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(54) Title: CATALYTIC CONVERTER SYSTEM AND PROCESS

(57) Abstract

A reactor (1) and process is for the production of oxirane compounds by reaction of an olefin such as propylene with an organic hydroperoxide using a solid contact catalyst, characterized by the following features: (1) the reactor (1) is divided into a series of separate zones (8, 17, 24, 30, 36), each zone containing a bed (2, 3, 4, 5, 6) of solid epoxidation catalyst; (2) conditions are maintained so as to provide the liquid phase without substantial vapor formation throughout the entire reactor; (3) cold reactor feed (7) is provided which is preheated to reaction temperature by separate indirect heat exchange with reaction liquid from various of the separate reactor zones; (4) reaction liquid (38) from the last of the series of reaction zones is reduced in pressure to form a gas–liquid mixture at a lower temperature, and this gas liquid mixture is heated by indirect heat exchange with the reaction liquid from at least one of the separate reactor zones.

