CLAIMS

1. A method of lubricating the contact between a first surface coated with a hydrogenous carbon film or coating of type a-C:H, ta-C:H, a-C:H:Me or a-C:H:X, as classified by VDI-Standard VDI 2840 and a second ferrous, preferably steel surface which method comprises supplying to said contact a lubricating oil composition comprising a major amount of an oil of lubricating viscosity and (a) an oil-soluble or oil-dispersible molybdenum compound in an amount such as to provide between 150 and 1000 ppm by weight of molybdenum to the lubricating oil composition, and (b) between 0.1 and 5% by weight with respect to the weight of the lubricating oil composition of a polymeric organic friction modifier, the organic friction modifier being the reaction product of (i) a functionalised polyolefin comprising a diacid or anhydride functional group from reaction of a polyolefin with an unsaturated diacid or anhydride, (ii) a polyether, (iii) a polyol and (iv) a monocarboxylic acid chain terminating group.

2. The method of claim 1 wherein the oil-soluble molybdenum compound (a) is present in an amount such as to provide between is present in an amount such as to provide between 300 and 1000 ppm, preferably 400 and 1000 ppm by weight of molybdenum to the lubricating oil composition.

3. The method of claim 1 or claim 2 wherein the oil-soluble molybdenum compound (a) comprises one or more molybdenum dithiocarbamates.

4. The method of claim 3 wherein the oil-soluble molybdenum compound (a) comprises one or more di-nuclear molybdenum dithiocarbamates or one or more tri-nuclear molybdenum dithiocarbamates.

5. The method of any preceding claim wherein the oil-soluble molybdenum compound (a) comprises a mixture of one or more di-nuclear molybdenum compounds and one or more tri-nuclear molybdenum compounds.

6. The method of any preceding claim wherein the functionalised polyolefin (i) is derived from a polymer of a mono-olefin having from 2 to 6 carbon atoms.

7. The method of any preceding claim wherein the functionalised polyolefin (i) is a polyisobutylene polymer that has been reacted with maleic anhydride to form polyisobutylene succinic anhydride (PIBSA).

8. The method of any preceding claim wherein the polyether (ii) comprises a polyglycerol or a polyalkylene glycol.

9. The method of any preceding claim wherein the polyether (ii) comprises a polyethylene glycol (PEG), a mixed poly(ethylene-propylene) glycol or a mixed poly(ethylene-butylene) glycol.

10. The method of any preceding claim wherein the polyol (iii) comprises a diol, triol, tetraol or related dimers, trimers or larger oligomers of such compounds.

11. The method of any preceding claim wherein the polyol (iii) comprises one or more of glycerol, neopentyl glycol, trimethylolethane, trimethylolpropane, trimethylolbutane, pentaerythritol, dipentaerythritol, tripentaerythritol or sorbitol, preferably glycerol.

12. The method of any preceding claim wherein the carboxylic acid (iv) comprises a C_2-C_{36} carboxylic acid, preferably a C_6-C_{30} carboxylic acid, more preferably a C_{12}-C_{22} carboxylic acid, which acid may be linear or branched, saturated or unsaturated.

13. The method of any preceding claim wherein the carboxylic acid (iv) comprises one or more of lauric acid, erucic acid, isostearic acid, palmitic acid, oleic acid and linoleic acid.

14. The method of any preceding claim wherein the polymeric friction modifier (b) comprises the reaction product of (i) maleanised polyisobutylene (PIBSA), (ii) polyethylene glycol (PEG), (iii) glycerol and (iv) tall oil fatty acid.

15. The method of any preceding claim wherein the polymeric friction modifier (b) is present in the lubricating oil composition in an amount of between 0.1 and 3%, preferably 0.1 to 1.5% by weight with respect to the weight of the lubricating oil composition.

16. An internal combustion engine having one or more component parts coated with a hydrogenous carbon film or coating of type a-C:H, ta-C:H, a-C:H:Me or a-C:H:X, as classified by VDI-Standard VDI 2840, which parts during operation of the engine, are in contact with a ferrous, preferably steel surface and, contained in a reservoir in the engine, a lubricating oil composition comprising a major amount of an oil of lubricating viscosity and (a) an oil-soluble or oil-dispersible molybdenum compound in an amount such as to provide between 150 and 1000 ppm by weight of molybdenum to the lubricating oil composition, and (b) between 0.1 and 5% by weight with respect to the weight of the lubricating oil composition of a polymeric organic friction modifier, the organic friction modifier being the reaction product of (i) a functionalised polyolefin comprising a diacid or anhydride functional group from reaction of a polyolefin with an unsaturated diacid or anhydride, (ii) a polyether, (iii) a polyol and (iv) a monocarboxylic acid chain terminating group.

17. The use of a lubricating oil composition comprising a major amount of an oil of lubricating viscosity and (a) an oil-soluble or oil-dispersible molybdenum compound in an amount such as to provide between 150 and 1000 ppm by weight of molybdenum to the lubricating oil composition, and (b) between 0.1 and 5% by weight with respect to the weight of the lubricating oil composition of a polymeric organic friction modifier, the organic friction modifier being the reaction product of (i) a functionalised polyolefin comprising a diacid or anhydride functional group from reaction of a polyolefin with an unsaturated diacid or anhydride, (ii) a polyether, (iii) a polyol and (iv) a monocarboxylic acid chain terminating group to lubricate an internal combustion engine having one or more component parts coated with a hydrogenous

carbon film or coating of type a-C:H, ta-C:H, a-C:H:Me or a-C:H:X, as classified by VDI-Standard VDI 2840, which parts during operation of the engine, are in contact with a ferrous, preferably steel surface.

18. The use of a lubricating oil composition comprising a major amount of an oil of lubricating viscosity and (a) an oil-soluble or oil-dispersible molybdenum compound in an amount such as to provide between 150 and 1000 ppm by weight of molybdenum to the lubricating oil composition, and (b) between 0.1 and 5% by weight with respect to the weight of the lubricating oil composition of a polymeric organic friction modifier, the organic friction modifier being the reaction product of (i) a functionalised polyolefin comprising a diacid or anhydride functional group from reaction of a polyolefin with an unsaturated diacid or anhydride, (ii) a polyether, (iii) a polyol and (iv) a monocarboxylic acid chain terminating group to reduce friction and prevent wear between one or more component parts of an internal combustion engine, which parts are coated with a hydrogenous carbon film or coating of type a-C:H, ta-C:H, a-C:H:Me or a-C:H:X, as classified by VDI-Standard VDI 2840, and one or more component parts of the combustion engine having a ferrous, preferably steel surface.

19. The method of any of claims 1 to 15, the internal combustion engine of claim 16 or the use of claim 17 or 18 wherein the lubricating oil composition further comprises one or more additional additives selected from the group consisting of ashless dispersants, metal detergents, corrosion inhibitors, metal dihydrocarbyl dithiophosphates, antioxidants, pour point depressants, anti-foaming agents, additional friction modifiers, antiwear agents and viscosity modifiers.