

ABSTRACT

5 The invention provides a process for preparing molybdenum and tungsten oxyhalide
compounds which are useful in the deposition of molybdenum and tungsten containing films
on various surfaces of microelectronic devices. In the process of the invention, a
molybdenum or tungsten trioxide is heated in either a solid state medium or in a melt-phase
reaction comprising a eutectic blend comprising alkaline and/or alkaline earth metal salts.
10 The molybdenum or tungsten oxyhalides thus formed may be isolated as a vapor and
crystallized to provide highly pure precursor compounds such as MoO_2Cl_2 .

FIGURE 1