CLAIMS:

1. A method for reducing deposits in internal combustion engines lubricated with a lubricating oil comprising a base oil ~~and/or~~ and additive amount of at least one additive selected from anti-oxidant, anti-wear, detergent or dispersant by the addition to the lubricating oil of an additive amount of one or more ionic liquids comprising

(a) heating the ionic liquid alone to a temperature of from 30 to 120°C,

(b) adding to the heated ionic liquid a zinc or molybdenum dialkyl dithiophosphate or zinc or molybdenum dialkyl dithiocarbamate,

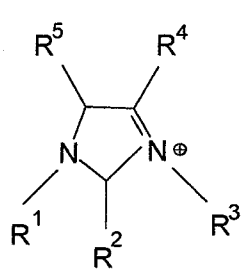
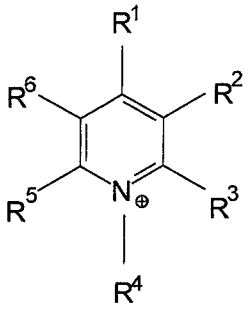
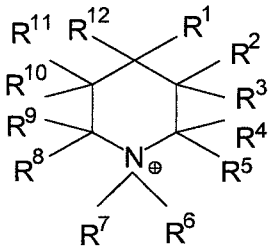
(c) heating the mixture of (b) to a temperature between 50 to 120°C for a time sufficient for the ionic liquid and the zinc or molybdenum dialkyl dithiophosphate or dialkyl dithiocarbamate to interact, and

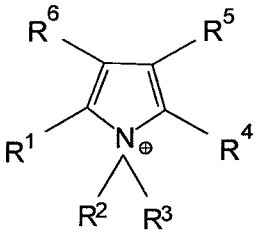
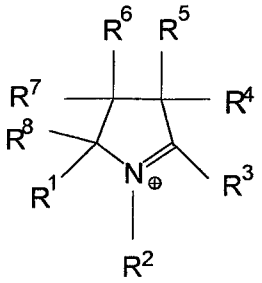
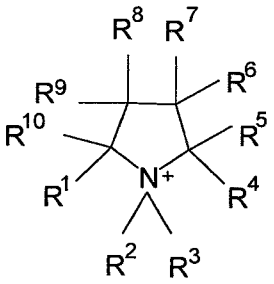
(d) adding resulting compound from (c) into base oil to make the lubricating oil.

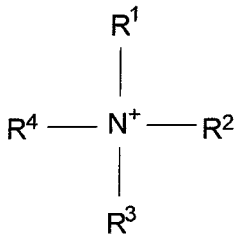
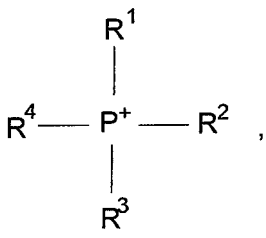
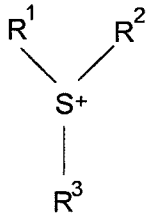
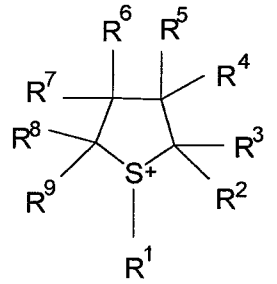
2. The method of claim 1 wherein the additive amount of ionic liquid(s) is in the range of about 0.01 to 5.0 wt%.

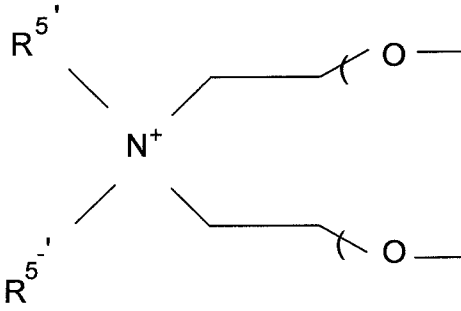
3. The method of claim 2 wherein the ionic liquid(s) is/are salts formed of cations and anions joined through an ionic bond.

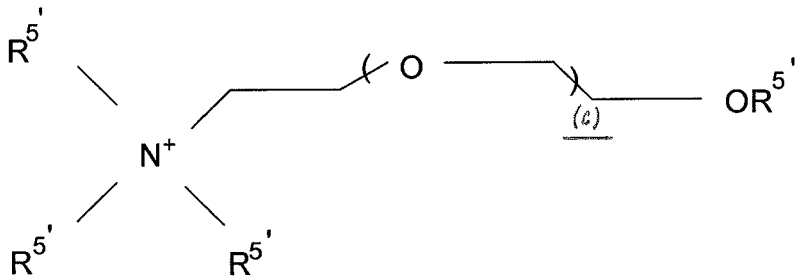
4. The method of claim 3 wherein the cations are selected from:


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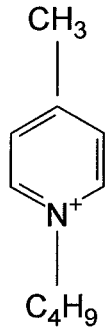

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or



wherein R^x is H or C_1 to C_{12} hydrocarbyl and Q is the number of available carbons in the ring, diC_2-C_{20} alkyl dithiophosphate, diC_2-C_{20} alkyl dithiocarbamate and mixtures of such anions.

5. The method of claim 4 wherein the cation is:



and the anion is selected from tetrafluoroborate and hexafluorophosphate.

6. The method of claim 5 wherein the ionic liquid is pyridinium tetrafluoroborate.

~~7. The method of claim 1, 2, 3, 4, 5 or 6 wherein the ionic liquid is premixed with zinc or molybdenum dialkyl dithiophosphate or zinc or molybdenum dialkyl dithiocarbamate.~~

~~8.~~7. The method of claim ~~7~~ 1 wherein the alkyl groups of the zinc or molybdenum dialkyl dithiophosphate or zinc or molybdenum dithiocarbamate are the same or different and are selected from C_3 to C_{12} primary or secondary alkyl groups.

~~9.~~8. The method of claim ~~7~~ 1 wherein the ionic liquid(s) and the zinc or molybdenum dialkyl dithiophosphate or zinc or molybdenum dialkyl dithiocarbamate are combined in a ratio of 1:10 to 10:1.

~~10. The method of claim 7 wherein the ionic liquid(s) and the zinc or molybdenum dialkyl dithiophosphate or zinc or molybdenum dialkyl dithiocarbamate are prepared by:~~

~~(a) heating the ionic liquid alone to a temperature of from 30 to 120°C.~~

~~(b) adding to the heated ionic liquid the zinc or molybdenum dialkyl dithiophosphate or zinc or molybdenum dialkyl dithiocarbamate.~~

~~(c) heating the mixture of (b) to a temperature between 50 to 120°C for a time sufficient for the ionic liquid and the zinc or molybdenum dialkyl dithiophosphate or dialkyl dithiocarbamate to interact.~~

~~11.~~9. The method of claim ~~7~~ 1 wherein the sole source of zinc or molybdenum dialkyl dithiophosphate or dialkyl dithiocarbamate in the lubricating oil is from the premix.