

Title (en)
CO2 TREATMENTS USING ENZYMATIC PARTICLES SIZED ACCORDING TO REACTIVE LIQUID FILM THICKNESS FOR ENHANCED CATALYSIS

Title (de)
CO2-BEHANDLUNGEN MITTELS ENTSPRECHEND DER DICKE EINES REAKTIVEN FLÜSSIGFILMS SORTIERTER ENZYMPARTIKEL FÜR VERBESSERTE KATALYSE

Title (fr)
TRAITEMENTS DE CO2 UTILISANT DES PARTICULES ENZYMATIQUES DIMENSIONNÉES EN FONCTION DE L'ÉPAISSEUR D'UN FILM DE LIQUIDE RÉACTIF POUR UNE CATALYSE AMPLIFIÉE

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EP 2678094 A1 20140101 (EN)

Application
EP 12742487 A 20120203

Priority
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Abstract (en)
[origin: WO2012103653A1] Techniques for absorbing or desorbing CO2 include sizing enzymatic particles in accordance with the reactive liquid film thickness (drf) of the reaction medium to increase enzymatic catalysis of the CO2hydration or dehydration reaction. Absorption may include contacting a CO2 containing gas with an aqueous absorption mixture and determining (drf)of the C2O2 hydration reaction, wherein (drf) = (d?)/ Ha where Ha2 = (k1.Dco2/(kL)2, Ha > 2 and k1 = k2Cab, k2 being the CO2 hydration kinetic constant in the mixture and Cab being the concentration of the absorption compound. The mixture may be under conditions that provide(drf) that is smaller than the liquid film thickness (d?) through which mass transfer of the CO2occurs. The size ratio of the enzymatic particles and(drf) enhances enzymatic catalysis. Various implementations including processes, systems, formulations and kits are provided.

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Citation (third parties)
Third party : Peter Bauditz
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Third party :
• "COMMENTS ON "GAS ABSORPTION WITH CATALYTIC REACTION"", CHEMICAL ENGINEERING SCIENCE, vol. 36, no. 6, 1981, pages 1097 - 1099, XP055202868
• ERDOGAN ALPER ET AL.: "SOME ASPECTCS OF GAS ABSORPTION MECHANISM IN SLURRY REACTORS", MASS TRANSFER WITH CHEMICAL REACTION IN MULTIPHASE SYSTEMS, vol. 72/73, 1983, pages 199 - 224, XP003036018

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