

PERHYDROPOLYSILAZANE COMPOSITIONS AND METHODS FOR FORMING NITRIDE FILMS USING SAME

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Abstract

A Si-containing film forming composition comprising a catalyst and/or a polysilane and a N-H free, C-free, and Si-rich perhydropolysilazane having a molecular weight ranging from approximately 332 dalton to approximately 100,000 dalton and comprising N-H free repeating units having the formula $[-N(SiH_3)_x(SiH_2-$
10 $)]_y$, wherein $x=0, 1, \text{ or } 2$ and $y= 0, 1, \text{ or } 2$ with $x+y=2$; and $x= 0, 1 \text{ or } 2$ and $y=1, 2,$
or 3 with $x+y=3$. Also disclosed are synthesis methods and applications for using the same.

[Figure 1]