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(71) Applicant *(for all designated States except MN)*: ARCO CHEMICAL TECHNOLOGY, L.P. [US/US]; Two Greenville Crossing, Suite 238, 4001 Kennett Pike, Greenville, DE 19807 (US).

(71) Applicant *(for MN only)*: ARCO CHEMIE TECHNOLOGIE NEDERLAND B.V. [NL/NL]; Theemsweg 14, NL-3197 KM Botlek Rotterdam (NL).

(72) Inventors: KAHN, Andrew; 48 White Pine Court, Lafayette Hill, PA 19382 (US). GAFFNEY, Anne; 805 Copeland School Road, West Chester, PA 19380 (US). PITCHAI, Rangasamy; 207 Fowler Drive, West Chester, PA 19382 (US).

(74) Agent: CROPP, John, Anthony, David; Mathys & Squire, 100 Gray's Inn Road, London WC1X 8AL (GB).

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(54) Title: PROPYLENE OXIDE PROCESS USING ALKALINE EARTH METAL COMPOUND-SUPPORTED SILVER CATALYSTS

(57) Abstract

Propylene is oxidized to propylene oxide in the vapor phase using an oxygen-containing gas and a supported silver catalyst comprising silver and a support comprised in whole or in substantial part of an alkaline earth metal-containing compound selected from alkaline earth metal titanates, tribasic calcium phosphate, calcium molybdate and calcium fluoride. Such supports provide significantly higher selectivity to the desired epoxide than would be expected from the performance of related materials. Propylene oxide selectivity may be further enhanced through the introduction of nitrogen oxide species such as NO, aliphatic halides such as ethyl chloride, and carbon dioxide into the oxygen-containing gas.