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- (54) **Title:** SEMICONDUCTOR CLEANING USING PLASMA-FREE PRECURSORS

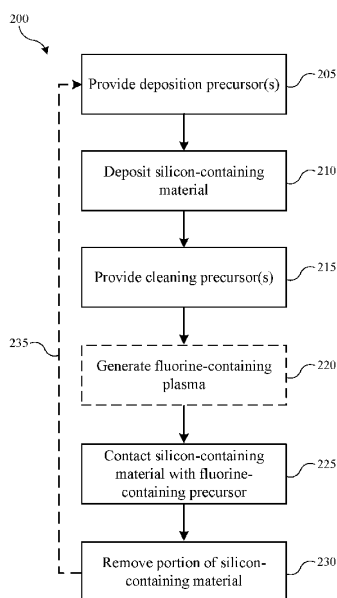


FIG. 2

(57) **Abstract:** Exemplary semiconductor processing methods may include providing one or more deposition precursors to a semiconductor processing chamber. A substrate may be disposed within a processing region of the semiconductor processing chamber. The methods may include depositing a silicon-containing material on the substrate and on one or more components of the semiconductor processing chamber. The methods may include providing a fluorine-containing precursor to the processing region. The fluorine-containing precursor may be plasma-free when provided to the processing region. The methods may include contacting the silicon-containing material on the one or more components of the semiconductor processing chamber with the fluorine-containing precursor. The methods may include removing at least a portion of the silicon-containing material on the one or more components of the semiconductor processing chamber with the fluorine-containing precursor.

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