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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, additive, water and organic solvent into an epoxidation zone comprising a heterogeneous epoxidation catalyst, so that a reaction mixture comprising olefin, hydrogen peroxide, additive, water 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 an organic solvent, an additive, water and optionally an olefin for a first period of time P1 to the epoxidation zone, so that a first mixture 1 is formed, which comprises organic solvent, additive, water and optionally olefin and contacting the first mixture 1 over P1 under epoxidation reaction conditions in the epoxidation zone with the heterogeneous epoxidation catalyst; wherein the additive releases or forms one or more cation(s) M, wherein at the end of P1 the heterogeneous epoxidation catalyst has been contacted with a molar amount M per weight catalyst in the range of from 2500 to 4500 $\mu\text{mol M/kg}$ 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, additive water and organic solvent into an epoxidation zone comprising a heterogeneous epoxidation catalyst, so that a reaction mixture comprising olefin, hydrogen peroxide, additive, 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, additive, water and organic solvent; (C) removing an effluent stream from the epoxidation zone, comprising olefin oxide, additive, water and organic solvent; wherein the start-up stage comprises a step (a). A third aspect of the invention relates to an olefin oxide obtained or obtainable from the process of the second aspect.

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