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(54) Title: A PROCESS FOR PREPARATION OF ADIPIC ACID

(57) Abstract: The present invention relates to one-step oxidation process for preparation of cyclohexane to adipic acid, using molecular oxygen, in liquid phase, in the presence of catalyst, containing either cobalt or cobalt and iron. The catalyst is activated outside the reactor and molecular oxygen is used as an oxidant. The use of molecular oxygen as oxidant along with preactivated catalyst in the reactor and also by restricting the conversion of cyclohexane between 20-30 % with catalyst in the reactor results in enhanced selectivity to adipic acid. The reaction mixture of cyclohexane and preactivated catalyst is subjected to oxidation by bubbling pure molecular oxygen while stirring the homogenous mixture while bubbling the oxygen at a predetermined temperature, pressure and space velocity conditions. The product selectivity to form adipic acid is found to be at least 5 % better than the maximum attainable using the conventional processes.



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