WHAT IS CLAIMED IS:

1. A passenger car internal combustion engine lubricating oil composition comprising:

(a) a major amount of a base oil of lubricating viscosity, said base oil having a kinematic viscosity (Kv) at 100°C of 2.0 to 12 centistokes (cSt);

(b) a nitrogen-containing dispersant;

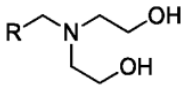
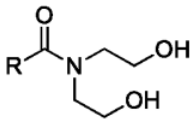
(c) an alkaline earth metal containing detergent providing from 0.03 to 0.7 wt.% metal content relative to the lubricating oil composition;

(d) 0.01 wt.% to 2.0 wt.% of a compound comprising the reaction product of:

(i) a nitrogen-containing reactant, wherein the nitrogen-containing reactant comprises an alkyl alkanolamide, an alkyl alkoxylated alkanolamide, an alkyl alkanolamine, an alkyl alkoxylated alkanolamine or mixtures thereof,

(ii) a boron-containing compound, and

(iii) a hydrocarbyl polyol, having at least three hydroxyl groups.

2. The lubricating oil composition of claim 1, wherein the nitrogen-containing reactant is an alkyl alkanolamide, an alkyl alkoxylated alkanolamide, an alkyl alkanolamine, an alkyl alkoxylated alkanolamine or mixtures thereof comprising a compound represented by formula IV  or a compound represented by formula II .

3. The lubricating oil composition of claim 2, wherein the alkyl group in the compound represented by formula IV comprises oleyl, dodecyl, or 2-ethylhexyl.

4. The lubricating oil composition of claim 2, wherein the alkyl group in the compound represented by formula II is derived from coconut oil.

5. The lubricating oil composition of claim 1, wherein the boron-containing compound is boric acid.

6. The lubricating oil composition of claim 1, wherein the hydrocarbyl polyol comprises glycerol or pentaerythritol.

7. The lubricating oil composition of claim 1, wherein the lubricating oil composition has a HTHS viscosity at 150 ^{o}C in a range of 1.3 to 3.5 cP.

8. The lubricating oil composition of claim 1, wherein the alkaline earth metal detergent is selected from the group consisting of a calcium or magnesium containing salicylate, carboxylate, phenate, sulfonate, or combination thereof.
9. The lubricating oil composition of claim 1, wherein the lubricating oil composition further comprises a organomolybdenum compound.
10. The lubricating oil composition of claim 1, further comprising a ZnDTP compound.
11. The lubricating oil composition of claim 1, wherein the phosphorus content of the lubricating oil composition is less than 0.08 wt.%.
12. The lubricating oil composition of claim 1, wherein the lubricating oil composition has a sulfated ash level of less than 1.6 wt.%, less than 1.3 wt.%, less than 1.0 wt.%, less than 0.8 wt.%, less than 0.6 wt.%, or less than 0.3 wt.%.
13. A method for improving fresh oil or used oil fuel economy in a passenger car internal combustion engine comprising lubricating said engine with a lubricating oil composition comprising:

    (a) a major amount of a base oil of lubricating viscosity, said base oil having a kinematic viscosity (Kv) at 100°C of 2.0 to 12 centistokes (cSt);

    (b) a nitrogen-containing dispersant;

    (c) an alkaline earth metal containing detergent providing from 0.03 to 0.7 wt.% metal content relative to the lubricating oil composition;

    (d) 0.01 wt.% to 2.0 wt.% of a compound comprising the reaction product of:

        (i) a nitrogen-containing reactant, wherein the nitrogen-containing reactant comprises an alkyl alkanolamide, an alkyl alkoxylated alkanolamide, an alkyl alkanolamine, an alkyl alkoxylated alkanolamine or mixtures thereof,

        (ii) a boron-containing compound, and

        (iii) a hydrocarbyl polyol, having at least three hydroxyl groups.
14. The method of claim 13 wherein the internal combustion engine is selected from a direct injection spark ignition engine and a port fuel injection spark ignition engine coupled to an electric motor/battery system in a hybrid vehicle.
15. The method of claim 13, wherein engine is equipped with a gasoline particulate filter.
16. A heavy-duty diesel internal combustion engine lubricating oil additive composition comprising:

    (a) a major amount of a base oil of lubricating viscosity, said base oil having a kinematic viscosity (Kv) at 100°C of 2.0 to 12 centistokes (cSt);

    (b) a nitrogen-containing dispersant;

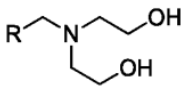
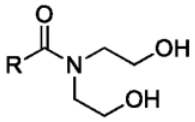
(c) an alkaline earth metal containing detergent providing from 0.03 to.7 wt.% metal content relative to the lubricating oil composition;

(d) from greater than 0.30 wt.% to 2.0 wt.% of a compound comprising the reaction product of:

(i) a nitrogen-containing reactant, wherein the nitrogen-containing reactant comprises an alkyl alkanolamide, an alkyl alkoxylated alkanolamide, an alkyl alkanolamine, an alkyl alkoxylated alkanolamine or mixtures thereof,

(ii) a boron-containing compound, and

(iii) a hydrocarbyl polyol, having at least three hydroxyl groups.

17. The lubricating oil composition of claim 16, wherein the nitrogen-containing reactant is an alkyl alkanolamide, an alkyl alkoxylated alkanolamide, an alkyl alkanolamine, an alkyl alkoxylated alkanolamine or mixtures thereof comprising a compound represented by formula IV  or a compound represented by formula II .

18. The lubricating oil composition of claim 17, wherein the alkyl group in the compound represented by formula IV comprises oleyl, dodecyl, or 2-ethylhexyl.
19. The lubricating oil composition of claim 17, wherein the alkyl group in the compound represented by formula II e is derived from coconut oil.
20. The lubricating oil composition of claim 16, wherein the boron-containing compound is boric acid.
21. The lubricating oil composition of claim 16, wherein the hydrocarbyl polyol comprises glycerol or pentaerythritol.
22. The lubricating oil composition of claim 16, wherein the lubricating oil composition has a HTHS viscosity at 150 ^{o}C in a range of 2.5 to 3.5 cP.
23. The lubricating oil composition of claim 16, wherein the alkaline earth metal detergent is selected from the group consisting of a calcium or magnesium containing salicylate, carboxylate, phenate, sulfonate, or combination thereof.
24. The lubricating oil composition of claim 16, wherein the lubricating oil composition further comprises a organomolybdenum compound.
25. The lubricating oil composition of claim 16, further comprising a ZnDTP compound.

26. The lubricating oil composition of claim 16, wherein the phosphorus content of the lubricating oil composition is less than 0.08 wt.%.
27. The lubricating oil composition of claim 16, wherein the lubricating oil composition is substantially free of phosphorus containing additives.
28. The lubricating oil composition of claim 16, wherein the lubricating oil composition is substantially free of zinc containing additives.
29. The lubricating oil composition of claim 16, wherein the lubricating oil composition has a sulfated ash level of less than 1.6 wt.%, less than 1.3 wt.%, less than 1.0 wt.%, less than 0.8 wt.%, less than 0.6 wt.%, or less than 0.3 wt.%.
30. A method for improving fresh oil or used oil fuel fuel economy in a heavy-duty diesel internal combustion engine comprising lubricating said engine with a lubricating oil additive composition comprising:

(a) a major amount of a base oil of lubricating viscosity, said base oil having a kinematic viscosity (Kv) at 100°C of 2.0 to 12 centistokes (cSt);

(b) a nitrogen-containing dispersant;

(c) an alkaline earth metal containing detergent providing from 0.03 to 0.7 wt.% metal content relative to the lubricating oil composition;

(d) from greater than 0.30 wt.% to 2.0 wt.% of a compound comprising the reaction product of:

(i) a nitrogen-containing reactant, wherein the nitrogen-containing reactant comprises an alkyl alkanolamide, an alkyl alkoxylated alkanolamide, an alkyl alkanolamine, an alkyl alkoxylated alkanolamine or mixtures thereof,

(ii) a boron-containing compound, and

(iii) a hydrocarbyl polyol, having at least three hydroxyl groups.

31. The method of claim 30, wherein the engine is equipped with a diesel particulate filter.