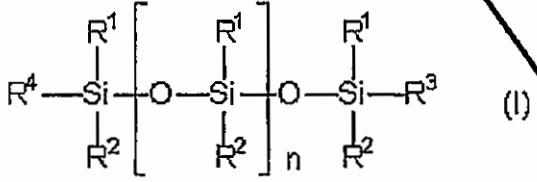
CLAIMS

1. An epoxy resin composition for encapsulating a semiconductor comprising an epoxy resin (A), a curing agent (B), an inorganic filler (C) and a mold releasing agent, wherein said mold releasing agent contains a compound (D) having a copolymer of α-olefin having 28 to 60 carbon atoms and a maleic anhydride esterified with a long chain aliphatic alcohol having 10 to 25 carbon atoms.

2. The epoxy resin composition for encapsulating a semiconductor according to claim 1, further comprising a siloxane addition polymer modified product represented by the following general formula (I),

[Chemical Formula 1]



(I)

wherein, in the formula, R^1 to R^2 are selected from a hydrogen atom, a substituted or unsubstituted hydrocarbon group having 1 to 55 carbon atoms, an alkyleneoxy glycidyl ether group and an alkylene oxide group, and all may be the same or different from each other; R^3 to R^4 are selected from a hydrogen atom, a substituted or unsubstituted hydrocarbon group having 1 to 10 carbon atoms, an amino group, a carboxyl group, a glycidyl ether group and an alkylcarboxylic acid-4,4'-(1-methylethylidene)bisphenol diglycidyl ether group, and all may be the same or different from each other; and n represents an integer of from 1 to 100.

3. The epoxy resin composition for encapsulating a semiconductor according to claim 1 or 2, wherein the content of said compound (D) having a copolymer of α-olefin having 28 to 60 carbon atoms and a maleic anhydride esterified with a long chain aliphatic alcohol having 10 to 25 carbon atoms is equal to or more than 55% by mass and equal to or less than 100% by mass, based on 100% by mass of the total amount of said mold releasing agent.

4. The epoxy resin composition for encapsulating a semiconductor according to claim 2, wherein the content of said siloxane addition polymer modified product is equal to or more than 0.1% by mass and equal to or less than 2% by mass, based on 100% by mass of the total amount of said epoxy resin composition for encapsulating a semiconductor.

5. The epoxy resin composition for encapsulating a semiconductor according to any one of claims 1 to 4, wherein said epoxy resin (A) comprises at least one kind selected from the group consisting of a biphenyl type epoxy resin, a paraxylylene type epoxy resin and a phenol aralkyl type epoxy resin having a biphenylene skeleton.

6. The epoxy resin composition for encapsulating a semiconductor according to any one of claims 1 to 5, used for encapsulation of a semiconductor element in a semiconductor device having a copper-containing lead frame.

7. A semiconductor device, wherein a semiconductor element is encapsulated with a cured product of the epoxy resin composition for encapsulating a semiconductor according to any one of claims 1 to 6.

8. A mold releasing agent comprising a compound (D) having a copolymer of α-olefin having 28 to 60 carbon atoms and a maleic anhydride esterified with a long chain aliphatic alcohol having 10 to 25 carbon atoms.

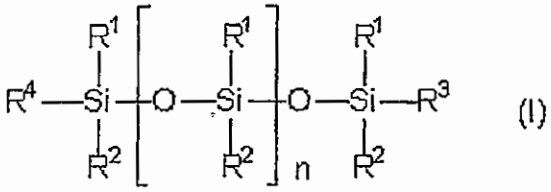
9. The mold releasing agent according to claim 8, used for an epoxy resin composition for encapsulating a semiconductor.

10. The mold releasing agent according to claim 9, wherein said epoxy resin composition for encapsulating a semiconductor is used for encapsulation of a semiconductor element in a semiconductor device having a copper-containing lead frame.

CLAIMS

1. An epoxy resin composition for encapsulating a semiconductor comprising an epoxy resin (A), a curing agent (B), an inorganic filler (C) and a mold releasing agent, wherein said mold releasing agent contains a compound (D) having a copolymer of α-olefin having 28 to 60 carbon atoms and a maleic anhydride esterified with a long chain aliphatic alcohol having 10 to 25 carbon atoms,
a siloxane addition polymer modified product represented by the following general formula (I),

[Chemical Formula 1]



(I)

wherein, in the formula, R^1 to R^2 are selected from a hydrogen atom, a substituted or unsubstituted hydrocarbon group having 1 to 55 carbon atoms, an alkyleneoxy glycidyl ether group and an alkylene oxide group, and all may be the same or different from each other; R^3 to R^4 are selected from a hydrogen atom, a substituted or unsubstituted hydrocarbon group having 1 to 10 carbon atoms, an amino group, a carboxyl group, a glycidyl ether group and an alkylcarboxylic acid-4,4'-(1-methylethylidene)bisphenol diglycidyl ether group, and all may be the same or different from each other; and n represents an integer of from 1 to 100,

and the content of said siloxane addition
polymer modified product is equal to or more than 0.1% by mass and equal to or less than 2% by mass, based on 100% by mass of the total amount of said epoxy resin composition for encapsulating a semiconductor.