SUMMARY OF THE INVENTION

A first aspect is a composition comprising (i) a Fe salt of a C8 to C24 fatty acid salt; and (ii) a citric acid ester of mono- and/or diglyceride or a mixture of citric acid esters of mono- and/or diglyceride.

In some embodiments, a composition is provided comprising (i) a Fe salt of a C8 to C24 fatty acid salt; (ii) a citric acid ester of mono- and/or diglyceride or a mixture of citric acid esters of mono- and/or diglyceride; and (iii) a C8 to C24 fatty acid or a salt thereof.

A further aspect is a composition as disclosed herein, for use in therapy, e.g. in the treatment of iron deficiency or a disorder associated with iron deficiency.

A further aspect is a composition as disclosed herein, for use in the prophylaxis of iron deficiency or a disorder associated with iron deficiency.

In another aspect, there is provided a use of the composition as described herein in the manufacture of a medicament

A further aspect is a pharmaceutical formulation comprising a therapeutically effective amount of a composition as disclosed herein, and optionally a pharmaceutically acceptable excipient.

A further aspect is the use of a composition as disclosed herein as a food additive, or in the preparation of a food additive, or in the preparation of a foodstuff.

In yet another aspect, there is provided a dietary supplement comprising a composition as described herein.

A further aspect is a food additive or foodstuff comprising the composition as disclosed herein.

A further aspect is a method for the preparation of an iron containing composition, by admixing an iron salt, e.g. a Fe(III) salt, a citric acid ester of mono- and/or diglyceride or mixture of citric acid esters of mono- and/or diglyceride, and optionally one or more fatty acids; adding water and a basifying agent; and processing the mixture to obtain a stable dispersion.

Also provided herein is a method for the treatment of iron deficiency or a disease or disorder associated with or caused by iron deficiency, by administration of a therapeutically effective amount of a composition or formulation as disclosed herein to a warm-blooded animal, e.g. a mammal, in particular a human, in need of such treatment.

CLAIMS

1. A composition comprising
(i) an iron salt of a C8-C24 fatty acid; and
(ii) a citric acid ester of mono- and/or diglyceride or a mixture of citric acid esters of mono- and/or diglyceride.

2. The composition according to claim 1, wherein the composition comprises at least 0.5 % by total weight of the composition, of iron in the form of the iron salt of a C8-C24 fatty acid.

3. The composition claim 1 or 2, wherein the iron salt is an iron salt of a C12-C18 fatty acid.

4. The composition of any one of claims 1 to 3, wherein the fatty acid is a saturated fatty acid.

5. The composition of any one of claims 1 to 4, wherein the citric acid ester of mono- and/or diglyceride or mixture of citric acid esters of mono- and/or diglyceride comprises mono- and/or diglycerides of one or more C8-C24 fatty acids.

6. The composition of any one of claims 1 to 5, wherein the citric acid ester of mono- and/or diglyceride or mixture of citric acid esters of mono- and/or diglyceride comprises a monoesterified citric acid ester of mono- and/or diglyceride or mixture of monoesterified citric acid esters of mono- and/or diglyceride.

7. The composition of any one of claims 1 to 6, wherein the weight ratio of component (ii) to component (i) is from 20:1 to 1:1.

8. The composition of any one of claims 1 to 7, further comprising:
(iii) a fatty acid or a salt thereof, or a mixture of fatty acids or fatty acid salts.

9. The composition of claim 8, wherein component (iii) comprises one or more C8-C24 fatty acids or salts thereof.

10. The use of the composition of any one of claims 1 to 9, in the manufacture of a medicament.

11. The use of claim 10, wherein the medicament is for the treatment or prophylaxis of iron deficiency or a disorder associated with iron deficiency.

12. The use of claim 10 or 11, wherein the medicament is for oral administration.

13. A pharmaceutical formulation comprising a therapeutically effective amount of a composition according to any one of claims 1 to 9, and optionally a pharmaceutically acceptable excipient.

14. The pharmaceutical formulation of claim 13, wherein the composition according to any one of claims 1 to 9 constitutes from 1 to 99 % by weight of the formulation.

15. The pharmaceutical formulation of claim 13 or claim 14, for oral administration.

16. The pharmaceutical formulation of any one of claims 13 to 15, in the form of a hard capsule, a soft capsule, or a liquid.

17. A dietary supplement comprising a composition as defined in any one of claims 1 to 9.

18. A food additive comprising a composition according to any one of claims 1 to 9.

19. A foodstuff comprising a composition according to any one of claims 1 to 9.

20. A method for the preparation of an iron containing composition, by

- admixing an iron salt of a C8 to C24 fatty acid, a citric acid ester of mono- and/or diglyceride or mixture of citric acid esters of mono- and/or diglyceride, and optionally a fatty acid or salt of fatty acid;
- adding water and optionally a basifying agent; and
- processing the mixture to obtain a dispersion.