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(54) Title: OLEFIN UPGRADING PROCESS WITH GUARD BED REGENERATION

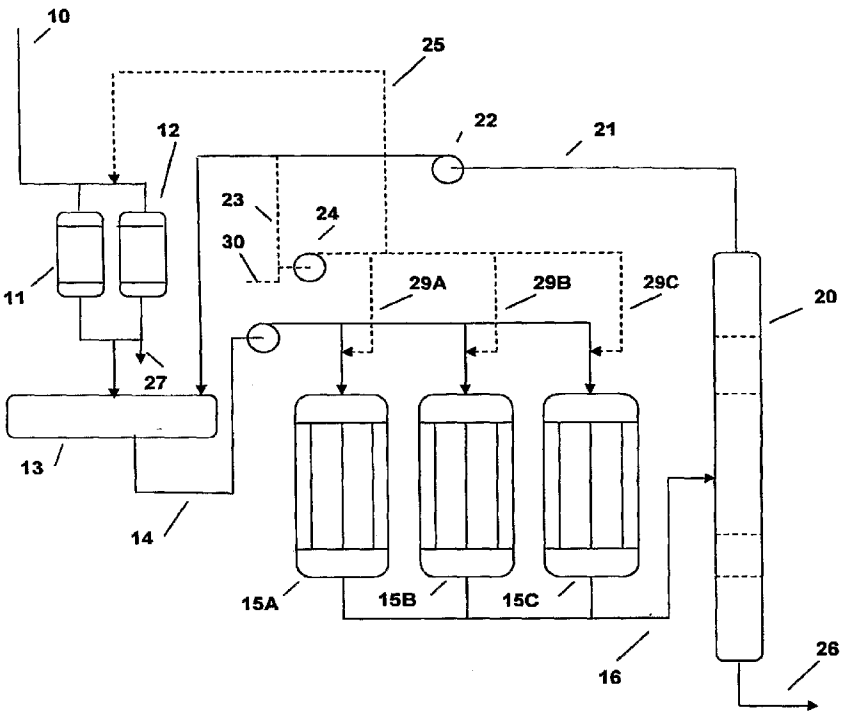


Figure 1

(57) Abstract: A process for the regeneration of materials used in the guard beds preceding the reactors used in an olefin conversion process which converts olefinic refinery streams to higher boiling hydrocarbon products by polymerization (oligomerization) or alkylation of aromatics including benzene. Products of the process may include olefin oligomers and alkylaromatics in the gasoline boiling range as well as alkylaromatic petrochemicals such as cumene and ethylbenzene. The process is integrated with the olefin conversion process to ensure continuous operation of the olefin conversion without sending the feedstock containing the contaminant(s) to the reactor. The process uses reaction products from the olefin conversion process to regenerate the guard bed material and so is economically attractive since it does not require the use of separate purge, regeneration feed and separation systems. A plurality of guard beds is used, each containing a material which removes catalyst poisons. The guard beds are operated on a swing system in which one or more beds is kept on stream to remove the contaminant(s) while one or more of the remaining beds is being purged or regenerated. In this way, continuity of operation is assured. The regeneration medium is a product stream from the olefin conversion process.

WO 2008/016636 A3

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