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(71) Applicant *(for all designated States except US)*: **ENICHEM S.P.A.** [IT/IT]; Piazza Boldrini, 1, I-20097 San Donato Milanese (IT).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: **PAPARATTO, Giuseppe** [IT/IT]; Via Vasari, 7, I-20092 Cinisello Balsamo-Milan (IT). **FORLIN, Anna** [IT/IT]; Via Costituzione, 12, I-35010 Vigonza-Padova (IT). **DE ALBERTI, Giordano** [IT/IT]; Largo Brianzoni 4, I-21010 Besnate-Varese (IT). **D'ALOISIO, Rino** [IT/IT]; Via Romentino, 25/E, I-28100 Novara (IT). **TEGON, Paolo** [IT/IT]; Via Sabbiona, 27/B, I-30030 Oriago-Venezia (IT).

(74) Agents: **DE GREGORI, Antonella** et al.; Ing. Barzanò & Zanardo Milano S.p.A., Via Borgonuovo, 10, I-20121 Milan (IT).

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ACTION

(54) Title: INTEGRATED PROCESS FOR THE PREPARATION OF OLEFIN OXIDES

(57) Abstract: The present invention relates to an integrated process for the preparation in continuous of epoxides which comprises: (a) preparing an alcoholic or hydro-alcoholic solution of hydrogen peroxide in a concentration of over 3 % by weight, using a gaseous stream containing hydrogen, oxygen and an inert gas, in the presence of a bimetallic catalyst based on palladium and platinum as active components; (b) putting the alcoholic or hydro-alcoholic solution of hydrogen peroxide obtained in step (a) in contact with an olefin and a buffering agent, in the presence of an epoxidation catalyst suspended in the reaction solvent, in order to obtain a reaction mixture containing the epoxide corresponding to the olefin, water and alcoholic solvent; (c) treating the alcoholic stream leaving step (b), after separation of the epoxide, in order to eliminate the nitrogenated compounds present; (d) feeding the alcoholic solvent obtained in (c) to step (a). The process may comprise a further step (e), wherein the raw hydro-alcoholic mixture of the flash column bottom, is used, when necessary, for diluting the alcoholic or hydro-alcoholic solution of hydrogen peroxide obtained in step (a) to the value required by the epoxidation plant. The process operates under high safety conditions and with a high overall efficiency, in terms of productivity and selectivity.

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