

(I) ,

wherein each R^1 and R^{10} is the same or different and is independently selected from C_1-C_{20} linear alkyl, C_2-C_{20} linear alkenyl, C_3-C_{20} branched alkyl, and C_3-C_{20} branched alkenyl;

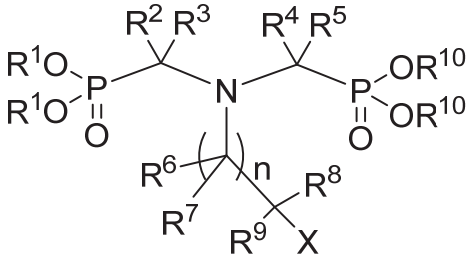
n is an integer from 1 to 7;

each of R^2, R^3, R^4, R^5, R^6, R^7, R^8, and R^9 is the same or different and is each independently selected from H, C_1-C_{10} linear alkyl, C_2-C_{10} linear alkenyl, C_3-C_{10} branched alkyl, and C_3-C_{10} branched alkenyl;

X is selected from the group consisting of H, hydroxy, and $N(R^{11})(R^{12})$; and

R^{11} and R^{12} are the same or different and are each independently selected from the group consisting of H, hydroxy, alkyl, alkenyl, and alkynyl.

[0006a] In one aspect, the present disclosure refers to a compound of formula (I)



(I) ,

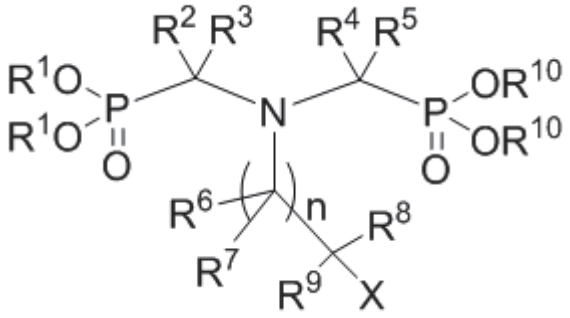
wherein each of R^1 and R^{10} is the same or different and independently selected from n-butyl, C_2-C_{20} linear alkenyl, C_3-C_{20} branched alkyl, and C_3-C_{20} branched alkenyl;

n is an integer from 1 to 7;

CLAIMS

What is claimed:

1. A compound of formula (I)



(I)

wherein each of R^1 and R^{10} is the same or different and independently selected from n-butyl, C_2-C_{20} linear alkenyl, C_3-C_{20} branched alkyl, and C_3-C_{20} branched alkenyl;

n is an integer from 1 to 7;

each of R^2, R^3, R^4, R^5, R^6, R^7, R^8, and R^9 is the same or different and is each independently selected from H, C_1-C_{10} linear alkyl, C_2-C_{10} linear alkenyl, C_3-C_{10} branched alkyl, and C_3-C_{10} branched alkenyl;

X is selected from the group consisting of hydroxy and $N(R^{11})(R^{12})$;

R^{11} and R^{12} are the same or different and are each independently selected from the group consisting of H, hydroxy, alkyl, alkenyl, and alkynyl, and

wherein R^1 and R^{10} are not both ethyl.

2. The compound of claim 1, wherein each of R^1 and R^{10} is 2-ethyl hexyl.

3. The compound of claim 1 or 2, wherein each of R^2, R^3, R^4, and R^5 are H.

4. The compound of any one of claims 1 to 3, wherein each of R^6, R^7, R^8, and R^9 are H.

5. The compound of any one of claims 1 to 4, wherein n is 1 or 2.

6. The compound of any one of claims 1 to 5, wherein X is hydroxyl.

7. The compound of any one of claims 1 to 5, wherein X is $N(R^{11})(R^{12})$, and R^{11} and R^{12} are C_1-C_4 alkyl.

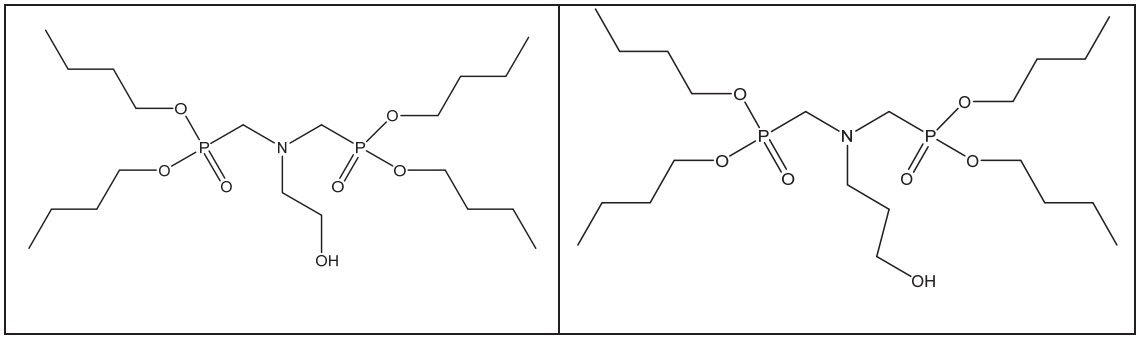
8. The compound of claim 1, wherein

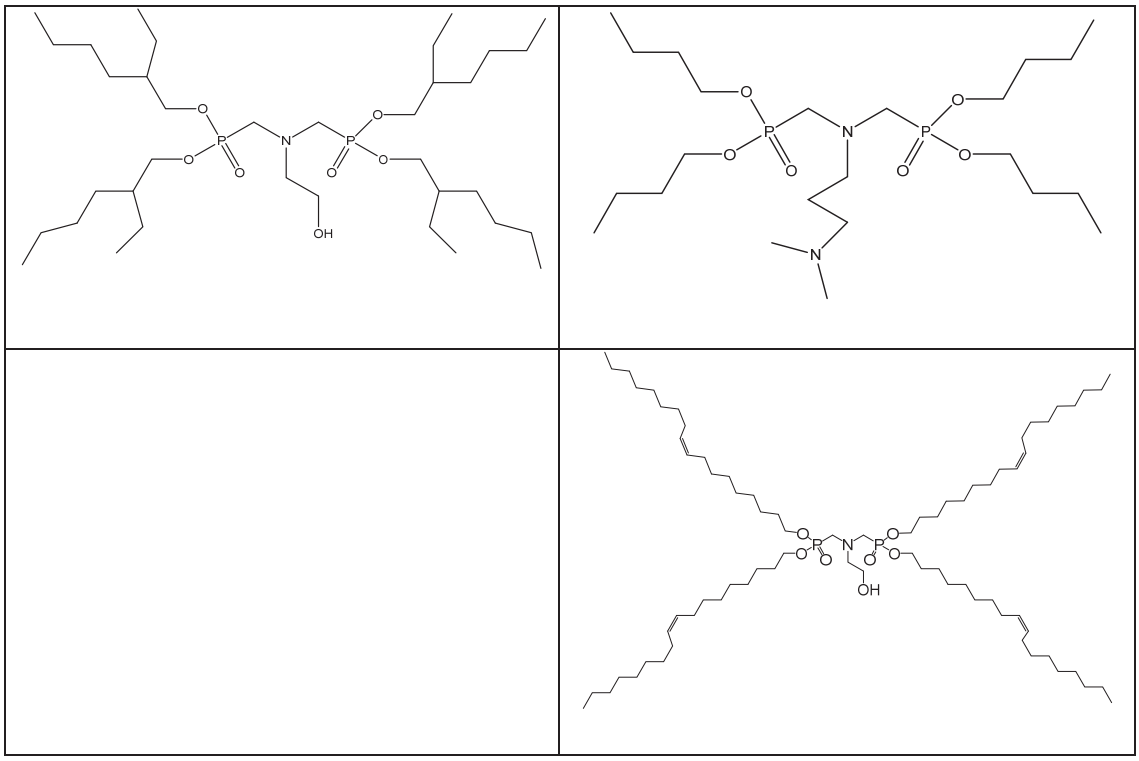
(a) each of R^1 and R^{10} is the same and is n-butyl, C_2-C_{20} linear alkenyl, or C_3-C_{20} branched alkyl;

(b) each of R^2, R^3, R^4, R^5, R^6, R^7, R^8, and R^9 are H; and

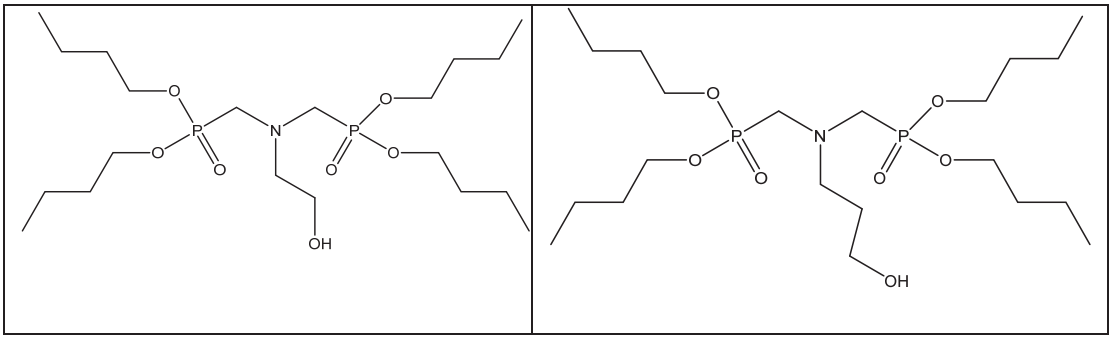
(c) n is 1 or 2.

9. The compound of claim 1, wherein the compound of formula (I) is selected from:





10. The compound of claim 1, wherein the compound of formula (I) is selected from:



11. A lubricant additive concentrate comprising a compound according to any one of claims 1 to 10.

12. The lubricant additive concentrate of claim 11, wherein the lubricant additive concentrate further comprises one or more additive components selected from the group consisting of an antioxidant, an additional antiwear agent, a corrosion inhibitor, a detergent, an extreme pressure agent, a dispersant, a viscosity index improver, and a friction modifier.

13. A lubricant composition comprising:

a) a major amount of base oil; and

b) a compound according to any one of claims 1 to 10.

14. A method of lubricating moving metal surfaces of a machine part, comprising lubricating the surfaces with a lubricant composition of claim 13.