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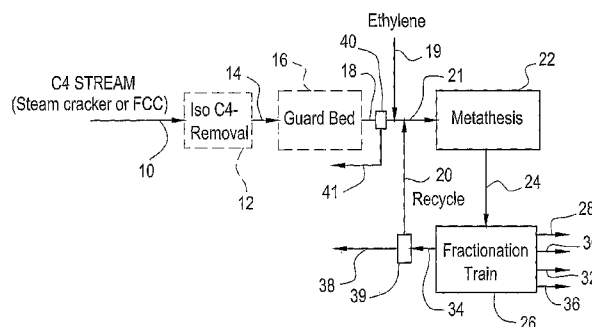
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(54) Title: BUTANE REMOVAL IN C4 UPGRADING PROCESSES



(57) Abstract: Disclosed herein is a process for producing a selected butane, comprising obtaining a C4 feed stream comprising C4 paraffins and C4 olefins, splitting the C4 feed stream to form a first stream comprising a first butane and a second stream comprising a second butane, isomerizing at least a part of the second stream to convert a portion of the second butane to the first butane, and recycling at least some of the isomerized part of the second stream to the splitting step, wherein a portion of at least one of the C4 feed stream and the second stream is passed through a facilitated transport membrane to remove butanes, forming at least one purge stream comprising butanes. A process for the conversion of C4 olefins, comprising obtaining a C4 feed stream comprising C4 paraffins and C4 olefins, including 1-butene and 2-butene, and reacting the C4 feed stream in a metathesis reactor to form a second stream is also disclosed. The second stream is fractionated to form one or more product streams and a recycle stream primarily containing C4 olefins and C4 paraffins. The recycle stream and/or the C4 feed stream is passed through a facilitated transport membrane to remove butanes, forming at least one purge stream.



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