WHAT IS CLAIMED IS:

1. A pharmaceutical preconcentrate comprising:

a fatty acid oil mixture comprising at least 75% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride; and

at least one surfactant.

2. The composition according to claim 1, wherein of the at least 75% EPA and DHA of the fatty acid oil mixture, at least 95% is EPA.

3. The composition according to claim 1, wherein of the at least 75% EPA and DHA of the fatty acid oil mixture, at least 95% is DHA.

4. The preconcentrate according to claim 1, wherein the fatty acid oil mixture comprises at least 90% omega-3 fatty acids, by weight of the fatty acid oil mixture.

5. The preconcentrate according to claim 4, wherein at least one of the omega-3 fatty acids has a *cis* configuration.

6. The preconcentrate according to claim 1, wherein the fatty acid oil mixture further comprises at least one other fatty acid other than EPA and DHA in a form chosen from ethyl ester and triglyceride.

7. The preconcentrate according to claim 6, wherein the at least one other fatty acid is chosen from α-linolenic acid (ALA), heneicosapentaenoic acid (HPA), docosapentaenoic acid (DPA), eicosatetraenoic acid (ETA), eicosatrienoic acid (ETE), stearidonic acid (STA), and mixtures thereof.

8. The preconcentrate according to claim 6, wherein the at least one other fatty acid is chosen from linoleic acid, gamma-linolenic acid (GLA), arachidonic acid (AA), osbond acid, and mixtures thereof.

9. The preconcentrate according to claim 1, wherein the fatty acid oil mixture is derived from at least one oil chosen from marine oil, algae oil, plant-based oil, and microbial oil.

10. The preconcentrate according to claim 9, wherein the marine oil is a purified fish oil.

11. The preconcentrate according to claim 1, wherein the EPA:DHA weight ratio of the fatty acid oil mixture ranges from about 1:10 to 10:1, from about 1:8 to 8:1, from about 1:6 to 6:1, from about 1:5 to 5:1, from about 1:4 to 4:1, from about 1:3 to 3.1, from about 1.2 to 2:1, from about 1.1 to 2.1, or from about 1.2 to 1.3.

12. The preconcentrate according to claim 11, wherein the EPA:DHA weight ratio of the fatty acid oil mixture ranges from about 1:2 to 2:1.

13. The preconcentrate according to claim 12, wherein the EPA:DHA weight ratio of the fatty acid oil mixture ranges from about 1.2 to 1.3.

14. The preconcentrate according to claim 1, wherein the EPA or the DHA of the fatty acid oil mixture, or the EPA and the DHA of the fatty acid oil mixture is in a form of an alpha-substituted fatty acid derivative.

15. The preconcentrate according to claim 1, wherein the at least one surfactant is chosen from anionic, nonionic, cationic, zwitterionic surfactants, and mixtures thereof.

16. The preconcentrate according to claim 15, wherein the anionic surfactants are chosen from salts of perfluorocarboxylic acids and perfluorosulphonic acid, alkyl sulphate salts, sulphate ethers, alkyl benzene sulphonate salts, and mixtures thereof.

17. The preconcentrate according to claim 15, wherein the nonionic surfactants are chosen from diacetyl monoglycerides, diethylene glycol monopalmitostearates, ethylene glycol monopalmitostearates, glyceryl behenates, glyceryl distearates, glyceryl monolinoleates, glyceryl mono-oleates, glyceryl monostearates, macrogol cetostearyl ethesr, macrogol 15 hydroxystearates, macrogol lauril ethers, macrogol monomethyl ethers, macrogol oleyl ethers, macrogol stearas, menfegol, mono and diglycerides, nonoxinols, octoxinols, polyoxamers, polyoxamer 188, polyoxamer 407, polyoxyl castor oils, polyoxyl hydrogenated castor oils, propylene glycol diacetates, propylene glycol laureates, propylene glycol monopalmitostearates, quillaia, sorbitan esters, sucrose esters, and mixtures thereof.

18. The preconcentrate according to claim 15, wherein the nonionic surfactants are chosen from nonionic copolymers comprised of a central hydrophobic polymer of polyoxypropylene(poly(propylene oxide)) with a hydrophilic polymer of at least one of polyethylene(poly(ethylene oxide)), polyethylene ethers, sorbitan esters, polyoxyethylene fatty acid esters, polyethylated castor oil, and mixtures thereof.

19. The preconcentrate according to claim 18, wherein the nonionic surfactants are chosen from polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, and mixtures thereof.

20. The preconcentrate according to claim 15, wherein the cationic surfactants are chosen from quaternary ammonium compounds, cetylpyridinium chlorides, benzethonium chlorides, cetyl trimethylammonium bromides, and mixtures thereof.

21. The preconcentrate according to claim 15, wherein the zwitterionic surfactants are chosen from dodecyl betaines, coco amphoglycinates, cocamidopropyl betaines, and mixtures thereof.

22. The preconcentrate according to claim 1, wherein the at least one surfactant is a phospholipid, derivative thereof, analogue thereof, or any mixture thereof.

23. The preconcentrate according to claim 22, wherein the phospholipid, derivative thereof, or analogue thereof is chosen from natural, synthetic, semisynthetic phospholipids, and mixtures thereof.

24. The preconcentrate according to claim 23, wherein the phospholipid or derivative or analogue thereof is chosen from phosphatidylcholines, phosphatidylethanolamines, phosphatidylglycerols, phosphatidylserines, phosphatidylinositols, and mixtures thereof.

25. The preconcentrate according to claim 1, wherein the at least one surfactant comprises from about 0.5% to about 40%, from about 10% to about 30%, or from about 10% to about 25%, by weight relative to the total weight of the preconcentrate.

26. The preconcentrate according to claim 25, wherein the at least one surfactant comprises about 20%, by weight relative to the total weight of the preconcentrate.

27. The preconcentrate according to claim 1, further comprising at least one co-surfactant.

28. The preconcentrate according to claim 27, wherein the at least one co-surfactant is chosen from short chain alcohols, glycol ethers, pyrrolidine derivatives, 2-pyrrolidone, bile salts, and mixtures thereof.

29. The preconcentrate according to claim 27, wherein the at least one co-surfactant comprises from about 1% to about 10%, by weight relative to the total weight of the preconcentrate.

30. The preconcentrate according to claim 1, wherein the ratio of fatty acid oil mixture:total surfactant ranges from about 1:1 to about 200:1, from about 1:1 to about 100:1, from about 1:1 to about 50:1, from about 1:1 to about 10:1, from about 1:1 to about 8:1, from about 1.1 to 6:1 from about 1:1 to about 5:1, from about 1:1 to about 4:1, or from about 1:1 to about 3:1.

31. The preconcentrate according to claim 1, wherein the preconcentrate further comprises at least one pharmaceutically-acceptable solvent.

32. The preconcentrate according to claim 31, wherein the at least one pharmaceutically-acceptable solvent is chosen from lower alcohols and polyols.

33. The preconcentrate according to claim 1, further comprising at least one antioxidant.

34. The preconcentrate according to claim 1, wherein the fatty acid oil mixture is present in a pharmaceutically-effective amount.

35. The preconcentrate according to claim 1, wherein the preconcentrate is in the form of a gelatin capsule.

36. The preconcentrate according to claim 35, wherein the capsule fill content ranges from about 0.400 g to about 1.300 g.

37. The preconcentrate according to claim 36, wherein the capsule fill content ranges from about 0.600 g to about 1.200 g.

38. The preconcentrate according to claim 37, wherein the capsule fill content ranges from about 0.800 g to about 1.000 g.

39. A pharmaceutical preconcentrate comprising:

a fatty acid oil mixture comprising from about 80% to about 88% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in ethyl ester form; and

at least one surfactant chosen from polysorbate 20, polysorbate 80, and mixtures thereof.

40. A pharmaceutical preconcentrate comprising:

a fatty acid oil mixture comprising from about 80% to about 88% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in ethyl ester form;

at least one surfactant chosen from polysorbate 20, polysorbate 80, and mixtures thereof; and

at least one co-surfactant comprising ethanol.

41. A self-nanoemulsifying drug delivery system (SNEDDS), self-microemulsifying drug delivery system (SMEDDS), or self-emulsifying drug delivery system (SEDDS) comprising a pharmaceutical preconcentrate comprising:

a fatty acid oil mixture comprising from about 80% to about 88% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride; and

at least one surfactant;

wherein the preconcentrate forms an emulsion in an aqueous solution.

42. The system according to claim 41, wherein the fatty acid oil mixture comprises at least 90% omega-3 fatty acids, by weight of the fatty acid oil mixture.

43. The system according to claim 42, wherein at least one of the omega-3 fatty acids has a *cis* configuration.

44. The system according to claim 41, wherein the fatty acid oil mixture further comprises at least one other fatty acid other than EPA and DHA in a form chosen from ethyl ester and triglyceride.

45. The system according to claim 44, wherein the at least one other fatty acid is chosen from α-linolenic acid (ALA), heneicosapentaenoic acid (HPA), docosapentaenoic acid (DPA), eicosatetraenoic acid (ETA), eicosatrienoic acid (ETE), stearidonic acid (STA), and mixtures thereof.

46. The system according to claim 44, wherein the at least one other fatty acid is chosen from linoleic acid, gamma-linolenic acid (GLA), arachidonic acid (AA), osbond acid, and mixtures thereof.

47. The system according to claim 41, wherein the fatty acid oil mixture is derived from at least one oil chosen from marine oil, algae oil, plant-based oil, and microbial oil.

48. The system according to claim 47, wherein the marine oil is a purified fish oil.

49. The system according to claim 41, wherein the EPA:DHA weight ratio of the fatty acid oil mixture ranges from about 1:10 to 10:1, from about 1:8 to 8:1, from about 1:6 to 6:1, from about 1:5 to 5:1, from about 1:4 to 4:1, from about 1:3 to 3.1, from about 1.2 to 2:1, from about 1.1 to 2.1, or from about 1.2 to 1.3.

50. The system according to claim 49, wherein the EPA:DHA weight ratio of the fatty acid oil mixture ranges from about 1:2 to 2:1.

51. The system according to claim 50, wherein the EPA:DHA weight ratio of the fatty acid oil mixture ranges from about 1.2 to 1.3.

52. The system according to claim 41, wherein the EPA or the DHA of the fatty acid oil mixture, or the EPA and the DHA of the fatty acid oil mixture is in a form of an alpha-substituted fatty acid derivative.

53. The system according to claim 41, wherein the at least one surfactant is chosen from anionic, nonionic, cationic, zwitterionic surfactants, and mixtures thereof.

54. The system according to claim 53, wherein the anionic surfactants are chosen from salts of perfluorocarboxylic acids and perfluorosulphonic acid, alkyl sulphate salts, sulphate ethers, alkyl benzene sulphonate salts, and mixtures thereof.

55. The system according to claim 53, wherein the nonionic surfactants are chosen from diacetyl monoglycerides, diethylene glycol monopalmitostearates, ethylene glycol monopalmitostearates, glyceryl behenates, glyceryl distearates, glyceryl monolinoleates, glyceryl mono-oleates, glyceryl monostearates, macrogol cetostearyl ethesr, macrogol 15 hydroxystearates, macrogol lauril ethers, macrogol monomethyl ethers, macrogol oleyl ethers, macrogol stearas, menfegol, mono and diglycerides, nonoxinols, octoxinols, polyoxamers, polyoxamer 188, polyoxamer 407, polyoxyl castor oils, polyoxyl hydrogenated castor oils, propylene glycol diacetates, propylene glycol laureates, propylene glycol monopalmitostearates, quillaia, sorbitan esters, sucrose esters, and mixtures thereof.

56. The system according to claim 53, wherein the nonionic surfactants are chosen from nonionic copolymers comprised of a central hydrophobic polymer of polyoxypropylene(poly(propylene oxide)) with a hydrophilic polymer of at least one of polyethylene(poly(ethylene oxide)), polyethylene ethers, sorbitan esters, polyoxyethylene fatty acid esters, polyethylated castor oil, and mixtures thereof.

57. The system according to claim 56, wherein the nonionic surfactants are chosen from polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, and mixtures thereof.

58. The system according to claim 53, wherein the cationic surfactants are chosen from quaternary ammonium compounds, cetylpyridinium chlorides, benzethonium chlorides, cetyl trimethylammonium bromides, and mixtures thereof.

59. The system according to claim 53, wherein the zwitterionic surfactants are chosen from dodecyl betaines, coco amphoglycinates, cocamidopropyl betaines, and mixtures thereof.

60. The system according to claim 41, wherein the at least one surfactant is a phospholipid, derivative thereof, analogue thereof, or any mixture thereof.

61. The system according to claim 60, wherein the phospholipid, derivative thereof, or analogue thereof is chosen from natural, synthetic, semisynthetic phospholipids, and mixtures thereof.

62. The system according to claim 61, wherein the phospholipid or derivative or analogue thereof is chosen from phosphatidylcholines, phosphatidylethanolamines, phosphatidylglycerols, phosphatidylserines, phosphatidylinositols, and mixtures thereof.

63. The system according to claim 41, wherein the at least one surfactant comprises from about 0.5% to about 40%, from about 10% to about 30%, or from about 10% to about 25%, by weight relative to the total weight of the system.

64. The system according to claim 63, wherein the at least one surfactant comprises about 20%, by weight relative to the total weight of the preconcentrate.

65. The system according to claim 41, wherein the preconcentrate further comprises at least one co-surfactant.

66. The system according to claim 65, wherein the at least one co-surfactant is chosen from short chain alcohols, glycol ethers, pyrrolidine derivatives, 2-pyrrolidone, bile salts, and mixtures thereof.

67. The system according to claim 65, wherein the at least one co-surfactant comprises from about 1% to about 10%, by weight relative to the total weight of the preconcentrate.

68. The system according to claim 41, wherein the ratio of fatty acid oil mixture:total surfactant ranges from about 1:1 to about 200:1, from about 1:1 to about 100:1, from about 1:1 to about 50:1, from about 1:1 to about 10:1, from about 1:1 to about 8:1, from about 1.1 to 6:1 from about 1:1 to about 5:1, from about 1:1 to about 4:1, or from about 1:1 to about 3:1.

69. The system according to claim 41, wherein the preconcentrate further comprises at least one pharmaceutically-acceptable solvent.

70. The system according to claim 69, wherein the at least one pharmaceutically-acceptable solvent is chosen from lower alcohols and polyols.

71. The system according to claim 41, wherein the preconcentrate further comprises at least one antioxidant.

72. The system according to claim 41, wherein the fatty acid oil mixture is present in a pharmaceutically-effective amount.

73. The system according to claim 41, wherein the system is in the form of a gelatin capsule.

74. The system according to claim 73, wherein the capsule fill content ranges from about 0.400 g to about 1.300 g.

75. The system according to claim 74, wherein the capsule fill content ranges from about 0.600 g to about 1.200 g.

76. The system according to claim 75, wherein the capsule fill content ranges from about 0.800 g to about 1.000 g.

77. The system according to claim 41, wherein the particle size of the emulsion ranges from about 150 nm to about 350 nm.

78. A pharmaceutical preconcentrate comprising:

a fatty acid oil mixture comprising at least 75% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride; and

at least one surfactant;

for use in the treatment of at least one health problem in a subject in need thereof wherein the at least one health problem is chosen from irregular plasma lipid levels, cardiovascular functions, immune functions, visual functions, insulin action, neuronal development, heart failure, and post myocardial infarction.

79. The preconcentrate according to claim 78, wherein the at least one health problem is chosen from mixed dyslipidemia, dyslipidemia, hypertriglyceridemia, hypercholesterolemia, heart failure, and post myocardial infarction.

80. The preconcentrate according to claim 79, wherein the at least one health problem is chosen from elevated triglyceride levels, non-HDL cholesterol levels, LDL cholesterol levels and/or VLDL cholesterol levels.

81. The preconcentrate according to claim 78, wherein the fatty acid oil mixture comprises at least 90% omega-3 fatty acids, by weight of the fatty acid oil mixture.

82. The preconcentrate according to claim 81, wherein at least one of the omega-3 fatty acids has a *cis* configuration.

83. The preconcentrate according to claim 78, wherein the fatty acid oil mixture further comprises at least one other fatty acid other than EPA and DHA in a form chosen from ethyl ester and triglyceride.

84. The preconcentrate according to claim 83, wherein the at least one other fatty acid is chosen from α-linolenic acid (ALA), heneicosapentaenoic acid (HPA), docosapentaenoic acid (DPA), eicosatetraenoic acid (ETA), eicosatrienoic acid (ETE), stearidonic acid (STA), and mixtures thereof.

85. The preconcentrate according to claim 83, wherein the at least one other fatty acid is chosen from linoleic acid, gamma-linolenic acid (GLA), arachidonic acid (AA), osbond acid, and mixtures thereof.

86. The preconcentrate according to claim 78, wherein the fatty acid oil mixture is derived from at least one oil chosen from marine oil, algae oil, plant-based oil, and microbial oil.

87. The preconcentrate according to claim 86, wherein the marine oil is a purified fish oil.

88. The preconcentrate according to claim 78, wherein the EPA:DHA weight ratio of the fatty acid oil mixture ranges from about 1:10 to 10:1, from about 1:8 to 8:1, from about 1:6 to 6:1, from about 1:5 to 5:1, from about 1:4 to 4:1, from about 1:3 to 3.1, from about 1.2 to 2:1, from about 1.1 to 2.1, or from about 1.2 to 1.3.

89. The preconcentrate according to claim 88, wherein the EPA:DHA weight ratio of the fatty acid oil mixture ranges from about 1:2 to 2:1.

90. The preconcentrate according to claim 89, wherein the EPA:DHA weight ratio of the fatty acid oil mixture ranges from about 1.2 to 1.3.

91. The preconcentrate according to claim 78, wherein the EPA or the DHA of the fatty acid oil mixture, or the EPA and the DHA of the fatty acid oil mixture is in a form of an alpha-substituted fatty acid derivative.

92. The preconcentrate according to claim 78, wherein the at least one surfactant is chosen from anionic, nonionic, cationic, zwitterionic surfactants, and mixtures thereof.

93. The preconcentrate according to claim 92, wherein the anionic surfactants are chosen from salts of perfluorocarboxylic acids and perfluorosulphonic acid, alkyl sulphate salts, sulphate ethers, alkyl benzene sulphonate salts, and mixtures thereof.

94. The preconcentrate according to claim 92, wherein the nonionic surfactants are chosen from diacetyl monoglycerides, diethylene glycol monopalmitostearates, ethylene glycol monopalmitostearates, glyceryl behenates, glyceryl distearates, glyceryl monolinoleates, glyceryl mono-oleates, glyceryl monostearates, macrogol cetostearyl ethesr, macrogol 15 hydroxystearates, macrogol lauril ethers, macrogol monomethyl ethers, macrogol oleyl ethers, macrogol stearas, menfegol, mono and diglycerides, nonoxinols, octoxinols, polyoxamers, polyoxamer 188, polyoxamer 407, polyoxyl castor oils, polyoxyl hydrogenated castor oils, propylene glycol diacetates, propylene glycol laureates, propylene glycol monopalmitostearates, quillaia, sorbitan esters, sucrose esters, and mixtures thereof.

95. The preconcentrate according to claim 92, wherein the nonionic surfactants are chosen from nonionic copolymers comprised of a central hydrophobic polymer of polyoxypropylene(poly(propylene oxide)) with a hydrophilic polymer of at least one of polyethylene(poly(ethylene oxide)), polyethylene ethers, sorbitan esters, polyoxyethylene fatty acid esters, polyethylated castor oil, and mixtures thereof.

96. The preconcentrate according to claim 95, wherein the nonionic surfactants are chosen from polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, and mixtures thereof.

97. The preconcentrate according to claim 92, wherein the cationic surfactants are chosen from quaternary ammonium compounds, cetylpyridinium chlorides, benzethonium chlorides, cetyl trimethylammonium bromides, and mixtures thereof.

98. The preconcentrate according to claim 92, wherein the zwitterionic surfactants are chosen from dodecyl betaines, coco amphoglycinates, cocamidopropyl betaines, and mixtures thereof.

99. The preconcentrate according to claim 78, wherein the at least one surfactant is a phospholipid, derivative thereof, analogue thereof, or any mixture thereof.

100. The preconcentrate according to claim 99, wherein the phospholipid, derivative thereof, or analogue thereof is chosen from natural, synthetic, semisynthetic phospholipids, and mixtures thereof.

101. The preconcentrate according to claim 100, wherein the phospholipid or derivative or analogue thereof is chosen from phosphatidylcholines, phosphatidylethanolamines, phosphatidylglycerols, phosphatidylserines, phosphatidylinositols, and mixtures thereof.

102. The preconcentrate according to claim 78, wherein the preconcentrate further comprises at least one co-surfactant.

103. The preconcentrate according to claim 102, wherein the at least one co-surfactant is chosen from short chain alcohols, glycol ethers, pyrrolidine derivatives, 2-pyrrolidone, bile salts, and mixtures thereof.

104. The preconcentrate according to claim 78, wherein the preconcentrate further comprises at least one antioxidant.

105. The preconcentrate according to claim 78, wherein the preconcentrate is in the form of a gelatin capsule.

106. The preconcentrate according to claim 105, wherein the capsule fill content ranges from about 0.400 g to about 1.300 g.

107. The preconcentrate according to claim 106, wherein the capsule fill content ranges from about 0.600 g to about 1.200 g.

108. The preconcentrate according to claim 107, wherein the capsule fill content ranges from about 0.800 g to about 1.000 g.

109. The preconcentrate according to claim 78, wherein the preconcentrate is administered once, twice, or three times per day.

110. The preconcentrate according to claim 78, wherein the preconcentrate forms a self-nanoemulsifying drug delivery system (SNEDDS), self-microemulsifying drug delivery system (SMEDDS), or self-emulsifying drug delivery system (SEDDS) in an aqueous solution.

111. A food supplement preconcentrate or nutritional supplement preconcentrate comprising:

a fatty acid oil mixture comprising from about 25% to about 75% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride; and

at least one surfactant.

112. The preconcentrate according to claim 111, wherein the fatty acid oil mixture comprises from about 35% to about 75% EPA and DHA, by weight of the fatty acid oil mixture, from about 40% to about 70% EPA and DHA, by weight of the fatty acid oil mixture, from about 40% to about 65% EPA and DHA, by weight of the fatty acid oil mixture, from about 40% to about 60% EPA and DHA, by weight of the fatty acid oil mixture, from about 40% to about 55% EPA and DHA, by weight of the fatty acid oil mixture, or from about 50% to about 55% EPA and DHA, by weight of the fatty acid oil mixture.

113. The preconcentrate according to claim 111, wherein the fatty acid oil mixture is derived from at least one oil chosen from marine oil, algae oil, plant-based oil, and microbial oil.

114. The preconcentrate according to claim 113, wherein the marine oil is a purified fish oil.

115. The preconcentrate according to claim 111, wherein the EPA:DHA weight ratio of the fatty acid oil mixture ranges from about 1:10 to about 10:1, from about 1:8 to about 8:1, from

about 1:6 to about 6:1, from about 1:5 to about 5:1, from about 1:4 to about 4:1, from about 1:3 to about 3.1, from about 1.2 to about 2:1, from about 1.1 to about 2.1, or from about 1.2 to about 1.3.

116. The preconcentrate according to claim 111, wherein the at least one surfactant is chosen from anionic, nonionic, cationic, zwitterionic surfactants, and mixtures thereof.

117. The preconcentrate according to claim 116, wherein the anionic surfactants are chosen from salts of perfluorocarboxylic acids and perfluorosulphonic acid, alkyl sulphate salts, sulphate ethers, alkyl benzene sulphonate salts, and mixtures thereof.

118. The preconcentrate according to claim 116, wherein the nonionic surfactants are chosen from diacetyl monoglycerides, diethylene glycol monopalmitostearates, ethylene glycol monopalmitostearates, glyceryl behenates, glyceryl distearates, glyceryl monolinoleates, glyceryl mono-oleates, glyceryl monostearates, macrogol cetostearyl ethesr, macrogol 15 hydroxystearates, macrogol lauril ethers, macrogol monomethyl ethers, macrogol oleyl ethers, macrogol stearas, menfegol, mono and diglycerides, nonoxinols, octoxinols, polyoxamers, polyoxamer 188, polyoxamer 407, polyoxyl castor oils, polyoxyl hydrogenated castor oils, propylene glycol diacetates, propylene glycol laureates, propylene glycol monopalmitostearates, quillaia, sorbitan esters, sucrose esters, and mixtures thereof.

119. The preconcentrate according to claim 116, wherein the nonionic surfactants are chosen from nonionic copolymers comprised of a central hydrophobic polymer of polyoxypropylene(poly(propylene oxide)) with a hydrophilic polymer of at least one of polyethylene(poly(ethylene oxide)), polyethylene ethers, sorbitan esters, polyoxyethylene fatty acid esters, polyethylated castor oil, and mixtures thereof.

120. The preconcentrate according to claim 119, wherein the nonionic surfactants are chosen from polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, and mixtures thereof.

121. The preconcentrate according to claim 116, wherein the cationic surfactants are chosen from quaternary ammonium compounds, cetylpyridinium chlorides, benzethonium chlorides, cetyl trimethylammonium bromides, and mixtures thereof.

122. The preconcentrate according to claim 116, wherein the zwitterionic surfactants are chosen from dodecyl betaines, coco amphoglycinates, cocamidopropyl betaines, and mixtures thereof.

123. The preconcentrate according to claim 111, wherein the at least one surfactant is a phospholipid, derivative thereof, analogue thereof, or any mixture thereof.

124. The preconcentrate according to claim 123, wherein the phospholipid, derivative thereof, or analogue thereof is chosen from natural, synthetic, semisynthetic phospholipids, and mixtures thereof.

125. The preconcentrate according to claim 124, wherein the phospholipid or derivative or analogue thereof is chosen from phosphatidylcholines, phosphatidylethanolamines, phosphatidylglycerols, phosphatidylserines, phosphatidylinositols, and mixtures thereof.

126. The preconcentrate according to claim 111, further comprising at least one co-surfactant.

127. The preconcentrate according to claim 126, wherein the at least one so-surfactant is chosen from short chain alcohols, glycol ethers, pyrrolidine derivatives, 2-pyrrolidone, bile salts, and mixtures thereof.

128. The preconcentrate according to claim 111, further comprising at least one antioxidant.

129. The preconcentrate according to claim 111, wherein the preconcentrate is in the form of a gelatin capsule.

130. The preconcentrate according to claim 129, wherein the capsule fill content ranges from about 0.400 g to about 1.300 g.

131. The preconcentrate according to claim 130, wherein the capsule fill content ranges from about 0.600 g to about 1.200 g.

132. The preconcentrate according to claim 131, wherein the capsule fill content ranges from about 0.800 g to about 1.000 g.

133. The preconcentrate according to claim 111, wherein the preconcentrate forms a self-nanoemulsifying drug delivery system (SNEDDS), self-microemulsifying drug delivery system (SMEDDS), or self-emulsifying drug delivery system (SEDDS) in an aqueous solution.

134. A method for enhancing at least one parameter chosen from hydrolysis, solubility, bioavailability, absorption, and combinations thereof of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) comprising combining:

a fatty acid oil mixture comprising EPA and DHA in a form chosen from ethyl ester and triglyceride; and

at least one surfactant;

wherein the fatty acid oil mixture and the at least one surfactant form a preconcentrate.

135. The method according to claim 134, wherein the fatty acid oil mixture comprises at least 75% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture.

136. The method according to claim 134, wherein the fatty acid oil mixture comprises from about 25% to about 75% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture.

137. The system according to claim 134, wherein the at least one surfactant is chosen from anionic, nonionic, cationic, zwitterionic surfactants, and mixtures thereof.

138. The system according to claim 137, wherein the anionic surfactants are chosen from salts of perfluorocarboxylic acids and perfluorosulphonic acid, alkyl sulphate salts, sulphate ethers, alkyl benzene sulphonate salts, and mixtures thereof.

139. The system according to claim 137, wherein the nonionic surfactants are chosen from diacetyl monoglycerides, diethylene glycol monopalmitostearates, ethylene glycol monopalmitostearates, glyceryl behenates, glyceryl distearates, glyceryl monolinoleates, glyceryl mono-oleates, glyceryl monostearates, macrogol cetostearyl ethesr, macrogol 15 hydroxystearates, macrogol lauril ethers, macrogol monomethyl ethers, macrogol oleyl ethers, macrogol stearas, menfegol, mono and diglycerides, nonoxinols, octoxinols, polyoxamers, polyoxamer 188, polyoxamer 407, polyoxyl castor oils, polyoxyl hydrogenated castor oils,

propylene glycol diacetates, propylene glycol laureates, propylene glycol monopalmitostearates, quillaia, sorbitan esters, sucrose esters, and mixtures thereof.

140. The system according to claim 137, wherein the nonionic surfactants are chosen from nonionic copolymers comprised of a central hydrophobic polymer of polyoxypropylene(poly(propylene oxide)) with a hydrophilic polymer of at least one of polyethylene(poly(ethylene oxide)), polyethylene ethers, sorbitan esters, polyoxyethylene fatty acid esters, polyethylated castor oil, and mixtures thereof.

141. The system according to claim 140, wherein the nonionic surfactants are chosen from polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, and mixtures thereof.

142. The system according to claim 137, wherein the cationic surfactants are chosen from quaternary ammonium compounds, cetylpyridinium chlorides, benzethonium chlorides, cetyl trimethylammonium bromides, and mixtures thereof.

143. The system according to claim 137, wherein the zwitterionic surfactants are chosen from dodecyl betaines, coco amphoglycinates, cocamidopropyl betaines, and mixtures thereof.

144. The system according to claim 134, wherein the at least one surfactant is a phospholipid, derivative thereof, analogue thereof, or any mixture thereof.

145. The system according to claim 144, wherein the phospholipid, derivative thereof, or analogue thereof is chosen from natural, synthetic, semisynthetic phospholipids, and mixtures thereof.

146. The system according to claim 145, wherein the phospholipid or derivative or analogue thereof is chosen from phosphatidylcholines, phosphatidylethanolamines, phosphatidylglycerols, phosphatidylserines, phosphatidylinositols, and mixtures thereof.

147. The system according to claim 134, wherein the preconcentrate further comprises at least one co-surfactant.

148. The system according to claim 147, wherein the at least one co-surfactant is chosen from short chain alcohols, glycol ethers, pyrrolidine derivatives, 2-pyrrolidone, bile salts, and mixtures thereof.

149. The system according to claim 135, wherein the preconcentrate comprises:

a fatty acid oil mixture comprising from about 80% to about 88% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride; and

at least one surfactant chosen from polysorbate 20, polysorbate 80, and mixtures thereof.

150. The system according to claim 135, wherein the preconcentrate comprises:

a fatty acid oil mixture comprising from about 80% to about 88% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride;

at least one surfactant chosen from polysorbate 20 polysorbate 80, and mixtures thereof; and

at least one co-surfactant comprising ethanol.

151. The method according to claim 134, wherein the preconcentrate forms a self-nanoemulsifying drug delivery system (SNEDDS), self-microemulsifying drug delivery system (SMEDDS), or self-emulsifying drug delivery system (SEDDS) in an aqueous solution.

152. The method according to claim 151, wherein the system comprises an emulsion with a particle size ranging from about 150 nm to about 350 nm.

CLAIMS

1. A pharmaceutical preconcentrate comprising:

a fatty acid oil mixture comprising at least 75% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride; and

at least one nonionic surfactant,

wherein the pharmaceutical preconcentrate does not comprise a pharmaceutically active agent other than the fatty acid oil mixture.

2. The preconcentrate according to claim 1, wherein of the at least 75% EPA and DHA of the fatty acid oil mixture, at least 95% is EPA.

3. The preconcentrate according to claim 1, wherein of the at least 75% EPA and DHA of the fatty acid oil mixture, at least 95% is DHA.

4. The preconcentrate according to claim 1, wherein the fatty acid oil mixture comprises at least 90% omega-3 fatty acids, by weight of the fatty acid oil mixture.

5. The preconcentrate according to claim 4, wherein at least one of the omega-3 fatty acids has a *cis* configuration.

6. The preconcentrate according to claim 1, wherein the fatty acid oil mixture further comprises at least one other fatty acid other than EPA and DHA in a form chosen from ethyl ester and triglyceride.

7. The preconcentrate according to claim 6, wherein the at least one other fatty acid is chosen from α-linolenic acid (ALA), heneicosapentaenoic acid (HPA), docosapentaenoic acid (DPA), eicosatetraenoic acid (ETA), eicosatrienoic acid (ETE), stearidonic acid (STA), and mixtures thereof.

8. The preconcentrate according to claim 6, wherein the at least one other fatty acid is chosen from linoleic acid, gamma-linolenic acid (GLA), arachidonic acid (AA), osbond acid, oleic acid, ricinoleic acid, erucic acid, and mixtures thereof.

9. The preconcentrate according to claim 1, wherein the fatty acid oil mixture is derived from at least one oil chosen from marine oil, algae oil, plant-based oil, and microbial oil.

10. The preconcentrate according to claim 9, wherein the marine oil is a purified fish oil.

11. The preconcentrate according to claim 1, wherein the EPA:DHA weight ratio of the fatty acid oil mixture is chosen from the ranges of from about 1:10 to 10:1, from about 1:8 to 8:1, from about 1:6 to 6:1, from about 1:5 to 5:1, from about 1:4 to 4:1, from about 1:3 to 3:1, from about 1:2 to 2:1, from about 1:1 to 2:1, and from about 1:2 to 1:3.

12. The preconcentrate according to claim 1, wherein the at least one nonionic surfactant is chosen from diacetyl monoglycerides, diethylene glycol monopalmitostearates, ethylene glycol monopalmitostearates, glyceryl behenates, glyceryl distearates, glyceryl monolinoleates, glyceryl mono-oleates, glyceryl monostearates, macrogol cetostearyl ethers, macrogol 15 hydroxystearates, macrogol lauryl ethers, macrogol monomethyl ethers, macrogol oleyl ethers, macrogol stearates, menfegol, mono and diglycerides, nonoxinols, octoxinols, polyoxamers, polyoxamer 188, polyoxamer 407, polyoxyl castor oils, polyoxyl hydrogenated castor oils, propylene glycol diacetates, propylene glycol laureates, propylene glycol monopalmitostearates, quillaia, sorbitan esters, sucrose esters, and mixtures thereof, and nonionic copolymers comprised of a central hydrophobic polymer of polyoxypropylene(poly(propylene oxide)) with a hydrophilic polymer of at least one of polyethylene(poly(ethylene oxide)), polyethylene ethers, sorbitan esters, polyoxyethylene fatty acid esters, polyethylated castor oil, and mixtures thereof.

13. The preconcentrate according to claim 12, wherein the at least one nonionic surfactant is chosen from polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, and mixtures thereof.

14. The preconcentrate according to claim 1, wherein the at least one nonionic surfactant is present in an amount chosen from the ranges of from about 0.5% to about 40%, from about 10% to about 30%, and from about 10% to about 25%, by weight relative to the total weight of the preconcentrate.

15. The preconcentrate according to claim 14, wherein the at least one nonionic surfactant comprises about 20%, by weight relative to the total weight of the preconcentrate.

16. The preconcentrate according to claim 1, further comprising at least one co-surfactant.

17. The preconcentrate according to claim 16, wherein the at least one co-surfactant is chosen from short chain alcohols, glycol ethers, pyrrolidine derivatives, 2-pyrrolidone, bile salts, and mixtures thereof.

18. The preconcentrate according to claim 16, wherein the at least one co-surfactant comprises from about 1% to about 10%, by weight relative to the total weight of the preconcentrate.

19. The preconcentrate according to claim 1, wherein the ratio of fatty acid oil mixture:total surfactant is chosen from the ranges of from about 1:1 to about 200:1, from about 1:1 to about 100:1, from about 1:1 to about 50:1, from about 1:1 to about 10:1, from about 1:1 to about 8:1, from about 1:1 to 6:1 from about 1:1 to about 5:1, from about 1:1 to about 4:1, and from about 1:1 to about 3:1.

20. The preconcentrate according to claim 1, wherein the preconcentrate further comprises at least one pharmaceutically-acceptable solvent.

21. The preconcentrate according to claim 20, wherein the at least one pharmaceutically-acceptable solvent is chosen from lower alcohols and polyols.

22. The preconcentrate according to claim 1, further comprising at least one antioxidant.

23. The preconcentrate according to claim 1, wherein the fatty acid oil mixture is present in a pharmaceutically-effective amount.

24. The preconcentrate according to claim 1, wherein the preconcentrate is in the form of a gelatin capsule.

25. The preconcentrate according to claim 24, wherein the capsule fill content ranges from about 0.400 g to about 1.300 g, from about 0.600 g to about 1.200 g, or from about 0.800 g to about 1.000 g.

26. The preconcentrate according to claim 22, wherein the at least one antioxidant is chosen from butylhydroxyanisoles (BHA) and α-tocopherol.

27. A pharmaceutical preconcentrate comprising:

a fatty acid oil mixture comprising at least 75% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride; and

at least one nonionic surfactant comprising Cremophor® EL; and

at least one co-surfactant chosen from short chain alcohols,

wherein the pharmaceutical preconcentrate does not comprise a pharmaceutically active agent other than the fatty acid oil mixture.

28. A pharmaceutical preconcentrate comprising:

a fatty acid oil mixture comprising from about 80% to about 88% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in ethyl ester form; and

at least one nonionic surfactant chosen from polysorbate 20, polysorbate 80, and mixtures thereof,

wherein the pharmaceutical preconcentrate does not comprise a pharmaceutically active agent other than the fatty acid oil mixture.

29. A pharmaceutical preconcentrate comprising:

a fatty acid oil mixture comprising from about 80% to about 88% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in ethyl ester form;

at least one nonionic surfactant chosen from polysorbate 20, polysorbate 80, and mixtures thereof; and

at least one co-surfactant comprising ethanol,

wherein the pharmaceutical preconcentrate does not comprise a pharmaceutically active agent other than the fatty acid oil mixture.

30. A drug delivery system chosen from a self-nanoemulsifying drug delivery system (SNEDDS), self-microemulsifying drug delivery system (SMEDDS), or self-emulsifying drug delivery system (SEDDS), wherein the drug delivery system comprises a pharmaceutical preconcentrate comprising:

a fatty acid oil mixture comprising from about 80% to about 88% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride; and

at least one nonionic surfactant;

wherein the preconcentrate forms an emulsion in an aqueous solution,

wherein the pharmaceutical preconcentrate does not comprise a pharmaceutically active agent other than the fatty acid oil mixture.

31. The system according to claim 30, wherein the fatty acid oil mixture comprises at least 90% omega-3 fatty acids, by weight of the fatty acid oil mixture.

32. The system according to claim 31, wherein at least one of the omega-3 fatty acids has a *cis* configuration.

33. The system according to claim 30, wherein the fatty acid oil mixture further comprises at least one other fatty acid other than EPA and DHA in a form chosen from ethyl ester and triglyceride.

34. The system according to claim 33, wherein the at least one other fatty acid is chosen from α-linolenic acid (ALA), heneicosapentaenoic acid (HPA), docosapentaenoic acid (DPA), eicosatetraenoic acid (ETA), eicosatrienoic acid (ETE), stearidonic acid (STA), and mixtures thereof.

35. The system according to claim 33, wherein the at least one other fatty acid is chosen from linoleic acid, gamma-linolenic acid (GLA), arachidonic acid (AA), osbond acid, oleic acid, ricinoleic acid, erucic acid, and mixtures thereof.

36. The system according to claim 30, wherein the fatty acid oil mixture is derived from at least one oil chosen from marine oil, algae oil, plant-based oil, and microbial oil.

37. The system according to claim 36, wherein the marine oil is a purified fish oil.

38. The system according to claim 30, wherein the EPA:DHA weight ratio of the fatty acid oil mixture is chosen from the ranges of from about 1:10 to 10:1, from about 1:8 to 8:1, from about 1:6 to 6:1, from about 1:5 to 5:1, from about 1:4 to 4:1, from about 1:3 to 3:1, from about 1:2 to 2:1, from about 1:1 to 2:1, and from about 1:2 to 1:3.

39. The system according to claim 30, wherein the nonionic surfactants are chosen from diacetyl monoglycerides, diethylene glycol monopalmitostearates, ethylene glycol monopalmitostearates, glyceryl behenates, glyceryl distearates, glyceryl monolinoleates, glyceryl mono-oleates, glyceryl monostearates, macrogol cetostearyl ethers, macrogol 15 hydroxystearates, macrogol lauryl ethers, macrogol monomethyl ethers, macrogol oleyl ethers, macrogol stearates, menfegol, mono and diglycerides, nonoxinols, octoxinols, polyoxamers, polyoxamer 188, polyoxamer 407, polyoxyl castor oils, polyoxyl hydrogenated castor oils, propylene glycol diacetates, propylene glycol laureates, propylene glycol monopalmitostearates, quillaia, sorbitan esters, sucrose esters, and mixtures thereof, and nonionic copolymers comprised of a central hydrophobic polymer of polyoxypropylene(poly(propylene oxide)) with a hydrophilic polymer of at least one of polyethylene(poly(ethylene oxide)), polyethylene ethers, sorbitan esters, polyoxyethylene fatty acid esters, polyethylated castor oil, and mixtures thereof.

40. The system according to claim 39, wherein the at least one nonionic surfactant is chosen from polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, and mixtures thereof.

41. The system according to claim 30, wherein the at least one nonionic surfactant comprises from about 0.5% to about 40%, from about 10% to about 30%, or from about 10% to about 25%, by weight relative to the total weight of the system.

42. The system according to claim 41, wherein the at least one nonionic surfactant comprises about 20%, by weight relative to the total weight of the preconcentrate.

43. The system according to claim 30, wherein the preconcentrate further comprises at least one co-surfactant.

44. The system according to claim 43, wherein the at least one co-surfactant is chosen from short chain alcohols, glycol ethers, pyrrolidine derivatives, 2-pyrrolidone, bile salts, and mixtures thereof.

45. The system according to claim 43, wherein the at least one co-surfactant comprises from about 1% to about 10%, by weight relative to the total weight of the preconcentrate.

46. The system according to claim 30, wherein the ratio of fatty acid oil mixture:total surfactant is chosen from the ranges of from about 1:1 to about 200:1, from about 1:1 to about 100:1, from about 1:1 to about 50:1, from about 1:1 to about 10:1, from about 1:1 to about 8:1, from about 1:1 to 6:1 from about 1:1 to about 5:1, from about 1:1 to about 4:1, and from about 1:1 to about 3:1.

47. The system according to claim 30, wherein the preconcentrate further comprises at least one pharmaceutically-acceptable solvent.

48. The system according to claim 47, wherein the at least one pharmaceutically-acceptable solvent is chosen from lower alcohols and polyols.

49. The system according to claim 30, wherein the preconcentrate further comprises at least one antioxidant.

50. The system according to claim 30, wherein the fatty acid oil mixture is present in a pharmaceutically-effective amount.

51. The system according to claim 30, wherein the system is in the form of a gelatin capsule.

52. The system according to claim 51, wherein the capsule fill content ranges from about 0.400 g to about 1.300 g, from about 0.600 g to about 1.200 g, or from about 0.800 g to about 1.000 g.

53. The system according to claim 49, wherein the at least one antioxidant is chosen from butylhydroxyanisoles (BHA) and α-tocopherol.

54. The system according to claim 30, wherein the particle size of the emulsion ranges from about 150 nm to about 350 nm.

55. The pharmaceutical preconcentrate according to claim 1 for use in the treatment of at least one health problem in a subject in need thereof wherein the at least one health problem is chosen from irregular plasma lipid levels, cardiovascular functions, immune functions, visual functions, insulin action, neuronal development, heart failure, and post myocardial infarction.

56. The pharmaceutical preconcentrate according to claim 55, wherein the at least one health problem is chosen from mixed dyslipidemia, dyslipidemia, hypertriglyceridemia, hypercholesterolemia, heart failure, and post myocardial infarction.

57. The pharmaceutical preconcentrate according to claim 56, wherein the at least one health problem is chosen from elevated triglyceride levels, non-HDL cholesterol levels, LDL cholesterol levels and/or VLDL cholesterol levels.

58. The pharmaceutical preconcentrate according to claim 55, wherein the fatty acid oil mixture comprises at least 90% omega-3 fatty acids, by weight of the fatty acid oil mixture.

59. The pharmaceutical preconcentrate according to claim 58, wherein at least one of the omega-3 fatty acids has a *cis* configuration.

60. The pharmaceutical preconcentrate according to claim 55, wherein the fatty acid oil mixture further comprises at least one other fatty acid other than EPA and DHA in a form chosen from ethyl ester and triglyceride.

61. The pharmaceutical preconcentrate according to claim 60, wherein the at least one other fatty acid is chosen from α-linolenic acid (ALA), heneicosapentaenoic acid (HPA), docosapentaenoic acid (DPA), eicosatetraenoic acid (ETA), eicosatrienoic acid (ETE), stearidonic acid (STA), and mixtures thereof.

62. The pharmaceutical preconcentrate according to claim 60, wherein the at least one other fatty acid is chosen from linoleic acid, gamma-linolenic acid (GLA), arachidonic acid (AA), osbond acid, oleic acid, ricinoleic acid, erucic acid, and mixtures thereof.

63. The pharmaceutical preconcentrate according to claim 55, wherein the fatty acid oil mixture is derived from at least one oil chosen from marine oil, algae oil, plant-based oil, and microbial oil.

64. The pharmaceutical preconcentrate according to claim 63, wherein the marine oil is a purified fish oil.

65. The pharmaceutical preconcentrate according to claim 55, wherein the EPA:DHA weight ratio of the fatty acid oil mixture is chosen from the ranges of from about 1:10 to

10:1, from about 1:8 to 8:1, from about 1:6 to 6:1, from about 1:5 to 5:1, from about 1:4 to 4:1, from about 1:3 to 3:1, from about 1:2 to 2:1, from about 1:1 to 2:1, and from about 1:2 to 1:3.

66. The preconcentrate according to claim 55, wherein the nonionic surfactants are chosen from diacetyl monoglycerides, diethylene glycol monopalmitostearates, ethylene glycol monopalmitostearates, glyceryl behenates, glyceryl distearates, glyceryl monolinoleates, glyceryl mono-oleates, glyceryl monostearates, macrogol cetostearyl ethers, macrogol 15 hydroxystearates, macrogol lauryl ethers, macrogol monomethyl ethers, macrogol oleyl ethers, macrogol stearates, menfegol, mono and diglycerides, nonoxinols, octoxinols, polyoxamers, polyoxamer 188, polyoxamer 407, polyoxyl castor oils, polyoxyl hydrogenated castor oils, propylene glycol diacetates, propylene glycol laureates, propylene glycol monopalmitostearates, quillaia, sorbitan esters, sucrose esters, and mixtures thereof, and nonionic copolymers comprised of a central hydrophobic polymer of polyoxypropylene(poly(propylene oxide)) with a hydrophilic polymer of at least one of polyethylene(poly(ethylene oxide)), polyethylene ethers, sorbitan esters, polyoxyethylene fatty acid esters, polyethylated castor oil, and mixtures thereof.

67. The preconcentrate according to claim 66, wherein the nonionic surfactants are chosen from polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, and mixtures thereof.

68. The pharmaceutical preconcentrate according to claim 55, wherein the preconcentrate further comprises at least one co-surfactant.

69. The pharmaceutical preconcentrate according to claim 68, wherein the at least one co-surfactant is chosen from short chain alcohols, glycol ethers, pyrrolidine derivatives, 2-pyrrolidone, bile salts, and mixtures thereof.

70. The pharmaceutical preconcentrate according to claim 55, wherein the preconcentrate further comprises at least one antioxidant.

71. The pharmaceutical preconcentrate according to claim 55, wherein the preconcentrate is in the form of a gelatin capsule.

72. The pharmaceutical preconcentrate according to claim 71, wherein the capsule fill content ranges from about 0.400 g to about 1.300 g, from about 0.600 g to about 1.200 g, or from about 0.800 g to about 1.000 g.

73. The pharmaceutical preconcentrate according to claim 70, wherein the at least one antioxidant is chosen from butylhydroxyanisoles (BHA) and *α*-tocopherol.

74. The pharmaceutical preconcentrate according to claim 55, wherein the preconcentrate is administered to a subject in need thereof once, twice, or three times per day.

75. The pharmaceutical preconcentrate according to claim 55, wherein the preconcentrate forms a self-nanoemulsifying drug delivery system (SNEDDS), self-microemulsifying drug delivery system (SMEDDS), or self-emulsifying drug delivery system (SEDDS) in an aqueous solution.

76. A food supplement preconcentrate or nutritional supplement preconcentrate comprising:

a fatty acid oil mixture comprising from about 25% to about 75% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride; and

at least one nonionic surfactant,

wherein the food supplement preconcentrate or nutritional supplement preconcentrate does not comprise a pharmaceutically active agent.

77. The preconcentrate according to claim 76, wherein the fatty acid oil mixture comprises from about 35% to about 75% EPA and DHA, by weight of the fatty acid oil mixture, from about 40% to about 70% EPA and DHA, by weight of the fatty acid oil mixture, from about 40% to about 65% EPA and DHA, by weight of the fatty acid oil mixture, from

about 40% to about 60% EPA and DHA, by weight of the fatty acid oil mixture, from about 40% to about 55% EPA and DHA, by weight of the fatty acid oil mixture, or from about 50% to about 55% EPA and DHA, by weight of the fatty acid oil mixture.

78. The preconcentrate according to claim 76, wherein the fatty acid oil mixture is derived from at least one oil chosen from marine oil, algae oil, plant-based oil, and microbial oil.

79. The preconcentrate according to claim 78, wherein the marine oil is a purified fish oil.

80. The preconcentrate according to claim 76, wherein the EPA:DHA weight ratio of the fatty acid oil mixture is chosen from the ranges of from about 1:10 to about 10:1, from about 1:8 to about 8:1, from about 1:6 to about 6:1, from about 1:5 to about 5:1, from about 1:4 to about 4:1, from about 1:3 to about 3:1, from about 1:2 to about 2:1, from about 1:1 to about 2:1, and from about 1:2 to about 1:3.

81. The preconcentrate according to claim 76, wherein the nonionic surfactants are chosen from diacetyl monoglycerides, diethylene glycol monopalmitostearates, ethylene glycol monopalmitostearates, glyceryl behenates, glyceryl distearates, glyceryl monolinoleates, glyceryl mono-oleates, glyceryl monostearates, macrogol cetostearyl ethers, macrogol 15 hydroxystearates, macrogol lauryl ethers, macrogol monomethyl ethers, macrogol oleyl ethers, macrogol stearates, menfegol, mono and diglycerides, nonoxinols, octoxinols, polyoxamers, polyoxamer 188, polyoxamer 407, polyoxyl castor oils, polyoxyl hydrogenated castor oils, propylene glycol diacetates, propylene glycol laureates, propylene glycol monopalmitostearates, quillaia, sorbitan esters, sucrose esters, and mixtures thereof, and nonionic copolymers comprised of a central hydrophobic polymer of polyoxypropylene(poly(propylene oxide)) with a hydrophilic polymer of at least one of polyethylene(poly(ethylene oxide)), polyethylene ethers, sorbitan esters, polyoxyethylene fatty acid esters, polyethylated castor oil, and mixtures thereof.

82. The preconcentrate according to claim 81, wherein the nonionic surfactants are chosen from polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, and mixtures thereof.

83. The food supplement preconcentrate or nutritional supplement preconcentrate according to claim 76, wherein:

the at least one nonionic surfactant comprises Cremophor® EL; and

the preconcentrate further comprises at least one co-surfactant chosen from short chain alcohols.

84. The preconcentrate according to claim 76, further comprising at least one co-surfactant chosen from short chain alcohols, glycol ethers, pyrrolidine derivatives, 2-pyrrolidone, bile salts, and mixtures thereof.

85. The food supplement preconcentrate or nutritional supplement preconcentrate according to claim 76, wherein:

the at least one nonionic surfactant comprises polysorbate 20;

the fatty acid oil mixture further comprises at least one other fatty acid comprising oleic acid; and

the preconcentrate further comprises at least one antioxidant.

86. The preconcentrate according to claim 76, further comprising at least one antioxidant.

87. The preconcentrate according to claim 76, wherein the preconcentrate is in the form of a gelatin capsule.

88. The preconcentrate according to claim 87, wherein the capsule fill content ranges from about 0.400 g to about 1.300 g, from about 0.600 g to about 1.200 g, or from about 0.800 g to about 1.000 g.

89. The preconcentrate according to claim 86, wherein the at least one antioxidant is chosen from butylhydroxyanisoles (BHA) and α-tocopherol.

90. The food supplement preconcentrate or nutritional supplement preconcentrate according to claim 76, wherein:

the EPA and DHA are in ethyl ester form; and

the at least one nonionic surfactant is chosen from polysorbate 20, polysorbate 80, and mixtures thereof.

91. The preconcentrate according to claim 76, wherein the preconcentrate forms a self-nanoemulsifying drug delivery system (SNEDDS), self-microemulsifying drug delivery system (SMEDDS), or self-emulsifying drug delivery system (SEDDS) in an aqueous solution.

92. A method for enhancing at least one parameter chosen from hydrolysis, solubility, bioavailability, absorption, and combinations thereof of eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) comprising combining:

a fatty acid oil mixture comprising EPA and DHA in a form chosen from ethyl ester and triglyceride; and

at least one nonionic surfactant;

wherein the fatty acid oil mixture and the at least one nonionic surfactant form a preconcentrate; and

wherein the preconcentrate does not comprise a pharmaceutically active agent.

93. The method according to claim 92, wherein the fatty acid oil mixture comprises at least 75% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture.

94. The method according to claim 92, wherein the fatty acid oil mixture comprises from about 25% to about 75% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture.

95. The method according to claim 92, wherein the at least one nonionic surfactant is chosen from diacetyl monoglycerides, diethylene glycol monopalmitostearates, ethylene glycol monopalmitostearates, glyceryl behenates, glyceryl distearates, glyceryl monolinoleates, glyceryl mono-oleates, glyceryl monostearates, macrogol cetostearyl ethers, macrogol 15 hydroxystearates, macrogol lauryl ethers, macrogol monomethyl ethers, macrogol oleyl ethers, macrogol stearates, menfegol, mono and diglycerides, nonoxinols, octoxinols, polyoxamers, polyoxamer 188, polyoxamer 407, polyoxyl castor oils, polyoxyl hydrogenated castor oils, propylene glycol diacetates, propylene glycol laureates, propylene glycol monopalmitostearates, quillaia, sorbitan esters, sucrose esters, and mixtures thereof, and nonionic copolymers comprised of a central hydrophobic polymer of polyoxypropylene(poly(propylene oxide)) with a hydrophilic polymer of at least one of polyethylene(poly(ethylene oxide)), polyethylene ethers, sorbitan esters, polyoxyethylene fatty acid esters, polyethylated castor oil, and mixtures thereof.

96. The method according to claim 95, wherein the at least one nonionic surfactant is chosen from polysorbate 20, polysorbate 40, polysorbate 60, polysorbate 80, and mixtures thereof.

97. The method according to claim 92, wherein the preconcentrate further comprises at least one co-surfactant.

98. The method according to claim 97, wherein the at least one co-surfactant is chosen from short chain alcohols, glycol ethers, pyrrolidine derivatives, 2-pyrrolidone, bile salts, and mixtures thereof.

99. The method according to claim 93, wherein the preconcentrate comprises:

a fatty acid oil mixture comprising from about 80% to about 88% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride; and

at least one nonionic surfactant chosen from polysorbate 20, polysorbate 80, and mixtures thereof.

100. The method according to claim 93, wherein the preconcentrate comprises:

a fatty acid oil mixture comprising from about 80% to about 88% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride;

at least one nonionic surfactant chosen from polysorbate 20 polysorbate 80, and mixtures thereof; and

at least one co-surfactant comprising ethanol.

101. The method according to claim 92, wherein the preconcentrate forms a self-nanoemulsifying drug delivery system (SNEDDS), self-microemulsifying drug delivery system (SMEDDS), or self-emulsifying drug delivery system (SEDDS) in an aqueous solution.

102. The method according to claim 101, wherein the system comprises an emulsion with a particle size ranging from about 150 nm to about 350 nm.

103. A pharmaceutical preconcentrate comprising:

a fatty acid oil mixture comprising at least 75% eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA), by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride;

at least one nonionic surfactant;

at least one other fatty acid; and

at least one antioxidant;

wherein the pharmaceutical preconcentrate does not comprise a pharmaceutically active agent other than the fatty acid oil mixture.

104. The preconcentrate of claim 103, wherein: the fatty acid oil mixture comprises about 84% EPA and DHA, by weight of the fatty acid oil mixture, wherein the EPA and DHA are in a form chosen from ethyl ester and triglyceride;

the at least one nonionic surfactant comprises polysorbate 20;

the at least one other fatty acid comprises oleic acid; and

the at least one antioxidant comprises butylhydroxyanisoles (BHA).