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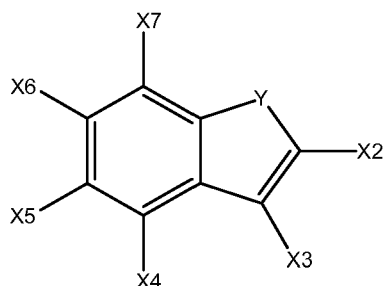
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(54) Title: HALOGEN SUBSTITUTED HETEROCYCLIC HETEROATOM CONTAINING LIGANDS-ALUMOXANE ACTIVATION OF METALLOCENES



(57) Abstract: This invention relates to an activator, catalyst system, and the use thereof. In one aspect, the catalyst system includes one or more polymerization catalysts and at least one activator. The activator comprises one or more heterocyclic heteroatom containing ligands coordinated to an alumoxane, wherein the activator is a reaction product of one or more alumoxanes and one or more heterocyclic heteroatom containing compounds, the one or more heterocyclic heteroatom containing ligands represented by the formula: where Y is O, S, PH or NH; wherein each substituent X2, X3, X4, X5, X6, and X7 is independently selected from the group consisting of hydrogen, chlorine, fluorine, iodine, and bromine, provided at least one of X2, X3, X4, X5, X6 and X7 is not hydrogen when Y is NH; and wherein the ratio of the heterocyclic heteroatom containing ligand to aluminum is between about 0.01 and about 10 molar equivalents. The catalyst system may be supported or non-supported.

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