

ABSTRACT

This invention aims at providing (2,4-dimethylpentadienyl)-(ethylcyclopentadienyl)ruthenium which may contain its related structure compound, from which a ruthenium-containing thin film can be produced; a method of producing the same; a method of producing the ruthenium-containing thin film using the same; the ruthenium-containing thin film; and the like. The invention relates to producing the thin film using, as a precursor, (2,4-dimethylpentadienyl)-(ethylcyclopentadienyl)ruthenium containing the related structure compound in an amount not more than 5% by weight, which can be obtained by separating the related structure compound from (2,4-dimethylpentadienyl)-(ethylcyclopentadienyl)ruthenium containing the related structure compound.