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(54) Title: START-UP METHOD FOR A PROCESS FOR PREPARING AN OLEFIN OXIDE

(57) Abstract: In a first aspect, the invention relates to a start-up method for a process for preparing an olefin oxide comprising a normal run stage, wherein the normal run stage comprises providing olefin, hydrogen peroxide and organic solvent into an epoxidation zone comprising an heterogeneous epoxidation catalyst, so that a reaction mixture comprising olefin, hydrogen peroxide and organic solvent is formed and subjecting the reaction mixture to epoxidation reaction conditions in the epoxidation zone, thereby obtaining a mixture comprising olefin oxide and organic solvent; wherein the start-up method comprises (a) providing olefin and organic solvent for a first period of time P1 to the epoxidation zone, so that a first mixture 1 is formed, which is essentially free of hydrogen peroxide, and contacting the first mixture 1 over P1 under epoxidation reaction conditions in the epoxidation zone with the heterogeneous epoxidation catalyst; wherein the amount of olefin provided in (a) is lower than the amount intended to be provided in the normal run stage; (b) after the first period of time providing olefin, organic solvent and hydrogen peroxide to the epoxidation zone for a second period of time P2, so that a second mixture 2 is formed, which comprises olefin, organic solvent, and hydrogen peroxide, and contacting the second mixture 2 over P2 under epoxidation reaction conditions in the epoxidation zone with the heterogeneous epoxidation catalyst. A second aspect of the invention is directed to a process for preparing an olefin oxide comprising a normal run stage and a start-up stage, wherein the normal run stage comprises (A) providing olefin, hydrogen peroxide, water and organic solvent into an epoxidation zone comprising an heterogeneous epoxidation catalyst, so that a reaction mixture comprising olefin, hydrogen peroxide, water and organic solvent is formed; (B) subjecting the reaction mixture from (A) to epoxidation reaction conditions in the epoxidation zone, thereby obtaining a mixture comprising olefin oxide, water and organic solvent; (C) removing an effluent stream from the epoxidation zone, comprising olefin oxide, water and organic solvent; wherein the start-up stage comprises steps (a) and (b). In a third aspect, the invention is related to an olefin oxide obtained or obtainable from the process of the second aspect.

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