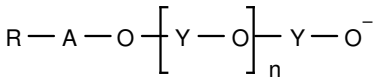
CLAIMS

1. Guanidinium-based ionic liquid compound of formula (I)

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

wherein $[CAT^+]$ represents 1,1,3,3-tetramethylguanidinium

and $[X^-]$ represents one or more species selected from compounds of formula (II):

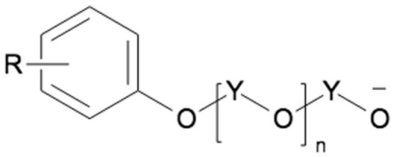


(II)

wherein

- A represents an aryl group comprising from 6 to 12 carbon atoms;
- R is selected from the group consisting of hydrogen, linear or branched, alkyl or alkenyl groups comprising from 1 to 30 carbon atoms, aryl groups comprising from 6 to 30 carbon atoms;
- Y represents a linear or branched alkanediyl group comprising from 1 to 6 carbon atoms; and
- n represents an integer from 1 to 20.

2. The guanidinium-based ionic liquid compound according to claim 1 wherein $[X^-]$ responds to formula (IIA):



(IIA)

wherein

- R is selected from the group consisting of hydrogen, linear or branched, alkyl or alkenyl groups comprising from 1 to 30 carbon atoms, aryl groups comprising from 6 to 30 carbon atoms; R can be in ortho, para or meta position;
- Y is a linear or branched alkanediyl group comprising from 1 to 6 carbon atoms; and
- n is an integer from 1 to 15~~, preferably from 1 to 12~~.

3. The guanidinium-based ionic liquid according to claim 2 wherein in formula (IIA), R is selected from the group consisting of hydrogen, linear or branched, alkyl or alkenyl groups comprising from 1 to 30, ~~preferably from 1 to 18, more preferably from 1 to 12 carbon atoms,~~ R being in ortho, para or meta position.

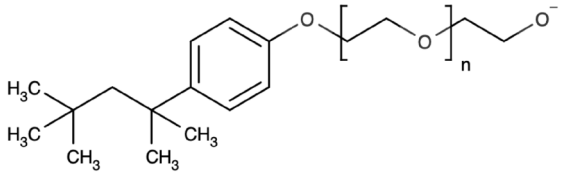
4. The guanidinium-based ionic liquid according to claim 3, wherein R is selected from the group consisting of hydrogen, linear or branched, alkyl or alkenyl groups comprising from 1 to 18, R being in ortho, para or meta position.

~~4~~5. The guanidinium-based ionic liquid according to claim ~~3~~ 4 wherein in formula (IIA), R represents a linear or branched alkyl group comprising from 1 to 12 carbon atoms, R being in para position.

~~5~~6. The guanidinium-based ionic liquid according to anyone of claims 1 to ~~4~~ 5 wherein Y is a linear or branched alkanediyl group comprising from 1 to 3 carbon atoms~~, .preferably Y is $-CH_2-CH_2-$.~~

7. The guanidinium-based ionic liquid according to claim 6 wherein Y is $-CH_2-CH_2-$.

~~6~~8. The guanidinium-based ionic liquid according to anyone of claims 1 to ~~5~~ 7 wherein $[X^-]$ responds to formula (IIB):



(IIB)

wherein n is comprised between 4 and 10.

~~7~~9. The guanidinium–based ionic liquid according to anyone of claims 1 to ~~6~~ 8 wherein $[X^-]$ is tert-octylphenylpolyethoxyethanolate with n = 8 or 9.

~~8~~10. A lubricant composition comprising:

- from 30.0 to 99.95 % of at least one base oil,
- from 0.05 to 15.0 % of at least one guanidinium-based ionic liquid defined in claims 1 to ~~7~~ 9,

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

~~9~~11. The lubricant composition of claim ~~8~~ 10, 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.

~~10~~12. The lubricant composition of claim ~~9~~ 11, wherein it comprises from 1 to 35% weight of neutral and overbased detergents, other than the ionic liquid, with regards to the total weight of the lubricant composition.

~~11~~13. The lubricant composition according to any one of claim ~~8~~ 10 to claim ~~10~~ 12, wherein the percentage by weight of guanidinium-based ionic liquid of formula (I) relative to the total weight of lubricant composition is chosen such that the BN provided by the guanidinium-based ionic liquid represents at least 3% of the total BN of said lubricant composition.

~~12~~14. The lubricant composition according to any one of claim ~~8~~ 10 to claim ~~11~~ 13, which has a Total Base Number (TBN) value according to ASTM D2896 of above 5 mg KOH/g.

~~13~~15. Use of the guanidinium-based ionic liquid defined in claims 1 to ~~6~~ 9 as detergent 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.

~~14~~16. Use of the guanidinium-based ionic liquid defined in claims 1 to ~~6~~ 9 as anti-corrosion additive in a lubricant composition.

~~15~~17. Method for lubricating a two-stroke marine engine and four-stroke marine engines, ~~preferably two-stroke marine engine,~~ said method comprising application to said marine engine of the guanidinium-based ionic liquid defined in claims 1 to ~~6~~ 9 or the lubricant composition as defined in claims ~~8 to 12~~ 10 to 14.

18. The method according to claim 17 wherein the marine engine is a two stroke marine engine.