CLAIMS

What is claimed is:

1. A refined, bleached, and/or deodorized (RBD) microbial oil composition produced by an oleaginous yeast.

2. The composition of claim 1, wherein the composition comprises 10-45% C16 saturated fatty acid.

3. The composition of claim 1, wherein the composition comprises 10-70% C18 unsaturated fatty acid.

4. The composition of claim 1, wherein the composition comprises 3-30% C18 saturated fatty acid.

5. The composition of claim 1, wherein the composition comprises a saturated fatty acid composition of at least 10%.

6. The composition of claim 1, wherein the composition comprises a saturated fatty acid composition of at most 70%.

7. The composition of claim 1, wherein the composition comprises an unsaturated fatty acid composition of at least 30%.

8. The composition of claim 1, wherein the composition comprises an unsaturated fatty acid composition of at most 70%.

9. The composition of claim 1, wherein the composition comprises about 5-60% mono-unsaturated fatty acids as a percentage of overall fatty acids.

10. The composition of claim 1, wherein the composition comprises less than about 30% w/w total polyunsaturated fatty acids.

11. The composition of claim 1, wherein the composition comprises a triglyceride content of 90-98% as a percentage of overall glycerides.

12. The composition of claim 1, wherein the composition does not comprise a sterol selected from a phytosterol, cholesterol, or a protothecasterol.

13. The composition of claim 1, wherein the composition does not comprise a phytosterol selected from the group consisting of campesterol, β-sitosterol, and stigmasterol.

14. The composition of claim 1, wherein the composition comprises ergosterol, comprises at least 50 ppm ergosterol, or comprises at least 100 ppm ergosterol.

15. The composition of claim 1, wherein the composition comprises an ergosterol content of at least 60% w/w as a percentage of overall sterols.

16. The composition of claim 1, wherein the composition does not comprise a pigment.

17. The composition of claim 1, wherein the composition does not comprise chlorophyll.

18. The composition of claim 1, wherein the composition comprises a pigment selected from the group consisting of carotene, torulene and torulorhodin.

19. The composition of claim 1, wherein the oleaginous yeast is a recombinant yeast.

20. The composition of claim 1, wherein the oleaginous yeast is of the genus Yarrowia, Candida, Rhodotorula, Rhodosporidium, Metschnikowia, Cryptococcus, Trichosporon, or Lipomyces.

21. The composition of claim 1, wherein the oleaginous yeast is of the genus *Rhodosporidium*.

22. The composition of claim 1, wherein the oleaginous yeast is of the species *Rhodosporidium toruloides*.

23. The composition of claim 1, wherein the composition is fractionable.

24. The composition of claim 1, wherein the composition is fractionable, and wherein:
a) the composition may be fractionated into microbial olein and microbial stearin;
b) each fraction comprises at least 10% of the composition's starting mass; and/or
c) the iodine value (IV) of the fractions differs by at least 10.

25. The composition of claim 1, wherein the composition comprises:

a) less than 10% w/w palmitic-palmitic-palmitic triglycerides;

b) greater than 15% w/w palmitic-palmitic-oleic triglycerides; and

c) greater than 15% w/w oleic-oleic-palmitic triglycerides.

26. The composition of claim 1, wherein the composition comprises a stearic-stearic-oleic triglyceride content of less than 10% w/w and a stearic-oleic-oleic triglyceride content of less than 10% w/w.

27. The composition of claim 1, wherein greater than 40% of triglycerides in the composition have one unsaturated sidechain.

28. The composition of claim 1, wherein greater than 30% of triglycerides in the composition have two unsaturated sidechains.

29. The composition of claim 1, wherein between 10% and 15% of palmitic and/or stearic fatty acids are located at the sn-2 position of triglyceride molecules in the composition.

30. A method of producing the microbial oil composition according to claim 1, the method comprising the steps of:

a) providing an oleaginous yeast and a carbon source, and

b) culturing said oleaginous yeast,

thereby producing said microbial oil composition.