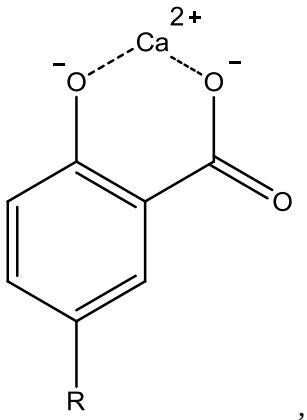
**WHAT IS CLAIMED IS:**

1. A lubricating oil additive composition comprising

   a. at least one carboxylate detergent which is an alkaline earth metal single-aromatic-ring hydrocarbyl carboxylate detergent, or an alkaline earth metal alkylhydroxybenzoate detergent, wherein the alkaline earth metal single-aromatic-ring hydrocarbyl carboxylate detergent is of the formula




   ,

   wherein R is a linear hydrocarbyl group, a branched hydrocarbyl group or mixtures thereof, and further wherein at least one of the carboxylate detergents has a TBN of the actives of greater than 60 to 200;

   b. at least one polyalkenyl succinimide;

   c. a first phenate detergent having a TBN of the actives of greater than 60 to 200; and

   d. a second phenate detergent having a TBN of the actives of greater than 200 to 400, wherein at least one of the first and second phenate detergents is a sulfurized phenate detergent; and

   e. a calcium salt of a Mannich base alkylphenol.

2. The lubricating oil additive composition of Claim 1 wherein the polyalkenyl succinimide is a polyisobutenyl succinimide.

3. The lubricating oil additive composition of Claim 1 wherein the first phenate detergent is an alkaline earth metal phenate detergent.

4. The lubricating oil additive composition of Claim 3 wherein the alkaline earth metal phenate detergent is a calcium phenate detergent.

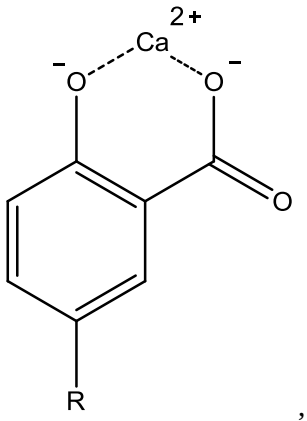
5. The lubricating oil additive composition of Claim 1 wherein the second phenate detergent is an alkaline earth metal phenate detergent.

6. The lubricating oil additive composition of Claim 5 wherein the alkaline earth metal phenate detergent is a calcium phenate detergent.

7. A lubricating oil composition comprising

a. a major amount of oil of lubricating viscosity;

b. at least one carboxylate detergent which is an alkaline earth metal single-aromatic-ring hydrocarbyl carboxylate detergent, or an alkaline earth metal alkylhydroxybenzoate detergent, wherein the alkaline earth metal single-aromatic-ring hydrocarbyl carboxylate detergent is of the formula



,

wherein R is a linear hydrocarbyl group, a branched hydrocarbyl group or mixtures thereof, and further wherein at least one of the carboxylate detergents has a TBN of the actives of greater than 60 to 200;

c. at least one polyalkenyl succinimide;

d. a first phenate detergent having a TBN of the actives of greater than 60 to 200; and

e. a second phenate detergent having a TBN of the actives of greater than 200 to 400 wherein at least one of the first and second phenate detergents is a sulfurized phenate detergent; and

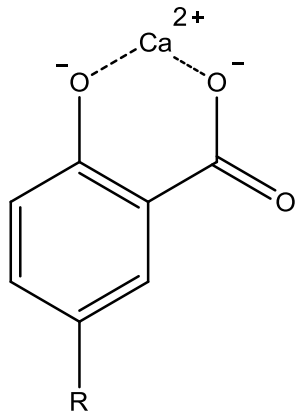
f. a calcium salt of a Mannich base alkylphenol.

8. The lubricating oil composition of Claim 7 wherein the lubricating oil composition is used as a railroad engine oil.

9. A method for operating a diesel locomotive engine comprising lubricating said diesel locomotive engine with a lubricating oil composition comprising

a. a major amount of an oil of lubricating viscosity;

b. at least one carboxylate detergent which is an alkaline earth metal single-aromatic-ring hydrocarbyl carboxylate detergent, or an alkaline earth metal alkylhydroxybenzoate detergent, wherein the alkaline earth metal single-aromatic-ring hydrocarbyl carboxylate detergent is of the formula




,

wherein R is a linear hydrocarbyl group, a branched hydrocarbyl group or mixtures thereof, and further wherein at least one of the carboxylate detergents has a TBN of the actives of greater than 60 to 200;

c. at least one polyalkenyl succinimide;

d. a first phenate detergent having a TBN of the actives of greater than 60 to 200; and

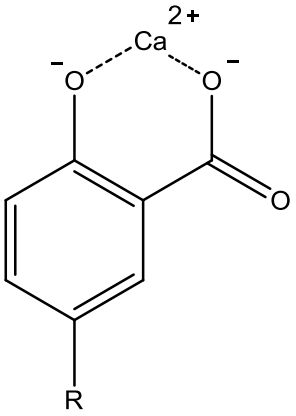
e. a second phenate detergent having a TBN of the actives of greater than 200 to 400, wherein at least one of the first and second phenate detergents is a sulfurized phenate detergent; and

f. a calcium salt of a Mannich base alkylphenol.

10. A method for operating an inland marine engine comprising lubricating said inland marine engine with a lubricating oil composition comprising

a. a major amount of an oil of lubricating viscosity; and

b. at least one carboxylate detergent detergent which is an alkaline earth metal single-aromatic-ring hydrocarbyl carboxylate detergent, or an alkaline earth metal alkylhydroxybenzoate detergent, wherein the alkaline earth metal single-aromatic-ring hydrocarbyl carboxylate detergent is of the formula




,

wherein R is a linear hydrocarbyl group, a branched hydrocarbyl group or mixtures thereof, and further wherein at least one of the carboxylate detergents has a TBN of the actives of greater than 60 to 200;

c. at least one polyalkenyl succinimide;

d. a first phenate detergent having a TBN of the actives of greater than 60 to 200; and

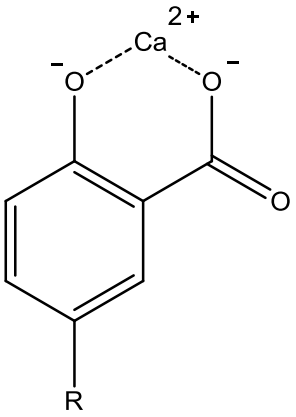
e. a second phenate detergent having a TBN of the actives of greater than 200 to 400, wherein at least one of the first and second phenate detergents is a sulfurized phenate detergent; and

f. a calcium salt o f a Mannich base alkylphenol.

11. A method of improving TBN retention wherein the lubricating oil composition comprises

a. a major amount of an oil of lubricating viscosity;

b. at least one carboxylate detergent which is an alkaline earth metal single-aromatic-ring hydrocarbyl carboxylate detergent, or an alkaline earth metal alkylhydroxybenzoate detergent, wherein the alkaline earth metal single-aromatic-ring hydrocarbyl carboxylate detergent is of the formula




,

wherein R is a linear hydrocarbyl group, a branched hydrocarbyl group or mixtures thereof, and further wherein at least one of the carboxylate detergents has a TBN of the actives of greater than 60 to 200;

c. at least one polyalkenyl succinimide;
d. a first phenate detergent having a TBN of the actives of greater than 60 to 200; and
e. a second phenate detergent having a TBN of the actives of greater than 200 to 400 wherein at least one of the first and second phenate detergents is a sulfurized phenate; and
f. a calcium salt of a Mannich base alkylphenol.

12. The lubricating oil additive composition of claim 1 wherein the polyalkenyl succinimide is an ethylene carbonate treated polyalkenyl succinimide.

13. The lubricating oil additive composition of claim 1 wherein the first phenate detergent is a sulfurized phenate detergent.

14. The lubricating oil additive composition of claim 1 wherein the second phenate detergent is a sulfurized phenate detergent.

15. The lubricating oil additive composition of claim 1 wherein the first and second phenate detergents are sulfurized phenate detergents.

16. The lubricating oil composition of claim 7, wherein the polyalkenyl succinimide is an ethylene carbonate treated polyalkenyl succinimide.

17. The lubricating oil composition of claim 7, wherein the first and second phenate detergents are sulfurized phenate detergents.

18. The lubricating oil composition of claim 7, wherein the polyalkenyl succinimide is an ethylene carbonate treated polyalkenyl succinimide and the first and second phenate detergents are sulfurized phenate detergents.

19. The lubricating oil composition of claim 7, further comprising a lubricating oil additive selected from the group consisting of an anti-oxidant, anti-wear agent, extreme pressure agent, rust inhibitor, demulsifier, friction modifier, multifunctional additive, viscosity index improver, pour point depressant, foam inhibitor, metal deactivator, dispersant other than the polyalkenyl succinimide and mixtures thereof.

20. The method of claim 9, wherein the polyalkenyl succinimide is an ethylene carbonate treated polyalkenyl succinimide.

21. The method of claim 9, wherein the first and second phenate detergents are sulfurized phenate detergents.

22. The method of claim 9, wherein the polyalkenyl succinimide is an ethylene carbonate treated polyalkenyl succinimide and the second phenate detergent is a sulfurized phenate detergent.

23. The method of claim 10, wherein the polyalkenyl succinimide is an ethylene carbonate treated polyalkenyl succinimide and the first and second phenate detergents are sulfurized phenate detergents.

24. The method of claim 11, wherein the polyalkenyl succinimide is an ethylene carbonate treated polyalkenyl succinimide and the first and second phenate detergents are sulfurized phenate detergents.