CLAIMS:

1. A refined microbial oil or marine oil comprising at least 35% of at least one polyunsaturated fatty acid (PUFA), wherein the PUFA is selected from arachidonic acid (ARA), eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA), and mixtures thereof, wherein the oil has a fatty acid ester of monochloropropanediol, epoxypropanol, and mixtures thereof in an amount of 10 ppm or less, and an anisidine value (AnV) of less than 20.

2. The oil of claim 1, wherein the fatty acid ester of monochloropropanediol is bound 2-monochloropropane-1,2-diol (2-MCPD) and/or bound 3-monochloropropane-1,2-diol (3-MCPD), and/or the fatty acid ester of epoxypropanol is bound 2,3-epoxy-1-propanol.

3. The oil according to claim 1 or claim 2, wherein the fatty acid ester is in an amount of 1 ppm or less, preferably in an amount 0.3 ppm or less, preferably in an amount of 0.1 ppm or less.

4. The oil according to any one of claims 1-3, wherein the oil has an anisidine value (AnV) of less than 10.

5. The oil according to any one of claims 1-4, comprising at least 40% of the PUFA.

6. The oil according to any one of claims 1-5, wherein the oil has been produced by a microorganism, wherein the microorganism is selected from the group comprising microalgae, bacteria, fungi and protists, preferably wherein;

(i) the microorganism is of the genus *Crypthecodinium*, preferably of the species *Crypthecodinium cohnii*,

(ii) the microorganism is of the genus *Thraustochytrium*, preferably of the species *Schizochytrium sp*,

(iii) the microorganism is of the genus *Mortierella*, preferably of the species *Mortierella alpina*, and/or wherein the oil is produced by a genetically modified organism.

7. The oil according to any one of claims 1-6, wherein a second oil is added to the oil, preferably wherein (i) the second oil is a vegetable oil and/or (ii) the second oil has a fatty acid ester of monochloropropanediol, epoxypropanol, and mixtures thereof in an amount of 3 ppm or less, preferably, wherein the second oil has a fatty acid ester of monochloropropanediol, epoxypropanol, and mixtures thereof in an amount of 1 ppm or less.

8. The oil according to any one of claims 1-7, wherein the oil has been subjected to a process comprising treating the oil with a silica, a bleaching earth, an activated carbon, and combinations thereof, and deodorizing the oil, in which the oil is subject to steam under heat.

9. A food product, cosmetic or pharmaceutical composition for a non-human or human, comprising the oil of any one of claims 1-8, preferably,

(i) the food product is an infant formula,

(ii) the food product is a milk, a beverage, a therapeutic drink, a nutritional drink, or a combination thereof, or

(iii) the food product is a dietary supplement.

10. A process for reducing and/or preventing the formation, or decreasing the level of, at least one fatty acid ester in a microbial oil or a marine oil comprising:

(a) treating the oil with a combination of a silica, and an activated carbon, optionally, a bleaching earth; and

(b) deodorizing the oil, in which the oil is subjected to steam under heat, wherein the temperature of the deodorization is 170-190 ^{o}C;

wherein the fatty acid ester is a fatty acid ester of monochloropropanediol, epoxypropanol, and mixtures thereof, and wherein the microbial or marine oil comprises (i) at least 35% of at least one polyunsaturated fatty acid (PUFA),

wherein the PUFA is selected from arachidonic acid (ARA), eicosapentaenoic acid (EPA), docosahexaenoic acid (DHA), and mixtures thereof; and (ii) and an anisidine value (AnV) of less than 20, and
wherein the fatty acid ester is in an amount of 10 ppm or less.

11. The process of claim 10, wherein the rate of steam is 1-10 wt.%.

12. The process according to claim 10 or claim 11, wherein the deodorization is performed using a short path distillation apparatus, a wiped-film evaporator, a thin-film evaporator, or a rotating packed bed deodorizer.

13. The process according to any one of claims 10-12, wherein the residence time of the oil during the deodorization process is less than two minutes.

14. The process according to any one of claims 10-13, wherein the fatty acid ester of monochloropropanediol is bound 2-monochloropropane-1,2-diol (2-MCPD) and/or bound 3-monochloropropane-1,2-diol (3-MCPD) and/or the fatty acid ester of epoxypropanol is bound 2,3-epoxy-1-propanol.

15. The process according to any one of claims 10-14, wherein the fatty acid ester is in an amount less than 5 ppm, preferably in an amount less than 1 ppm, preferably in an amount less than 0.3 ppm.

16. The process according to any one of claims 10-15, wherein the oil has an anisidine value (AnV) of less than 10.

17. The process according to any one of claims 10-16, wherein the oil comprises at least 40% of the desired PUFA.

18. The process according to any one of claims 10-17, wherein the oil has been produced by a microorganism, wherein the microorganism is selected from the group comprising microalgae, bacteria, fungi and protists, preferably:

(i) the microorganism is of the genus *Crypthecodinium*, preferably of the species *Crypthecodinium cohnii*;

(ii) the microorganism is of the genus *Thraustochytrium*, preferably of the species *Schizochytrium sp;* or

(iii) the microorganism is of the genus *Mortierella*, preferably.

19. The process according to claim 18, wherein the microorganism is of the species *Mortierella alpina*, and/or wherein the oil is produced by a genetically modified organism.