

distribution such that at least 50% of the porosity is due to pores having an average radius greater than 800 #521 .+RE+RE.+RE

5585447

**CATALYST FOR THE
(CO)POLYMERIZATION OF
ALPHA-OLEFINS, A PROCESS FOR
ITS PREPARATION AND
(CO)POLYMERIZATION PROCESS
MAKING USE THEREOF**

Adisson Emmanuel; Bujadoux Karel; Fontanille Michel; Deffieux Alain Divion, FRANCE assigned to ECP-Enichem Polymeres France S A

This catalyst has the general formula $VX_3, mAlX_3, nZ$, wherein X is a halogen atom, Z is at least one at least partially halogenated, branched or unbranched, saturated hydrocarbon, m is between 0.1 and 10, and n is between 1 and 300. To prepare it, a vanadium halide VX_2 and/or VX_3 is coground with an aluminum halide AlX_3 , and then at least one halogenated hydrocarbon Z is added to the mixture obtained in proportions corresponding to the chosen values of m and n. The invention also relates to the (co)polymerization of alpha-olefins at $20^\circ-350^\circ\text{C}$. in the presence of a catalyst system comprising at least one catalyst as defined above and at least one organometallic activator.

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**CATALYTIC PREPARATION OF
CONDENSATION PRODUCTS OF
FORMALDEHYDE**

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A process for the catalytical preparation of condensation products of formaldehyde, in which formaldehyde or a formaldehyde-forming compound is caused to undergo reaction using a catalyst which has been produced, in the presence of an auxiliary base, from a triazolium salt of formula I (*See Patent for Chemical Structure*) (I) in which R1 and R3 are the same or different and stand for aliphatic groups having from 1 to 30 carbon atoms, optionally substituted aryl groups, optionally substituted aralkyl groups, and/or optionally substituted heteroaryl groups, R2 represents hydrogen, the hydroxymethylene group - C H 2 O H or the hydroxy-hydroxymethylene-methylidyne group -CH(OH)(CH2OH), and R4 denotes hydrogen, a halogen atom, a nitro or cyano group, an aliphatic group having from 1 to 30 carbon atoms, an optionally substituted aryl group, an optionally substituted aralkyl group, an optionally substituted heteroaryl group, an alkoxy group -OR5, a thioether group -SR6, an amino group -NR7R8, an acyl group -COR9 or an ester group -COOR10, where R5, R6, R7, R8, and R9 stand for radicals such as those stated above for R1, and R10 is a C1-C10 alkyl group or an optionally substituted aryl or aralkyl group, or R3 and R4 together form a C3-C5 alkylene or C3-C5 alkenylene group or a C6-C14 alkylene group, or a C7-C14 aralkylene or C8-C14 aralkenylene bridging member, and A is the equivalent of an anion having one or more negative charges for electrical neutralization of the charge on the triazolium cation.

5585508

**METALLOCENES, PROCESS FOR
THEIR PREPARATION AND THEIR
USE AS CATALYSTS**

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