CLAIMS

1. An ionic lubricant comprising a single lubricant compound having a perfluoropolyether main chain, wherein

each end of the perfluoropolyether main chain is terminated by an end group;

at least one of the end groups comprises an ionic bond and at least one functional group; and

the functional group is a hydroxyl group.

2. An ionic lubricant according to claim 1, wherein the ionic bond is between a carboxylic acid group and an amino basic group.

3. An ionic lubricant according to claim 1 or 2, wherein the end group comprises hydrocarbon chain.

4. An ionic lubricant according to claim 1 or 2, wherein the end group comprises fluorocarbon chain.

5. An ionic lubricant comprising a single lubricant compound having a perfluoropolyether main chain, wherein

each end of the perfluoropolyether main chain is terminated by an end group;

at least one of the end groups comprises an ionic bond, at least one functional group and a fluorocarbon chain interposed between the ionic bond and at least one functional group;

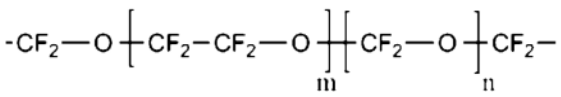
the ionic bond is between a carboxylic acid group and an amino basic group; and

the functional group is a phenyl group.

6. An ionic lubricant according to any one of claims 3 to 5, wherein the end group comprises from 3 to 6 carbon atoms.

7. An ionic lubricant according to any one of claims 1 to 6, wherein the ionic bond is at least two chemical bonds from the end of the perfluoropolyether main chain.

8. An ionic lubricant according to any one of claims 1 through 7, wherein the perfluoropolyether main chain is represented by the following chemical formula (A):



(A)

where m and n are positive integers.

9. An ionic lubricant according to any one of claims 1 through 7, wherein the perfluoropolyether main chain is represented by the following chemical formula (B):

$-O-(CF_2-CF_2-CF_2-O)_m-$ (B)

where m is a positive integer.

10. An ionic lubricant according to any one of claims 1 through 7, wherein the perfluoropolyether main chain is represented by the following chemical formula (C):

$-O-(CF_2-CF_2-O)_m-$ (C)

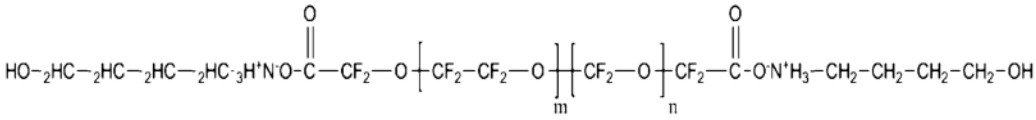
where m is a positive integer.

11. An ionic lubricant according to any one of claims 1 through 7, wherein the perfluoropolyether main chain is represented by the following chemical formula (D):

$-O-(CF(CF_3)-CF_2-O)_m-$ (D)

where m is a positive integer.

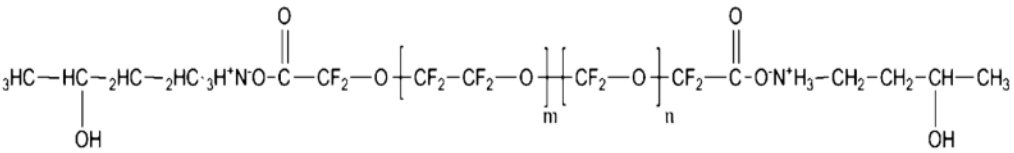
12. An ionic lubricant represented by the following chemical formula (1):



(1)

where m and n are positive integers.

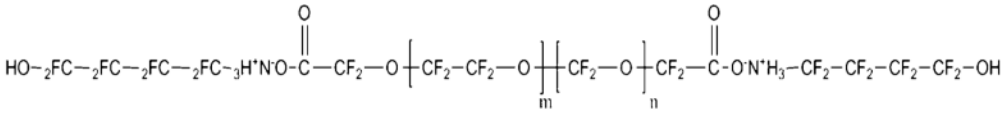
13. An ionic lubricant represented by the following chemical formula (2):



(2)

where m and n are positive integers.

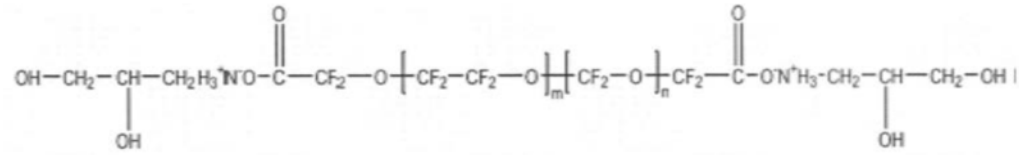
14. An ionic lubricant represented by the following chemical formula (3):



(3)

where m and n are positive integers.

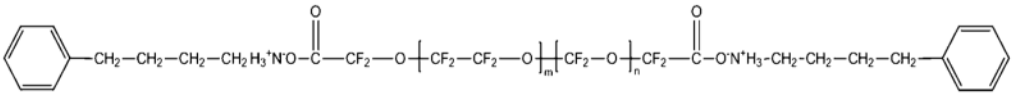
15. An ionic lubricant represented by the following chemical formula (4):



(4)

where m and n are positive integers.

16. An ionic lubricant represented by the following chemical formula (5):



(5)

where m and n are positive integers.

17. A magnetic recording medium, comprising a substrate (1) and at least a magnetic layer (2), a protective layer (3), and a lubricating layer (4) provided in the order recited over the substrate (1),

wherein the lubricating layer (4) is comprised of:

a single lubricant compound having a perfluoropolyether main chain;

each end of the perfluoropolyether main chain is terminated by an end group;

at least one of the end groups comprises an ionic bond and at least one functional group; and

the functional group is a hydroxyl group.

18. A magnetic recording medium according to claim 17, wherein the ionic bond is at least two chemical bonds from the end of the perfluoropolyether main chain.

19. A magnetic recording medium according to claim 18, wherein the ionic bond is between a carboxylic acid group and an amino basic group.

20. A magnetic recording medium according to any one of claims 17 to 19, wherein the end group comprises hydrocarbon chain.

21. A magnetic recording medium according to any one of claims 17 to 19, wherein the end group comprises fluorocarbon chain.

22. A magnetic recording medium, comprising a substrate (1) and at least a magnetic layer (2), a protective layer (3), and a lubricating layer (4) provided in the order recited over the substrate (1),

wherein the lubricating layer (4) is comprised of:

each end of the perfluoropolyether main chain is terminated by an end group;

at least one of the end groups comprises an ionic bond, at least one functional group and a fluorocarbon chain interposed between the ionic bond and at least one functional group;

the ionic bond is between a carboxylic acid group and an amino basic group; and

the functional group is a phenyl group.

23. A magnetic recording medium according to any one of claims 20 to 22, wherein the end group comprises from 3 to 6 carbon atoms.