at least about 36 g of the L-sugar, and the second dose comprises at least about 30 g of the L-sugar.~~

~~40. The method of claim 38, wherein the first dose comprises from about 36 g to about 80 g of the L-sugar, and the second dose comprises from about 30 g to about g to 60 g of the L-sugar, and the second dose comprises from 40 g to 60 g of the L-sugar.~~

~~41. The method of claim 38, wherein the first dose comprises from about 40 g to about 50 g of the L-sugar, and the second dose comprises from about 30 g to about 40 g of the L-sugar.~~

~~42. The method of claim 38, wherein the first dose comprises from about 45 g to about 55 g of the L-sugar, and the second dose comprises from about 45 g to about 55 g of the L-sugar.~~

~~43~~18. The method of claim ~~38~~17, wherein the first dose comprises at least about 48 g of the L-sugar, and the second dose comprises at least 48 g of the L-sugar.

~~44. The method of claim 38, wherein the first dose comprises about 52.8 g L-glucose monohydrate, and the second dose comprises about 52.8 g L-glucose monohydrate.~~

~~45~~19. The method of claim ~~44~~17, wherein the first dose is administered the night before the subject undergoes a colonoscopy, and the second dose is administered the morning of, but prior to, the colonoscopy.

~~46~~20. The method of claim ~~44~~17, wherein each dose of L-glucose monohydrate is dissolved in 236.59 ml (~~about~~ 8 ounces) of water.

~~47. The method of claim 29, wherein the administration to the subject is prior to the subject undergoing a colonoscopy.~~

~~48. A method for colon cleansing in a subject comprising:~~

~~(a) administering to the subject an aqueous solution containing from about 36 to about 72 g L-glucose (based on the weight of base L-glucose) at night, and~~

~~(b) administering to the subject an aqueous solution containing from about 36 to about 72 g L-glucose the following morning.~~

~~49. The method of claim 48, wherein the subject is undergoing a colonoscopy, step (a) is performed the night before the colonoscopy, and step (b) is performed the morning of, but prior to, the colonoscopy.~~

~~50. A method for colon cleansing in a subject comprising:~~

~~(a) dissolving L-glucose monohydrate in water to form a first aqueous solution, wherein the amount of L-glucose ranges from about 36 to about 72 g (based on the weight of the base L-~~

~~glucose),~~

~~(b) administering to the subject the first aqueous solution at night,~~

~~(c) dissolving L-glucose monohydrate in water to form a second aqueous solution, wherein the amount of L-glucose ranges from about 36 to about 72 g (based on the weight of the base L-glucose), and~~

~~(d) administering to the subject the second aqueous solution the following morning.~~

~~51. A method for colon cleansing in a subject undergoing a colonoscopy comprising:~~

~~(a) administering to the subject an aqueous solution containing about 48 g L-glucose (based on the weight of base L-glucose) the night before the colonoscopy, and~~

~~(b) administering to the subject an aqueous solution containing about 48 g L-glucose the morning of, but prior to, the colonoscopy.~~

~~52. A method for colon cleansing in a subject undergoing a colonoscopy comprising:~~

~~(a) dissolving 52.8 g L-glucose monohydrate in about 8 fluid ounces of water to form a first aqueous solution,~~

~~(b) administering to the subject the first aqueous solution the night before the colonoscopy,~~

~~(c) dissolving 52.8 g L-glucose monohydrate in about 8 fluid ounces of water to form a second aqueous solution, and~~

~~(d) administering to the subject the second aqueous solution the morning of, but prior to, the colonoscopy.~~

~~53~~21. A colonic cleansing kit comprising a package and an amount of an L-sugar effective for colonic cleansing in the package, wherein the amount of L-sugar comprises a first pre-measured dose and a second pre-measured dose and wherein the L-sugar comprises L-glucose monohydrate.

~~54~~22. The kit of claim ~~53~~21, wherein the total amount of the L-sugar is greater than ~~about~~ 48 g.

~~55. The kit of claim 53, wherein the total amount of the L-sugar is from greater than about 48 g to about 200 g.~~

~~56. The kit of claim 53, wherein the first dose comprises at least about 36 g of the L-sugar, and the second dose comprises at least about 30 g of the L-sugar.~~

~~57. The kit of claim 53, wherein the first dose comprises from about 36 g to about 80 g of the L-sugar, and the second dose comprises from 30 g to 80 g of the L-sugar.~~

~~58. The kit of claim 53, wherein the L-sugar comprises L-glucose.~~

~~59. The kit of claim 53, wherein the L-sugar comprises L-glucose monohydrate.~~

~~60. The kit of claim 59, further comprising anhydrous L-glucose.~~

~~61. The kit of claim 48, further comprising instructions for colonoscopy preparation.~~