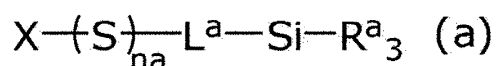


CLAIMS

1. An adhesion promoting composition applied to between a metal layer and a polysiloxane layer, the composition comprising:

a sulfide compound represented by the formula (a):



wherein

na is an integer of 1 to 5,

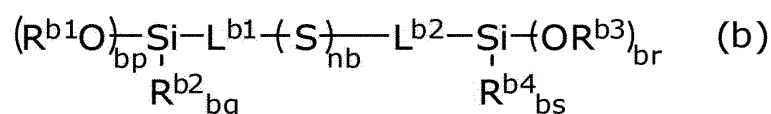
X is a hydrogen atom, alkyl having 1 to 4 carbon atoms which may be substituted with mercapto, or $-L^a-Si-R^a_3$,

L^a is each independently alkylene having 1 to 4 carbon atoms,

R^a is each independently selected from the group consisting of hydroxy, alkyl having 1 to 4 carbon atoms and alkoxy having 1 to 4 carbon atoms, and the alkyl and the alkoxy may be substituted with mercapto, provided that at least one of R^a is alkoxy; and

a solvent.

2. The composition according to claim 1, wherein the sulfide compound is represented by the formula (b) or (c):



wherein

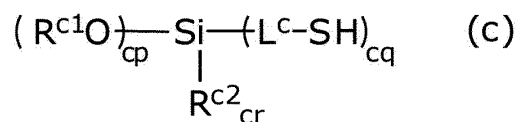
nb is an integer of 1 to 5,

L^{b1} and L^{b2} are each independently alkylene having 1 to 4 carbon atoms,

R^{b1} and R^{b3} are each independently a hydrogen atom or alkyl having 1 to 4 carbon atoms,

R^{b2} and R^{b4} are each independently alkyl having 1 to 4 carbon atoms, and

bp and br are each independently an integer of 1 to 3, bq and bs are each independently an integer of 0 to 2, provided that bp+bq=3 and br+bs=3 are satisfied;



wherein

L^c is independently alkylene having 1 to 4 carbon atoms,
 R^{c1} is a hydrogen atom or alkyl having 1 to 4 carbon atoms,
 R^{c2} is alkyl having 1 to 4 carbon atoms, and

cp and cq are each independently an integer of 1 to 3, and cr is an integer of 0 to 2, provided that cp+cq+cr=4 is satisfied.

3. The composition according to claim 1 or 2, wherein the molecular weight of the sulfide compound is 150 to 800.
4. The composition according to any one of claims 1 to 3, wherein the solvent comprises at least one selected from the group consisting of propylene glycol monomethyl ether acetate, propylene glycol monomethyl ether, γ -butyrolactone, propylene glycol diacetate, diethylene glycol monohexyl ether and methyl 3-methoxypropionate.
5. The composition according to any one of claims 1 to 4, further comprising a surfactant.
6. A method for producing a laminate comprising a metal layer and a polysiloxane layer, the method comprising:
 - applying the adhesion promoting composition according to any one of claims 1 to 5 to a metal layer or a polysiloxane layer to form a sulfide compound layer, and
 - forming a metal layer or a polysiloxane layer on the sulfide compound layer.
7. The method according to claim 6, comprising:

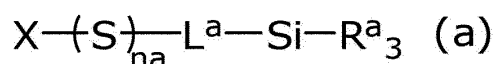
applying the adhesion promoting composition according to any one of claims 1 to 5 to a metal layer to form a sulfide compound layer; and

applying a composition comprising a polysiloxane to the sulfide compound layer to form a polysiloxane layer.

8. A laminate produced by the method according to claim 6 or 7.

9. An electronic device comprising the laminate according to claim 8.

10. A film forming composition comprising:
a sulfide compound represented by the formula (a):



wherein

n_a is an integer of 1 to 5,

X is a hydrogen atom, alkyl having 1 to 4 carbon atoms which may be substituted with mercapto, or $-\text{L}^a-\text{Si}-\text{R}^a_3$,

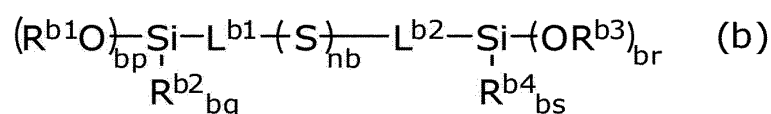
L^a is each independently alkylene having 1 to 4 carbon atoms,

R^a is each independently selected from the group consisting of hydroxy, alkyl having 1 to 4 carbon atoms and alkoxy having 1 to 4 carbon atoms, and the alkyl and the alkoxy may be substituted with mercapto, provided that at least one of R^a is alkoxy;

a polysiloxane; and

a solvent.

11. The composition according to claim 10, wherein the sulfide compound is represented by the formula (b) or (c):



wherein

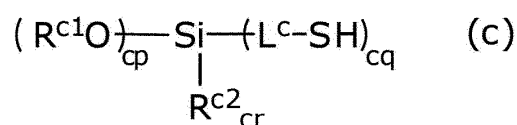
nb is an integer of 1 to 5,

L^{b1} and L^{b2} are each independently alkylene having 1 to 4 carbon atoms,

R^{b1} and R^{b3} are each independently a hydrogen atom or alkyl having 1 to 4 carbon atoms,

R^{b2} and R^{b4} are each independently alkyl having 1 to 4 carbon atoms, and

bp and br are each independently an integer of 1 to 3, bq and bs are each independently an integer of 0 to 2, provided that $bp+bq=3$ and $br+bs=3$ are satisfied;



wherein

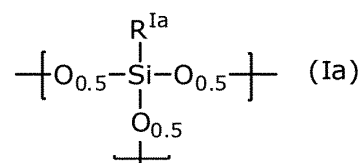
L^c is independently alkylene having 1 to 4 carbon atoms,

R^{c1} is a hydrogen atom or alkyl having 1 to 4 carbon atoms,

R^{c2} is alkyl having 1 to 4 carbon atoms, and

cp and cq are each independently an integer of 1 to 3, and cr is an integer of 0 to 2, provided that $cp+cq+cr=4$ is satisfied.

12. The composition according to claim 10 or 11, wherein the polysiloxane comprises a repeating unit represented by the formula (Ia):



wherein

R^{Ia} is hydrogen, a C_{1-30} linear, branched or cyclic, saturated or unsaturated, aliphatic hydrocarbon group or aromatic hydrocarbon group,

the aliphatic hydrocarbon group and the aromatic hydrocarbon group are each unsubstituted or substituted with fluorine, hydroxy or alkoxy, and

in the aliphatic hydrocarbon group and the aromatic hydrocarbon group, methylene is not replaced, or one or more methylene is replaced by oxy, imino or carbonyl, provided that R^{Ia} is neither hydroxy nor alkoxy.

13. The composition according to any one of claims 10 to 12, further comprising a thermal acid generator or a thermal base generator.

14. A method for producing a film, comprising:
applying the film forming composition according to any one of claims 10 to 13 to a substrate to form a film forming composition layer; and
heating the film forming composition layer.

15. The method according to claim 14, wherein the substrate is a substrate having a metal surface.

16. A film produced by the method according to claim 14 or 15.

17. An electronic device comprising the film produced by the method according to claim 16.