

A metal and organic composition comprising extensively fluorinated organic compound stable in air, has diunsaturated cycle with 5 or 6 atoms of carbon, and also alkyl derivatives of magnesium or preferably aluminium. The said composition can be used as activator of metallocene complexes of 4-th group of the periodical table of elements to form a catalyst for polymerization of a high activity  $\alpha$  – olefins and with a low metal content.