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(71) Applicant *(for all designated States except US)*: THE DOW CHEMICAL COMPANY [US/US]; 2030 Dow Center, Midland, MI 48674 (US).

(72) Inventors; and
(75) Inventors/Applicants *(for US only)*: KUPERMAN, Alex [CA/US]; 903 Deerfield Court, Midland, MI 48640 (US). BOWMAN, Robert, G. [US/US]; 1307 Kirkland Drive, Midland, MI 48640 (US). CLARK, Howard, W. [US/US]; 4318 Forestview Drive, Midland, MI 48642 (US). HARTWELL, George, E. [US/US]; 2908 Georgetown Drive, Midland, MI 48642 (US). SCHOEMAN, Brian, J. [SE/US]; 410 Lingle Lane, Midland, MI 48642 (US). TUINSTRA, Hendrik, E. [US/US]; 5103 Foster Road, Midland, MI 48642 (US). MEIMA, Garmt, R. [NL/NL]; Ferlemanstraat 75, NL–4535 JB Terneuzen (NL).

(74) Agent: MILLER, William, B.; Intellectual Property, P.O. Box 1967, Midland, MI 48641–1967 (US).

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(54) Title: PROCESS FOR THE HYDRO–OXIDATION OF OLEFINS TO OLEFIN OXIDES USING OXIDIZED GOLD CATALYST

(57) Abstract

A process and catalyst for the hydro–oxidation of an olefin having three or more carbon atoms, such as propylene, to form an olefin oxide, such as propylene oxide. The process involves contacting the olefin with oxygen under reaction conditions in the presence of hydrogen and a catalyst. The catalyst contains oxidized gold dispersed on a titanium–containing support, preferably, a support having a plurality of titanium coordination environments, for example, titanium grafted onto a titanosilicate. Selectivity to olefin oxide is high at good conversion of the olefin. The catalyst uses hydrogen efficiently and exhibits a long lifetime.