TITLE OF THE INVENTION:

DEPOSITION OF SILICON DIOXIDE AND SILICON OXYNITRIDE USING BIS(TERTIARYBUTYLAMINO)SILANE

A process for the chemical vapor deposition of silicon dioxide and silicon oxynitride from reactant gases O_2, O_3, N_2O, NO, NO_2, NH_3 and a silane of the formula: $(t\text{-}C_4H_9NH)_2SiH_2$. A process whereby a stack of silicon containing dielectrics ranging from silicon nitride to silicon oxide may be deposited successively (at the same pressure and temperature) by changing the reactants O_2, O_3, N_2O, NO, NO_2, NH_3 while maintaing a constant flow of $(t\text{-}C_4H_9NH)_2SiH_2$. The films are suitable for use in the semiconductor and related industries.

(Figure 2)