

Title (en)  
IMPROVED OLEFIN PLANT RECOVERY SYSTEM EMPLOYING A COMBINATION OF CATALYTIC DISTILLATION AND FIXED BED CATALYTIC STEPS

Title (de)  
VERBESSERTES, EINE KOMBINATION VON KATALYTISCHER DESTILLATION UND FESTBETTKATALYSESCHRITTEN ANWENDENDEN RÜCKGEWINNUNGSSYSTEM FÜR OLEFINANLAGEN

Title (fr)  
SYSTEME AMELIORE DE RECUPERATION D'INSTALLATION DE PRODUCTION D'OLEFINES METTANT EN OEUVRE UNE COMBINAISON DE DISTILLATION CATALYTIQUE ET DES ETAPES DE CATALYSE A LIT FIXE

Publication  
**EP 1711581 A1 20061018 (EN)**

Application  
**EP 04703646 A 20040120**

Priority  
US 2004001379 W 20040120

Abstract (en)  
[origin: WO2005080530A1] Presented is an improvement to a previous invention involving the catalytic hydrogenation of the C2 to C5 and heavier acetylenes and dienes in a thermally cracked feed stream without significantly hydrogenating the C2 and C3 olefins. The improvement involves the use of a fixed bed hydrogenation reactor system in combination with a modified version of the catalytic distillation unit used in the prior art. The modification to the catalytic distillation unit involves improvement of the liquid recycle scheme. The fixed bed reactors combined with the modified catalytic distillation allows for 100% conversion of acetylene and helps to maintain high conversion of the other dienes and acetylenes with no ethylene or propylene conversion under a variety of conditions. These condition variations include but are not limited to the feed diene and acetylene composition, the mol% carbon monoxide in the feed, and catalyst deactivation. With catalytic distillation alone, complete conversion of the acetylene as stated above can not be achieved without ethylene loss, nor would satisfactory operation and control be possible under the variety of conditions experienced during a commercial operation.

IPC 8 full level  
**C10G 7/00** (2006.01); **C10G 7/12** (2006.01); **C10G 45/32** (2006.01); **C10G 45/36** (2006.01); **C10G 45/40** (2006.01); **C10G 49/00** (2006.01); **C10G 65/06** (2006.01); **C10G 70/02** (2006.01)

CPC (source: EP)  
**C10G 45/36** (2013.01); **C10G 45/40** (2013.01); **C10G 49/002** (2013.01); **C10G 65/06** (2013.01)

Citation (search report)  
See references of WO 2005080530A1

Designated contracting state (EPC)  
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)  
**WO 2005080530 A1 20050901**; BR PI0418414 A 20070515; CA 2553962 A1 20050901; CA 2553962 C 20110830; CN 1961059 A 20070509; CN 1961059 B 20100428; EP 1711581 A1 20061018; JP 2007518864 A 20070712; JP 4376908 B2 20091202

DOCDB simple family (application)  
**US 2004001379 W 20040120**; BR PI0418414 A 20040120; CA 2553962 A 20040120; CN 200480042493 A 20040120; EP 04703646 A 20040120; JP 2006551012 A 20040120