ABSTRACT

CHALCOGEN PRECURSORS FOR DEPOSITION OF SILICON NITRIDE

Chalcogen silane precursors are described. Methods for depositing a silicon nitride (Si_xN_y) film on a substrate are described. The substrate is exposed to the chalcogen silane and a reactant to deposit the silicon nitride (Si_xN_y) film. The exposures can be sequential or simultaneous. The chalcogen silane may be substantially free of halogen. The chalcogen may be selected from the group consisting of sulfur (S), selenium (Se), and tellurium (Te).

(fig. 1)