CLAIMS

1. A lubricating oil composition which comprises or is made by admixing:

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

(B) one or more oil-soluble or oil-dispersible sulphur containing anti-oxidant(s), as an additive in an effective minor amount providing the lubricating oil composition with greater than or equal to 0.01 mass % sulphur;

(C) one or more oil-soluble or oil-dispersible acyclic C_{12} to C_{22} alk-1-ene(s) having a single carbon to carbon double bond, as an additive in an effective minor amount of greater than or equal to 0.01 mass %, based on the total mass of the lubricating oil composition; and

(E) one or more dihydrocarbyl dithiophosphate metal salt(s), as an additive in an effective minor amount providing the lubricating oil composition with no greater than 1200 ppm by mass of phosphorus (ASTM D5185), based on the total mass of the lubricating oil composition.

2. A composition as claimed in claim 1, wherein the one or more oil-soluble or oil-dispersible sulphur containing anti-oxidant(s) is selected from: one or more sulfurized C_4 to C_{25} olefin(s); one or more sulphur containing phenolic anti-oxidant(s); one or more one sulfurized aliphatic (C_7 to C_{29}) hydrocarbyl fatty acid ester(s); one or more sulphur containing molybdenum compound(s); and, combinations thereof.

3. A composition as claimed in claim 1 or 2, wherein the one or more sulphur containing anti-oxidants(s) (B) is one or more one sulfurized aliphatic C_7 to C_{29} hydrocarbyl fatty acid C_1 to C_{20} alkyl ester(s); one or more one sulfurized aliphatic C_7 to C_{29} hydrocarbyl fatty acid glycerol ester(s); and, combinations thereof.

4. A composition as claimed in claim 3, wherein the one or more sulphur containing anti-oxidants(s) (B) is one or more sulfurized aliphatic C_7 to C_{29} hydrocarbyl fatty acid methyl ester(s).

5. A composition as claimed in any one of claims 2 to 4, wherein the one or more oil-soluble or oil-dispersible sulfurized aliphatic C_7 to C_{29} hydrocarbyl fatty acid ester(s) is derived from sulfurizing a vegetable oil and/or a trans-esterified product of a vegetable oil.

6. A composition as claimed in claim 5, wherein the one or more oil-soluble or oil-dispersible sulfurized aliphatic C_7 to C_{29} hydrocarbyl fatty acid ester(s) is derived from sulfurizing palm oil, corn oil, grapeseed oil, coconut oil, cottonseed oil, wheatgerm oil, soya oil, safflower oil, olive oil, peanut oil, rapeseed oil, sunflower oil, or a trans-esterified product thereof, and combinations thereof, especially rapeseed oil, palm oil or a trans-esterified product thereof, and combinations thereof.

7. A composition as claimed in any one claims 2 to 6, wherein the one or more sulfurized aliphatic C_7 to C_{29} hydrocarbyl fatty acid ester(s) has a sulphur content of from 5 to 30 mass %.

8. A composition as claimed in claim 2, wherein the one or more sulphur containing molybdenum compound(s) is one or more sulphur containing organo-molybdenum compound(s), preferably one or more molybdenum dithiocarbamate(s).

9. A composition as claimed in any one of the preceding claims, wherein the sulphur containing anti-oxidant is present in an amount to provide the lubricating oil composition with greater than or equal to 0.03 mass % sulphur.

10. A composition as claimed in any one of the preceding claims, wherein the acyclic C_{12} to C_{22} alk-1-ene(s) having a single carbon to carbon double bond (C) is one or more C_{12} to C_{18} alk-1-ene(s).

11. A composition as claimed in any one of claims 1 to 10, wherein the acyclic C_{12} to C_{22} alk-1-ene(s) having a single carbon to carbon double bond (C) is one or more C_{14} to C_{18} alk-1-ene(s).

12. A composition as claimed in any one of the preceding claims, wherein the sulphur containing anti-oxidant is present in an amount to provide the lubricating oil composition with less than or equal to 0.30 mass % sulphur.

13. A composition as claimed in claim 12, wherein the acyclic C_{12} to C_{22} alk-1-ene(s) having a single carbon to carbon double bond (C) comprises dodec-1-ene, tetradec-1-ene, hexadec-1-ene, octadec-1-ene, and combinations thereof.

14. A composition as claimed in any one of the preceding claims, wherein the one or more oil-soluble or oil-dispersible acyclic C_{12} to C_{22} alk-1-ene(s) having a single carbon to carbon double bond, (C) is present in an amount of greater than or equal to 0.1 to less than or equal to 5.0 mass %, based on the total mass of the lubricating oil composition.

15. A composition as claimed in anyone of the preceding claims, wherein the lubricating oil composition further includes one or more co-additives in an effective minor amount, other than additive components (B) and (C), selected from ashless dispersants, metal detergents, corrosion inhibitors, antioxidants, pour point depressants, anti-wear agents, friction modifiers, demulsifiers, antifoam agents and viscosity modifiers.

16. A method of lubricating a spark-ignited or compression-ignited internal combustion engine comprising lubricating the engine with a lubricating oil composition as claimed in any one of the preceding claims.

17. The use, in the lubrication of a spark-ignited or compression-ignited internal combustion engine, of one or more oil-soluble or oil-dispersible acyclic C_{12} to C_{22} alk-1-ene(s) having a single carbon to carbon double bond (C), as defined in any one of claims 1 to 15, as an additive in an effective minor amount, in a lubricating oil composition comprising an oil of lubricating viscosity in a major amount and one or more oil-soluble or oil-dispersible sulphur containing anti-oxidant(s) (B) as defined in any one of claims 1 to 15, as an

additive in an effective minor amount, to improve compatibility of the lubricating oil composition with nitrile elastomer seals present in the internal combustion engine.

18. The use, in the lubrication of a spark-ignited or compression-ignited internal combustion engine, of one or more oil-soluble or oil-dispersible acyclic C_{12} to C_{22} alk-1-ene(s) having a single carbon to carbon double bond (C), as defined in any one of claims 1 to 15, as an additive in an effective minor amount, in a lubricating oil composition comprising an oil of lubricating viscosity in a major amount and one or more oil-soluble or oil-dispersible sulphur containing anti-oxidant(s) (B) as defined in any one of claims 1 to 15, as an additive in an effective minor amount, to prevent and/or inhibit incompatibility associated with the sulphur containing anti-oxidant additive(s) (B) and nitrile elastomer seals present in the internal combustion engine.

19. The use, in the lubrication of a spark-ignited or compression-ignited internal combustion engine, of one or more oil-soluble or oil-dispersible acyclic C_{12} to C_{22} alk-1-ene(s) having a single carbon to carbon double bond (C), as defined in any one of claims 1 to 15, as an additive in an effective minor amount, in a lubricating oil composition comprising an oil of lubricating viscosity in a major amount and one or more oil-soluble or oil-dispersible sulphur containing anti-oxidant(s) (B) as defined in any one of claims 1 to 15, as an additive in an effective minor amount, to reduce and/or inhibit copper corrosion and/or lead corrosion associated with the sulphur containing anti-oxidant(s).

20. The use as claimed in any one of claims 17 to 19, wherein the anti-oxidancy performance of the one or more oil-soluble or oil-dispersible sulphur containing anti-oxidant(s) is substantially maintained.