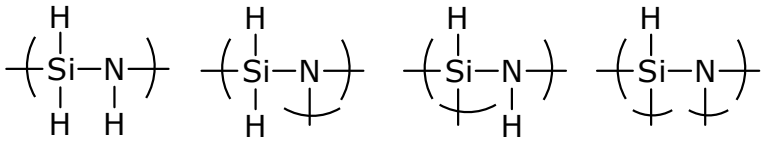
Patent Claims

1. Use of a polysilazane comprising N-Si bonds, wherein the ratio (NA^3/NA^2) of the number of N atoms having 3 N-Si bonds (NA^3) to the number of N atoms having 2 N-Si bonds (NA^2) is 1.8 to 6.0,
where
the peak existing in 3500 to 3250 cm^{-1} corresponding to N-H bonds and the peak existing in 1065 to 695 cm^{-1} corresponding to Si-N bonds of the infrared absorption spectrum of the polysilazane are defined as absorbance corresponding to N-H bonds and Si-N bonds, respectively,
the amount of N-H bonds and Si-N bonds / cm^3 (N) existing in a thin film having film thickness of d (cm) is determined by the following formula:
$N = A\int\alpha(\omega)/\omega \cdot d\omega$
(wherein
A is a proportionality constant, $A_{N\text{-}H}$: 2.6×10^{20} (cm^{-2}) as N-H bonds and $A_{Si\text{-}N}$:7.7×10^{18}(cm^{-2}) as Si-N bonds are used,
$\alpha(\omega)$ is an absorption coefficient, ω is a wave number, $\alpha(\omega) = 1/d \times$ absorbance $\times$ ln10, and
NA^2 is defined as amount of N-H bonds, and NA^3 is defined as [(amount of Si-N bonds) - (amount of N-H bonds)×2)]/3)
for preparing a siliceous film in the presence of ozone.

2. The use according to claim 1, wherein the polysilazane is perhydropolysilazane.

3. The use according to claim 1 or 2, wherein the polysilazane comprises at least one of the repeating units selected from the group consisting of the groups represented by the formulae (Ia) to (If), and the terminal group represented by the formula (Ig).

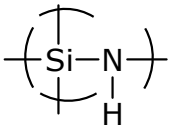


(Ia)

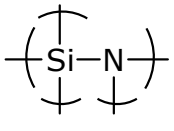
(Ib)

(Ic)

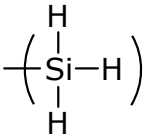
(Id)



(Ie)



(If)



(Ig)

4. The use according to any one of claims 1 to 3, wherein NA^3/NA^2 is 2.0 to 5.5.

5. The use according to any one of claims 1 to 4, wherein the mass average molecular weight of the polysilazane in terms of polystyrene measured by gel permeation chromatography is 4,000 to 20,000.

6. The use of a siliceous film-forming composition, comprising the polysilazane as defined in any one of claims 1 to 5, and a solvent for preparing a siliceous film in the presence of ozone.

7. A method for producing a siliceous film in the presence of ozone, comprising applying the siliceous film-forming composition according to claim 6 above a substrate and heating it.

8. The method for producing a siliceous film according to claim 7, wherein the heating is performed under a steam atmosphere.

9. A siliceous film produced by the method according to claim 7 or 8.

10. An electronic device comprising the siliceous film produced by the method according to claim 7 or 8.