CLAIMS

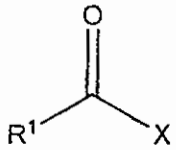
1. A lubricating oil composition comprising:

(A) an oil of lubricating viscosity in a major amount;

(B) an oil-soluble or oil-dispersible additive component in a minor amount, obtainable by reacting:

(b1) an aliphatic polyamine having at least two carbon atoms and at least two nitrogen atoms with at least one of the nitrogen atoms present in the form of a primary amine group and at least one of the remaining nitrogen atoms present in the form of a primary or secondary amine group, and

(b2) an aliphatic hydrocarbyl mono acid or derivative thereof of formula I



(I)

wherein R^1 represents a C_9 to C_{29} aliphatic hydrocarbyl group and X represents –OH or a suitable leaving group in a compound of formula I, said reaction being conducted in a manner and under conditions sufficient to react at least one amine group of the aliphatic polyamine (b1) with the aliphatic hydrocarbyl mono acid or derivative thereof (b2) of formula I to form at least one amide and/or imidazoline group; and,

(C) an oil-soluble or oil dispersible additive component in a minor amount of a primary amide of formula $R^6C(O)NH_2$ wherein R^6 represents a C_9 to C_{29} aliphatic hydrocarbyl group.

2. The lubricating oil composition as claimed in claim 1, wherein the lubricating oil composition is contaminated with at least 0.3 mass %, based on the total mass of the lubricating oil composition, of a biofuel or a decomposition product thereof and mixtures thereof.

3. The lubricating oil composition as claimed in claim 2, wherein the biofuel is an alcohol based fuel.

4. The lubricating oil composition as claimed in claim 3, wherein the alcohol based fuel is an ethanol based fuel, preferably bioethanol.

5. The lubricating oil composition as claimed in anyone of the preceding claims, wherein additive component (B) includes at least one primary or secondary amine group.

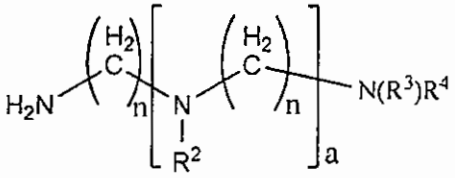
6. The lubricating oil composition as claimed in any one of the preceding claims, wherein the aliphatic polyamine (b1) is an aliphatic C_2 to C_{20} hydrocarbyl polyamine wherein at least two of the nitrogen atoms are present in the form of a primary amine group.

7. The lubricating oil composition as claimed in any one of the preceding claims, wherein the aliphatic polyamine (b1) is a polyalkylene polyamine having at least 3 nitrogen atoms and 4 to 20 carbon atoms, wherein at least two of the nitrogen atoms are present in the form of a primary amine group and at least one of the remaining nitrogen atoms is present in the form of a secondary amine group.

8. The lubricating oil composition as claimed in claim 7, wherein the polyalkylene polyamine which (b1) represents is a polyethylene polyamine.

9. The lubricating oil composition as claimed in claim 8, wherein the polyethylene polyamine comprises tetraethylene pentamine.

10. The lubricating oil composition as claimed in any one of claims 1 to 5, wherein the aliphatic polyamine (b1) comprises a compound of formula II -



(II)

wherein: each R^2 independently represents at each occurrence hydrogen, C_1 to C_{12} alkyl group, C_2 to C_6 alkenyl group or C_1 to C_{12} alkyl amine; R^3 and R^4

each independently represent hydrogen, C_1 to C_{12} alkyl group, C_2 to C_6 alkenyl group or C_1 to C_{12} alkyl amine; a is an integer from 0 to 10; each n independently represents at each occurrence an integer from 2 to 6; and, with the proviso that when a is 0 then at least one of R^3 or R^4 represents hydrogen.

11. The lubricating oil composition as claimed in any one of the preceding claims, wherein R^1 in the aliphatic hydrocarbyl mono acid or derivative thereof (b2) of formula I represents an acyclic C_9 to C_{29} alkyl group.

12. The lubricating oil composition as claimed in claim 11, wherein the acyclic C_9 to C_{29} alkyl group which R^1 represents in a compound of formula I is a branched chain acyclic C_9 to C_{29} alkyl group.

13. The lubricating oil composition as claimed in any one of the preceding claims, wherein the aliphatic hydrocarbyl mono acid or derivative thereof (b2) of formula I comprises isostearic acid or a derivative thereof, stearic acid or a derivative thereof, preferably isostearic acid.

14. The lubricating oil composition as claimed in any one of the preceding claims, wherein R^6 in a compound of formula $R^6C(O)NH_2$ which additive component (C) represents is an acyclic C_9 to C_{29} alkenyl group having a single double bond.

15. The lubricating oil composition as claimed in any one of the preceding claims, wherein additive component (C) is oleamide.

16. The lubricating oil composition as claimed in any one of the preceding claims, wherein additive component (B) is present in an amount of 0.01 to 5.0 mass %, based on the total mass of the lubricating oil composition.

17. The lubricating oil composition as claimed in any one of the preceding claims, wherein additive component (C) is present in an amount of 0.01 to 5.0 mass %, based on the total mass of the lubricating oil composition.

18. A method of lubricating a spark-ignited or compression-ignited internal combustion engine which is fuelled with a biofuel, comprising operating the engine with a lubricating oil composition, comprising: (A) an oil of lubricating viscosity in a major amount; a minor amount of an oil-soluble or oil-dispersible additive component (B), as defined in accordance with any one of the preceding claims; and, a minor amount of an oil-soluble or oil-dispersible additive component (C), as defined in accordance with any one of the preceding claims.

19. The use, in the lubrication of a spark-ignited or compression-ignited internal combustion engine which is fuelled with a biofuel, of a minor amount of an oil-soluble or oil-dispersible additive component (B), as defined in accordance with any one of claims 1 to 17, in combination with a minor amount of an oil-soluble or oil-dispersible additive component (C), as defined in accordance with any one of claims 1 to 17, in a lubricating oil composition, to reduce and/or inhibit the corrosion of the metallic engine components, wherein the lubricating oil composition becomes contaminated with the biofuel during operation of the engine.

20. The use as claimed in claim 19, wherein the metallic engine components comprise of iron or an alloy thereof, such as steel.

21. The use as claimed in claim 19 or 20 or a method as claimed in claim 18, wherein the engine comprises a spark-ignited internal combustion engine which is fuelled with an alcohol based fuel.

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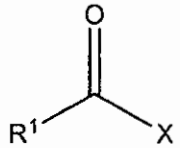
1. A lubricating oil composition comprising:

(A) an oil of lubricating viscosity in a major amount;

(B) an oil-soluble or oil-dispersible additive component in a minor amount of 0.01 to 5.0 mass %, based on the total mass % of the lubricating oil composition, obtainable by reacting:

(b1) an aliphatic polyamine having at least two carbon atoms and at least two nitrogen atoms with at least one of the nitrogen atoms present in the form of a primary amine group and at least one of the remaining nitrogen atoms present in the form of a primary or secondary amine group, and

(b2) an aliphatic hydrocarbyl mono acid or derivative thereof of formula I



(I)

wherein R^1 represents a C_9 to C_{29} aliphatic hydrocarbyl group and X represents –OH or a suitable leaving group in a compound of formula I, said reaction being conducted in a manner and under conditions sufficient to react at least one amine group of the aliphatic polyamine (b1) with the aliphatic hydrocarbyl mono acid or derivative thereof (b2) of formula I to form at least one amide and/or imidazoline group; and,

(C) an oil-soluble or oil dispersible additive component in a minor amount of 0.01 to 5.0 mass %, based on the total mass % of the lubricating oil composition, of a primary amide of formula $R^6C(O)NH_2$ wherein R^6 represents a C_9 to C_{29} aliphatic hydrocarbyl group.

2. The lubricating oil composition as claimed in claim 1, wherein the lubricating oil composition is contaminated with at least 0.3 mass %, based on the total mass of the lubricating oil composition, of a biofuel.

3. The lubricating oil composition as claimed in claim 2, wherein the biofuel is an alcohol based fuel.

4. The lubricating oil composition as claimed in claim 3, wherein the alcohol based fuel is an ethanol based fuel, preferably bioethanol.

5. The lubricating oil composition as claimed in anyone of the preceding claims, wherein additive component (B) includes at least one primary or secondary amine group.

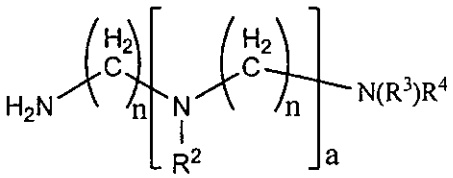
6. The lubricating oil composition as claimed in any one of the preceding claims, wherein the aliphatic polyamine (b1) is an aliphatic C_2 to C_{20} hydrocarbyl polyamine wherein at least two of the nitrogen atoms are present in the form of a primary amine group.

7. The lubricating oil composition as claimed in any one of the preceding claims, wherein the aliphatic polyamine (b1) is a polyalkylene polyamine having at least 3 nitrogen atoms and 4 to 20 carbon atoms, wherein at least two of the nitrogen atoms are present in the form of a primary amine group and at least one of the remaining nitrogen atoms is present in the form of a secondary amine group.

8. The lubricating oil composition as claimed in claim 7, wherein the polyalkylene polyamine which (b1) represents is a polyethylene polyamine.

9. The lubricating oil composition as claimed in claim 8, wherein the polyethylene polyamine comprises tetraethylene pentamine.

10. The lubricating oil composition as claimed in any one of claims 1 to 5, wherein the aliphatic polyamine (b1) comprises a compound of formula II –



(II)

wherein: each R^2 independently represents at each occurrence hydrogen, C_1 to C_{12} alkyl group, C_2 to C_6 alkenyl group or C_1 to C_{12} alkyl amine; R^3 and R^4 each independently represent hydrogen, C_1 to C_{12} alkyl group, C_2 to C_6 alkenyl group or C_1 to C_{12} alkyl amine; a is an integer from 0 to 10; each n independently represents at each occurrence an integer from 2 to 6; and, with the proviso that when a is 0 then at least one of R^3 or R^4 represents hydrogen.

11. The lubricating oil composition as claimed in any one of the preceding claims, wherein R^1 in the aliphatic hydrocarbyl mono acid or derivative thereof (b2) of formula I represents an acyclic C_9 to C_{29} alkyl group.

12. The lubricating oil composition as claimed in claim 12, wherein the acyclic C_9 to C_{29} alkyl group which R^1 represents in a compound of formula I is a branched chain acyclic C_9 to C_{29} alkyl group.

13. The lubricating oil composition as claimed in any one of the preceding claims, wherein the aliphatic hydrocarbyl mono acid or derivative thereof (b2) of formula I comprises isostearic acid or a derivative thereof, stearic acid or a derivative thereof, preferably isostearic acid.

14. The lubricating oil composition as claimed in any one of the preceding claims, wherein R^6 in a compound of formula $R^6C(O)NH_2$ which additive component (C) represents is an acyclic C_9 to C_{29} alkenyl group having a single double bond.

15. The lubricating oil composition as claimed in any one of the preceding claims, wherein additive component (C) is oleamide.

16. A method of lubricating a spark-ignited or compression-ignited internal combustion engine which is fuelled with a biofuel, comprising operating the engine with a lubricating oil composition, comprising: (A) an oil of lubricating viscosity in a major amount; a minor amount of 0.01 to 5.0 mass %, based on the total mass % of the lubricating oil composition, of an oil-soluble or oil-

dispersible additive component (B), as defined in accordance with any one of the preceding claims; and, a minor amount of 0.01 to 5.0 mass %, based on the total mass % of the lubricating oil composition, of an oil-soluble or oil-dispersible additive component (C), as defined in accordance with any one of the preceding claims.

17. The use, in the lubrication of a spark-ignited or compression-ignited internal combustion engine which is fuelled with a biofuel, of a minor amount of 0.01 to 5.0 mass %, based on the total mass % of the lubricating oil composition, of an oil-soluble or oil-dispersible additive component (B), as defined in accordance with any one of claims 1 to 15, in combination with a minor amount of 0.01 to 5.0 mass %, based on the total mass % of the lubricating oil composition, of an oil-soluble or oil-dispersible additive component (C), as defined in accordance with any one of claims 1 to 15, in a lubricating oil composition, to reduce and/or inhibit the corrosion of the metallic engine components, wherein the lubricating oil composition becomes contaminated with the biofuel during operation of the engine.

18. The use as claimed in claim 17, wherein the metallic engine components comprise of iron or an alloy thereof, such as steel.

19. The use as claimed in claim 17 or 18 or a method as claimed in claim 16, wherein the engine comprises a spark-ignited internal combustion engine which is fuelled with an alcohol based fuel.