CLAIMS

1. A resist composition which generates acid upon exposure and exhibits changed solubility in a developing solution under action of acid, the resist composition comprising:

a base component (A) which exhibits changed solubility in a developing solution under action of acid, and

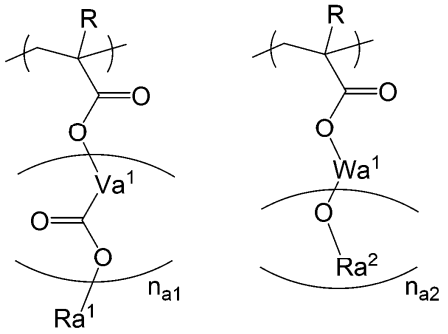
an ion liquid (Z),

wherein the amount of the ion liquid (Z) relative to 100 parts by weight of the base component (A) is 3% by weight or more, to less than 25 parts by weight,

wherein a solid content of the resist composition is 25% by weight or more.

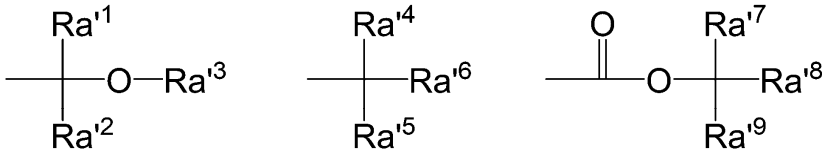
2. The resist composition according to Claim 1, wherein the base component (A) comprises a structural unit (a1) represented by general formula (a1-1) or (a1-2) shown below, and

a structural unit (a10) represented by general formula (a10-1) shown below:



(a1−1) (a1−2)

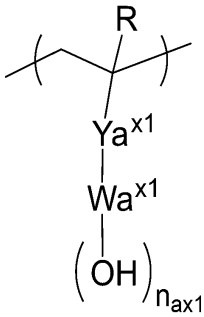
wherein R represents a hydrogen atom, an alkyl group of 1 to 5 carbon atoms or a halogenated alkyl group of 1 to 5 carbon atoms; Va^1 represents a divalent hydrocarbon group optionally having an ether bond; n_{a1} represents an integer of 0 to 2; Ra^1 represents an acid dissociable group represented by the aforementioned formula(a1−r−1) or (a1−r−2); Wa^1represents a hydrocarbon group having a valency of n_{a2} + 1; n_{a2} represents an integer of 1 to 3; and Ra^2 represents an acid dissociable group represented by the aforementioned general formula (a1-r-1) or (a1-r-3);



(a1−r−1) (a1−r−2) (a1−r−3)

wherein Ra'^{1} and Ra'^{2} each independently represents a hydrogen atom or an alkyl group;

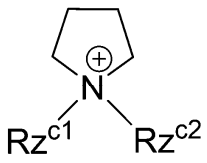
Ra'^3 represents a hydrocarbon group, provided that Ra'^3 may be bonded to Ra'^1 or Ra'^2 to form a ring. Ra'^4 to Ra'^6 each independently represents a hydrocarbon group, provided that Ra'^5 and Ra'^6 may be mutually bonded to form a ring. Ra'^7 to Ra'^9 each independently represents an alkyl group;



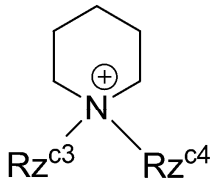
···(a10−1)

wherein R represents a hydrogen atom, an alkyl group of 1 to 5 carbon atoms or a halogenated alkyl group of 1 to 5 carbon atoms; Ya^{x1} represents a single bond or a divalent linking group; Wa^{x1} represents an aromatic hydrocarbon group having a valency of $(n_{ax1}+1)$; and n_{ax1} represents an integer of 1 or more.

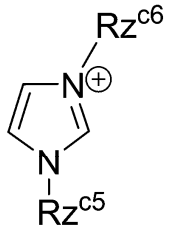
3. The resist composition according to Claim 1, wherein the cation moiety of the ion liquid (Z) is a cation represented by any one of general formulae (z−ca−1) to (z−ca−5) shown below:



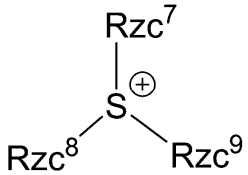
(z−ca−1)



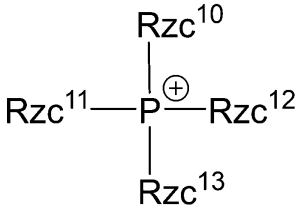
(z−ca−2)



(z−ca−3)



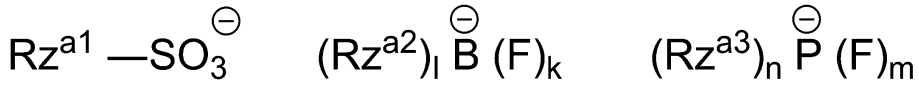
(z−ca−4)



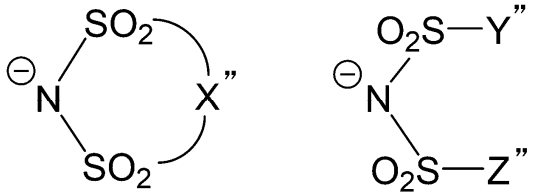
(z−ca−5)

wherein Rz^{c1} to Rz^{c6} each independently represents an alkyl group having 1 to 12 carbon atoms; Rz^{c7} to Rz^{c9} each independently represents an aryl group which may have a substituent; Rz^{c10} to Rz^{c13} each independently represents a linear alkyl group having 1 to 20 carbon atoms.

4. The resist composition according to Claim 1, wherein the anion moiety of the ion liquid (Z) is an anion represented by any one of general formulae (z−an−1) to (z−an−5) shown below:



(z−an−1) (z−an−2) (z−an−3)



(z−an−4) (z−an−5)

wherein, in formula (z−an−1), Rz^{a1} represents an aromatic hydrocarbon group which may have a substituent, an aliphatic cyclic group which may have a substituent, or a chain hydrocarbon group which may have a substituent; in formula (z−an−2), Rz^{a2} represents an alkyl group having 1 to 5 carbon atoms optionally substituted with a fluorine atom; k represents an integer of 1 to 4, and l represents an integer of 0 to 3, provided that k+l = 4; in formula (z−an−3), Rz^{a3} represents an alkyl group having 1 to 5 carbon atoms optionally substituted with a fluorine atom; m represents an integer of 1 to 6, and n represents an integer of 0 to 5, provided that m+n = 6; in formula (z−an−4), X" represents an alkylene group of 2 to 6 carbon atoms in which at least one hydrogen atom has been substituted with a fluorine atom; in formula (z−an−5), Y" and Z" each independently represents an alkyl group of 1 to 10 carbon atoms in which at least one hydrogen atom has been substituted with a fluorine atom.

5. A method of forming a resist pattern, comprising:

using a resist composition according to any one of Claims 1 to 4 to form a resist film,

exposing the resist film, and

developing the exposed resist film to form a resist pattern.