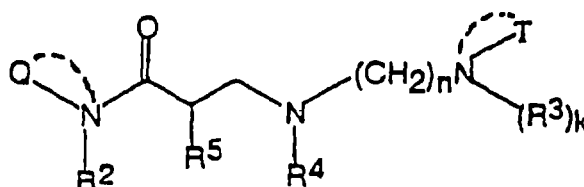




Reactive Amine Catalysts for Use in Polyurethane Polymers

ABSTRACT

The present invention provides amine/amide catalysts for use in catalyzing the formation of polyurethane. The amine/amide catalysts, which have low fugitivity due to their reactivity with isocyanates, and good catalytic activity, have the structure



whercin Q is C_zH_{2z+1} , or $(CH_2)_nN(R^3)_kT$, T is a monovalent C_1 - C_4 alkyl, amino- C_1 - C_4 -alkyl, mono- C_1 - C_4 -alkylamino- C_1 - C_4 -alkyl, or di- C_1 - C_4 -alkylamino- C_1 - C_4 -alkyl group, or T is a divalent alkyl, amine substituted alkyl, alkylaminoalkyl, or alkoxyalkyl group which forms with the nitrogen atom shown in structure (I) to which T is attached a cyclic structure which incorporates up to 6 carbon atoms in the ring as well as the nitrogen atom shown in structure (I), which cyclic structure may be substituted with C_1 to C_4 alkyl;

$k = 0$ or 1 , being 1 if T is a monovalent group and 0 if T is a divalent group;

$R^2 = H$ or C_zH_{2z+1} ; $R^3 = C_zH_{2z+1}$; $R^4 = H$; $R^5 = H$ or ClH_2 ; $n = 2$ to 6 ; and $z = 1$ to 4 . "n" is preferably 2 to 3 and z is preferably 1 . Each R^3 and T may be the same or different, as may each value of n and z . One specific preferred range of structures is those in which Q is C_zH_{2z+1} .

