SUBSTRATE DRYING

ABSTRACT

The present invention relates to an apparatus and method for generating inert polar organic compound vapor to be used for drying electronic substrate, more particularly semiconductor wafer. The polar organic compound is isopropyl alcohol (IPA) and the inert nitrogen gas (N_2). The apparatus is a vapor generator (10) comprising of a vessel which continuously receives IPA from an IPA supply (12) line. Amount of IPA in the vessel is maintained at a fixed quantity by continuous liquid level feedback control. An ultrasonic nebulizer is installed at the bottom of the IPA vapor generator (10) and it is powered by an external oscillator that generates ultrasonic oscillations. The ultrasonic nebulizer (11) generates ultrasonic energy which converts the IPA into fine particles, i.e. mist. The vapor generator also has an inlet for nitrogen supply (14). The nitrogen supplied into the generator (10) carries the IPA mist away to form an IPA and nitrogen vapor mixture. The mixture is then transported to a drying chamber (18) where the wafer is cleaned and dried.

FIGURE 1 accompanies the abstract.