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(54) Title: DIRECT EPOXIDATION PROCESS USING IMPROVED CATALYST COMPOSITION

(57) Abstract: Catalysts useful for the direct epoxidation of olefins are disclosed. The catalysts comprise a noble metal, lead, bismuth, and a titanium or vanadium zeolite. The noble metal, lead, and bismuth may be supported on the titanium or vanadium zeolite. The catalyst may also be a mixture comprising the titanium or vanadium zeolite and a supported catalyst comprising the noble metal, lead, bismuth, and a carrier. The invention includes a process for producing an epoxide comprising reacting an olefin, hydrogen and oxygen in the presence of the catalyst. The process results in significantly reduced alkane byproduct formed by the hydrogenation of olefin.



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