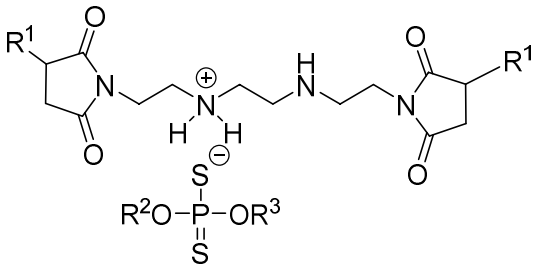
CLAIMS

1. A lubricating oil composition comprising a major amount of an oil of lubricating viscosity and one or more nitrogen-containing additive having the formula:



wherein R^1 is a functional group containing 10 to 250 carbon atoms; and R^2 and R^3 are independently functional groups containing 2 to 20 carbon atoms.

2. The lubricating oil composition of claim 1 wherein the amount of phosphorus content provided by one or more nitrogen-containing additive is from 50 ppm to 5000 ppm based on the total lubricating oil composition.

3. The lubricating oil composition of claim 1 wherein the composition further comprises at least one dispersant additive.

4. The lubricating oil composition of claim 3 wherein the at least one dispersant additive is an ashless succinimide or borated succinimide dispersant.

5. The lubricating oil composition of claim 1 wherein the amount of sulfated ash is from 0.3 wt. % to 1.2 wt. % based on the total weight of the lubricating oil composition.

6. The lubricating oil composition of claim 1 wherein R^2 or R^3 is a primary alkyl hydrocarbon of C3 to C18.

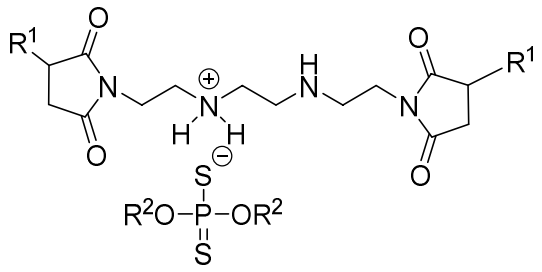
7. The lubricating oil composition of claim 6 wherein the primary alkyl hydrocarbon is 2-ethylhexyl.

8. The lubricating oil composition of claim 1 wherein R^2 or R^3 is a secondary alkyl hydrocarbon of C3 to C12.

9. The lubricating oil composition of claim 8 wherein the secondary alkyl hydrocarbons is a mixture of 2-butyl and 4-methyl-2-pentyl.

10. The lubricating oil composition of claim 1, wherein the lubricating oil composition contains less than 900 ppm of zinc.

11. A method of increasing the friction coefficient of a wet clutch comprising contacting a metal surface with a lubricating oil composition comprising a major amount of an oil of lubricating viscosity and one or more nitrogen-containing additive having the formula:



wherein R^1 is a functional group containing 10 to 250 carbon atoms; and R^2 and R3 are independently functional groups containing 2 to 20 carbon atoms.

12. The method of claim 11 wherein the amount of phosphorus content provided by one or more nitrogen-containing additive is from 50 ppm to 5000 ppm based on the total lubricating oil composition.

13. The method of claim 11 wherein the composition further comprises at least one dispersant additive.

14. The method of claim 13 wherein the at least one dispersant additive is an ashless succinimide or borated succinimide dispersant.

15. The method of claim 11 wherein the amount of sulfated ash is from 0.3 wt. % to 1.2 wt. % based on the total weight of the lubricating oil composition.

16. The method of claim 15 wherein R^2 or R^3 is a primary alkyl hydrocarbon of C3 to C18.

17. The method of claim 16 wherein the primary alkyl hydrocarbon is 2-ethylhexyl.

18. The method of claim 11 wherein R^2 or R^3 is a mixture of secondary alkyl hydrocarbons.

19. The method of claim 18 wherein the mixture of secondary alkyl hydrocarbons is 2-butyl and 4-methyl-2-pentyl.

20. The method of claim 11, wherein the wet clutch contains cellulose fiber and/or aramid fiber.