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(54) Title: A PROCESS AND SYSTEMS FOR THE EPOXIDATION OF AN OLEFIN

(57) Abstract: A process for the epoxidation of an olefin, which process comprises reacting a feed comprising the olefin, oxygen and a reaction modifier in the presence of a silver-based catalyst with the reaction modifier being present in a relative quantity Q which is the ratio of an effective molar quantity of active species of the reaction modifier present in the feed to an effective molar quantity of hydrocarbons present in the feed, and which process comprises the steps of:- operating at a first operating phase wherein the value of Q is Q1, and- subsequently operating at a second operating phase wherein the feed composition is different from the feed composition employed in the first operating phase, such that the value of Q is Q2, whereby the value of the quotient Q2/Q1 is in the range of from 0.5 to 1.5; a system suitable for performing the process; and a computer program product and a computer system suitable for use in connection with the process.