solvent (C),

wherein

a content of the organic solvent (B) is 5% by mass or more and 70% by mass or less with respect to the whole amount of the organic solvents; and

a content of the organic solvent (C) is 30% by mass or more and 95% by mass or less with respect to the whole amount of the organic solvents, wherein

the organic solvent (C) contains an organic solvent having a boiling point of 140°C or higher and lower than 210°C at atmospheric pressure as an organic solvent (C-1), and an organic solvent having a boiling point of 100°C or higher and lower than 140°C at atmospheric pressure as an organic solvent (C-2); and

a ratio of a content of the organic solvent (C-1) to a content of the organic solvent (C-2) is 1 : 9 to 9 : 1 by mass ratio.

[0016b]

In another aspect, there is provided a method for manufacturing a heat-resistant resin film, the method comprising the steps of:

applying the heat-resistant resin composition as defined above on a support substrate, drying the heat-resistant resin composition to form a coating film; and

heat-treating the coating film.

[0016c]

In another aspect, there is provided a method for manufacturing an interlayer insulation film or a surface protective film, the method comprising the steps of:

applying the heat-resistant resin composition as defined above on a support substrate, drying the heat-resistant resin composition to form a coating film; and

heat-treating the coating film.

[0016d]

In another aspect, there is provided a method for manufacturing an electronic component or a semiconductor component including an interlayer insulation film or a surface protective film obtained by the method for manufacturing an interlayer insulation film or a surface protective film as defined above.

EFFECTS

[0017]

The present disclosure can provide a heat-resistant resin composition having excellent step embedding properties after being applied.

BRIEF DESCRIPTION OF THE DRAWINGS

[0018]

Fig. 1 is an enlarged cross-sectional view of a semiconductor component having a surface protective film.

CLAIMS

1. A heat-resistant resin composition comprising:

at least one resin selected from the group consisting of a polyimide, a polybenzoxazole, a polyimide precursor, and a polybenzoxazole precursor as a resin (A);

an organic solvent having a boiling point of 210°C or higher and 260°C or lower at atmospheric pressure as an organic solvent (B); and

an organic solvent having a boiling point of 100°C or higher and lower than 210°C at atmospheric pressure as an organic solvent (C),

wherein

a content of the organic solvent (B) is 5% by mass or more and 70% by mass or less with respect to the whole amount of the organic solvents; and

a content of the organic solvent (C) is 30% by mass or more and 95% by mass or less with respect to the whole amount of the organic solvents,

wherein

the organic solvent (C) contains an organic solvent having a boiling point of 140°C or higher and lower than 210°C at atmospheric pressure as an organic solvent (C-1), and an

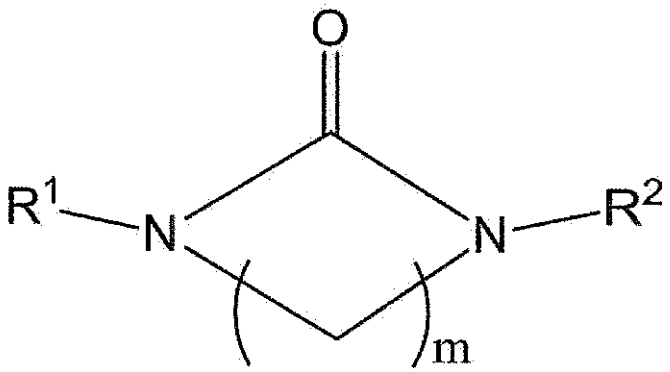
organic solvent having a boiling point of 100°C or higher and lower than 140°C at atmospheric pressure as an organic solvent (C-2); and

a ratio of a content of the organic solvent (C-1) to a content of the organic solvent (C-2) is 1 : 9 to 9 : 1 by mass ratio.

2. The heat-resistant resin composition according to claim 1, wherein the organic solvent (B), the organic solvent (C-1), and the organic solvent (C-2) each have a solubility parameter of 7.0 or more and 13.0 or less.

3. The heat-resistant resin composition according to claim 1 or 2, wherein the organic solvent (B) contains at least one organic solvent selected from the group consisting of an organic solvent represented by general formula (1) below, an organic solvent represented by general formula (2) below, and an organic solvent represented by general formula (3) below:

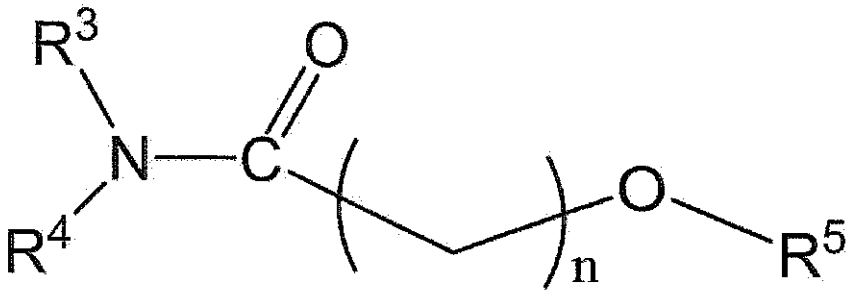
[Chemical Formula 1]



(1)

wherein R^1 and R^2 may be the same or different from each other, and each represent a monovalent organic group having 1 to 10 carbon atoms; and m represents an integer of 1 to 5;

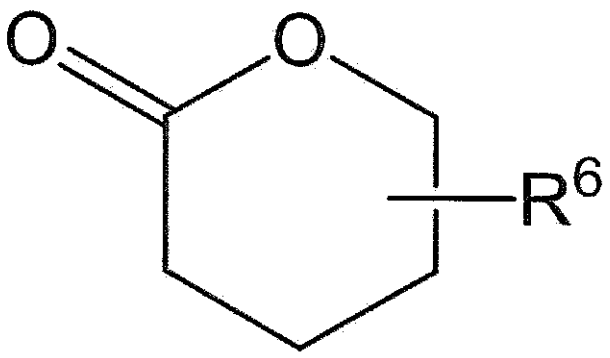
[Chemical Formula 2]



(2)

wherein R^3, R^4 and R^5 may be the same or different from one another, and each represent a monovalent organic group having 1 to 10 carbon atoms; and n represents an integer of 1 to 10; and

[Chemical Formula 3]



(3)

wherein R^6 represents a hydrogen atom or a monovalent organic group having 1 to 10 carbon atoms.

4. A method for manufacturing a heat-resistant resin film, the method comprising the steps of:

applying the heat-resistant resin composition according to any one of claims 1 to 3 on a support substrate, drying the heat-resistant resin composition to form a coating film; and heat-treating the coating film.

5. A method for manufacturing an interlayer insulation film or a surface protective film, the method comprising the steps of:

applying the heat-resistant resin composition according to any one of claims 1 to 3 on a support substrate, drying the heat-resistant resin composition to form a coating film; and heat-treating the coating film.

6. A method for manufacturing an electronic component or a semiconductor component including an interlayer insulation film or a surface protective film obtained by the method for manufacturing an interlayer insulation film or a surface protective film according to claim 5.

7. The method for manufacturing an electronic component or a semiconductor component according to claim 6, wherein 2 to 10 interlayer insulation films are used.