CLAIMS

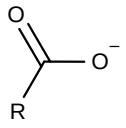
1. Use of an ammonium-based ionic liquid compound in a lubricant composition, to reduce and/or limit and/or prevent and/or delay the formation of deposits or to reduce the deposits already present in the internal parts of a combustion engine wherein the ammonium-based ionic liquid compound responds to formula (I)

$$[CAT^+]\ [X^-] \quad (I)$$

wherein

$[CAT^+]$ is tri-n-octylmethylammonium and

$[X^-]$ is selected from compounds of formula (IA):



(IA)

wherein R is selected from linear or branched alkyl and alkenyl groups comprising from 2 to 8 atoms of carbon.

2. Use according to claim 1 wherein in formula (IA) R represents a linear or branched alkyl group comprising from 2 to 8 atoms of carbon.

3. Use according to claim 2 wherein in formula (IA) R represents a linear or branched alkyl group comprising from 4 to 8 carbon atoms.

4. Use according to claim 3 wherein R represents a linear or branched alkyl group comprising from 5 to 7 carbon atoms.

5. Use according to claim 3 or claim 4 wherein $[X^-]$ is 2-ethylhexanoate.

6. Use according to anyone of claims 1 to 5 wherein the lubricant composition is a marine lubricant.

7. A lubricant composition comprising:

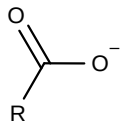
- from 30.0 to 94.0 % of at least one base oil,
- from 0.05 to 15 % of at least one ammonium-based ionic liquid of formula (I),

$[CAT^+]$ $[X^-]$ (I)

wherein

$[CAT^+]$ is tri-n-octylmethylammonium and

$[X^-]$ is selected from compounds of formula (IA):



(IA)

wherein R is selected from linear or branched alkyl and alkenyl groups comprising from 2 to 8 atoms of carbon, and

- from 1 to 35 % of at least one detergent selected from neutral and overbased detergents, other than the ionic liquid, having a Total Base Number according to ASTM D2896 of from 20 to 450 mg KOH/g

the percentages being defined by weight of component as compared to the total weight of the composition.

8. The lubricant composition according to claim 7, wherein the percentage by weight of ammonium-based ionic liquid relative to the total weight of lubricant composition is chosen such that the BN provided by the ammonium-based ionic liquid represents at least 3% of the total BN of said lubricant composition.

9. The lubricant composition according to claim 7 or claim 8, wherein the percentage by weight of ammonium-based ionic liquid of formula (I), relative to the total weight of lubricant composition, is chosen such that the BN provided by the compounds of formula (I) represents a contribution of at least 0.5 milligrams of potash per gram of lubricant, to the total BN of said lubricant composition.

10. The lubricant composition according to any one of claims 7 to 9, which has a Total Base Number (TBN) value according to ASTM D2896 of above 5 mg KOH/g.

11. The lubricant composition according to any one of claim 7 to claim 10, which has a kinematic viscosity at 100°C superior or equal to 5.6 mm^2/s and inferior or equal to 21.9 mm^2/s.

12. A lubricant composition comprising:

- from 30.0 to 99.95 % of at least one base oil,
- from 0.05 to 15.0 % of tri-n-octylmethylammonium 2-ethylhexanoate,

the percentages being defined by weight of component as compared to the total weight of the composition.

13. The lubricant composition according to claim 12, wherein it comprises at least one detergent selected from neutral and overbased detergents, other than the ionic liquid, having a Total Base Number according to ASTM D2896 of from 20 to 450 mg KOH/g.

14. Method for lubricating a two-stroke marine engine and four-stroke marine engine, said method comprising application to said marine engine of a lubricant composition as defined in claims 7 to 13.

15. Method according to claim 14 wherein the marine engine is a two-stroke marine engine.

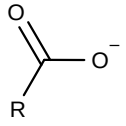
16. Method to reduce and/or limit and/or prevent and/or delay the formation of deposits or to reduce the deposits already present in the internal parts of a combustion engine, wherein said method comprises at least a step of application to said engine of an ammonium-based ionic liquid compound wherein the ammonium-based ionic liquid compound responds to formula (I)

$$[CAT^+]\ [X^-] \quad (I)$$

wherein

$[CAT^+]$ is tri-n-octylmethylammonium and

$[X^-]$ is selected from compounds of formula (IA):



(IA)

wherein R is selected from linear or branched alkyl and alkenyl groups comprising from 2 to 8 atoms of carbon.

17. The method according to claim 16, wherein the ammonium-based ionic liquid compound of formula (I) is tri-n-octylmethylammonium 2-ethylhexanoate.

18. The method according to claim 16 or claim 17, wherein the ammonium-based ionic liquid compound of formula (I) is applied in a lubricant composition comprising:

- from 30.0 to 99.95 % of at least one base oil,
- from 0.05 to 15.0 % of ammonium-based ionic liquid compound of formula (I).