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Title: DISTILLATION REACTOR MODULE

Abstract: The distillation reactor consists of a reactor apparatus with corresponding method of upstream distilling and purification of carbon based liquid or liquidized streams for use as fuels, lubricating oils and or gaseous energy and electricity production. The distillation reactor consolidates the atmospheric and vacuum distillation **processes** along with desalting, defueling, deasphalting, fractionation, thin/wiped film evaporation and Hydro finishing into an advanced high velocity, high volume single reactor system. Carbon based feed streams include either a single stream or preferably, a combined stream of liquefied coal slurries, crude oils, spent oils, Pyrolytic oils and or peat or other plant carbon derived liquids, vapors, mists or gases. The method further consists of controlling the mix ratio, flow velocity, sequential fractionation and filtration technology and **processing** atmospheres of the carbon feeds with the reactor apparatus. The combined apparatus and method allows for a refinery to consistently produce a finished barrel of oil well below traditional costs and at a higher efficiency than current art and prior art.

Classifications:

International (IPC 8-9): B01D3/00 B01D3/06 B01D3/10 B01D3/26 B01D3/32 B01D39/20 B01D53/48 B01D53/62 B01D59/04 B01J B01J19/24 B01J19/26 B01J2/00 B01J6/00 B01J8/24 B02C23/00 B03C1/00 B22F3/10 B22F9/00 B29B17/00 C01B17/027 C01B17/74 C02F1/00 C10B49/12 C10G1/00 C10G11/18 C10G33/00 C10G45/00 C10G57/00 C10G7/00 C10G7/06 C10G9/04 C10J3/72 C10L9/10 C22B13/00 C22B15/00 C22B21/00 C22B7/00 C22B9/00 F03G7/00 F27B17/00 G21C1/02 G21D5/00 H01M10/54 H01M8/00 H02K55/02 H02K7/09 (Advanced/Invention)

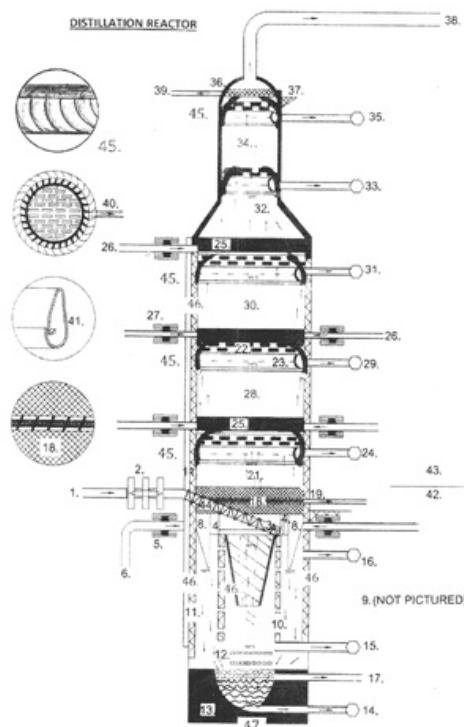
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US: 196/46 202/232 209/213 210/251 241/301 241/65 266/160 310/90.5 422/129 422/170 422/187 422/198 422/255 423/522 423/567.1 429/49 505/163 505/166 60/698

JP F-Term: 4D036 4D076 4D076/AA22 4D076/AA23 4D076/AA24 4D076/BB03 4D076/BB18 4D076/CA11 4D076/CA19 4D076/CD21 4D076/DA02 4D076/DA10 4D076/DA35 4D076/EA04 4D076/EA12 4D076/EA15 4D076/FA03 4D076/FA12 4D076/FA18 4D076/FA20 4D076/FA33 4D076/HA13 4D076/HA20 4D076/JA06

JP F-Index: B01D3/26/Z B01D59/04

PatBase - US2016030856_AA



Family:

Publication number	Publication date	Application number	Application date
CA2907677 AA	20150921	CA20142907677	20140318
EP2969180 A2	20160120	EP20140762668	20140318
EP2969180 A4	20161005	EP20140762668	20140318
IL242590 A0	20160131	IL20140242590	20140318
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US2016030856 AA	20160204	US20140776734	20140318
US2016032904 AA	20160204	US20140776736	20140318
US2016045841 AA	20160218	US20140776732	20140515
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WO14146129 A3	20150129	WO2014US31118	20140318
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WO14200605 A2	20141218	WO2014US31116	20140318
WO14200605 A3	20150326	WO2014US31116	20140318
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WO14200605 A9	20150205	WO2014US31116	20140318

Priority:

US20130800209P 20130315	US20130801170P 20130315	US20130801491P 20130315
US20140776734 20140318	US20140776736 20140318	WO2014US31118 20140318
WO2014US31116 20140318	US20140776732 20140515	WO2014US38290 20140515

Probable Assignee: TRANSTAR GROUP LLC

Assignee(s): (std): BRADLEY RANDALL ; KALPAN ALLEN ; KAPLAN ALLEN ; TRANSTAR GROUP LTD

Assignee(s): TRANSTAR GROUP LLC

Inventor(s): (std): KAPLAN ALLEN ; BRADLEY RANDALL ; KALPAN ALLEN

Agent(s): ADE AND CO INC; NELLIGAN OBRIEN PAYNE LLP; PERRONACE ANDREA; HERSHKOVITZ ABRAHAM ET AL; HERSHKOTIZ ABRAHAM ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU
CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN
IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW
MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM
SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: PROCEDE DE PREPARATION DE CATALYSEURS CONTENANT DE L'ALUMINE, PRODUITS EN RESULTANT ET LEURS APPLICATIONS METHOD OF PREPARATION OF **CATALYST** CONTAINING ALUMINA PRODUCTS AND APPLICATIONS RESULTING (Machine translation)

Abstract: Source: FR1230742A [FR] (Claim 1) 1. Un procede de fabrication d'une composition d'hydrogel, ledit procede etant remarquable! notamment par les caracteristiques suivantes, considerees isolement ou en combinaisons: a. On melange intimement une argile avec un hydrogel synthetique d'alumine puis on seche le produit ainsi. obtenu, l'argile constituant 20 a 85 percent en poids des solides presents dans la composition seche; b. Le sechage est effectue par pulverisation; c. On melange l'argile avec une bouillie aqueuse d'un hydrogel synthetique forme essentiellement d'alumine et de silice, dans lequel l'alumine predomine; d. La proportion d'argile est telle que le produit obtenu contienne 33 a 39 percent d'Al₂O₃ et 20 percent a 48 percent de SiO₂, en produits secs; e. On disperse intimement l'argile dans une solution aqueuse d'aluminate alcalin a partir de! laquelle doit etre forme l'hydrogel, on precipite un hydrogel d'alumine de ladite solution dans laquelle l'argile est a l'etat disperse et on recupere le produit ainsi obtenu, la quantite d'alumine etant de 33 a 89 percent d'Al₂O₃ et celle de silice de 20 a 48 percent de SiO₂, ces valeurs etant rapportees a l'etat sec; /. Un silicate alcalin est melange avec l'aluminate alcalin avant precipitation de l'hydrogel; g. L'aluminate alcalin est l'aluminate de sodium; h. On disperse intimement l'argile dans un reactif acide susceptible de precipiter l'alumine de la solution d'aluminate alcalin, on ajoute cette dispersion a une solution aqueuse d'aluminate alcalin dans des conditions telles qu'il precipite un hydrogel d'alumine synthetique et on recueille le produit ainsi forme, la quantite d'hydrogel synthetique presente dans ledit produit etant de 15 a 80 percent, la quantite d'argile de 20 a 85 percent, la quantite totale de Al₂O₃, de 33 a 89 percent et la quantite totale de SiO₂ de 10 a 55 percent, ces pourcentages etant calcules en poids secs sur un total de 100 percent, impuretes exclues; i. L'argile est peptisee au moyen d'un agent peptisant sous forme de bouillie avant d'etre intimement melangee avec l'hydrogel d'alumine synthetique; j. L'argile est du type kaolinitique et est prealablement traitee au moyen d'un acide pour enlever une portion de l'alumine.

Machine translation: (Claim 1) 1. A **process** for producing a hydrogel composition, said method being remarkable! including the following characteristics, considered separately or in combinations: a. We intimately mixed with a **clay** hydrogel synthetic alumina and then dry the product well. obtained, the **clay** constituting 20 to 85 percent by weight of solids present in the dry composition, b. The spray drying is effected by c. **Clay** is mixed with an aqueous slurry of a synthetic hydrogel consisting essentially of alumina and silica, wherein alumina predominates d. The proportion of **clay** is such that the resulting product contains 33 to 39 percent to 20 percent Al₂O₃ and SiO₂ was 48 percent in dry e. Intimately dispersed **clay** in an aqueous solution of alkali aluminate is from! which must be formed hydrogel, it precipitated an alumina hydrogel of said solution wherein the **clay** is in the dispersed state is recovered and the resulting product, the quantity of alumina being 33 to 89 percent of that of silica and Al₂O₃ 20 to 48 percent SiO₂, these values being based on the dry state; /. An alkali metal silicate is mixed with the alkali aluminate before precipitation of the hydrogel; g. The alkali aluminate is sodium aluminate; h. Intimately dispersing the **clay** in an acidic reagent capable of precipitating alumina from alkali aluminate solution was added the dispersion an aqueous solution of alkali aluminate under such conditions that a precipitated alumina hydrogel synthetic and the product was collected and form, the amount of synthetic hydrogel present in said product being 15 to 80 percent, the amount of **clay** from 20 to 85 percent, the total quantity of Al₂O₃ from 33 to 89 percent and the amount Total SiO₂ 10 to 55 percent, these percentages being calculated on a dry weight of 100 percent, excluding impurities; i. The **clay** is peptized by a peptizing agent in slurry form before being thoroughly mixed with the alumina hydrogel synthetic j. The **clay** is kaolinitic type and is pretreated using an acid to remove a portion of alumina.

Classifications:

International (IPC 8-9): B01J21/16 B01J23/882 (Advanced/Invention);

B01J21/00 B01J23/76 (Core/Invention)

International (IPC 1-7): C10G11/04

CPC: B01J21/16 B01J23/882

European: B01J21/16 B01J23/882

Family:

Publication number	Publication date	Application number	Application date
FR1230742 A	19600919	FR19590798067	19590619

Priority:

19580619 FR19590798067 19590619

Probable Assignee: NAT ALUMINATE CORP

Assignee(s): (std) NAT ALUMINATE CORP

Assignee(s): NATIONAL ALUMINATE CORP

Figure 1

JP F-Index: A21D13/00 A21D13/47 A23C15/12 A23G9/00/101 A23G9/02 A23G9/32 A23L1/16/A A23L1/212/A A23L1/24/A A23L1/30/B A23L1/32/Z A23L1/39 A23L15/00/Z A23L19/00/A A23L2/00/F A23L23/00 A23L27/60/A A23L33/12 A23L33/135 A23L7/109/A C12N1/12/C A21D2/08 A21D2/36 A23C11/10 A23K1/14 A23K1/16/304/B A23K1/16/304/C A23K10/30 A23L1/10/Z A23L1/30/Z A23L2/52 A23L2/60 A23L2/62 A23L2/66 A23L7/10/Z C12N15/00/A A23L33/105 C12N1/12/A C12N15/00/ZNA/A C12N15/31 A23K1/16/301/H A23K10/20 A23K20/116 A23K20/158 A23K20/163 A23K20/179 A23K20/24 C12N1/12/ZNA/C C12N15/09/Z A23L31/00 A23L33/115/ZNA C12N15/11/Z A23C9/13 A23D7/00 A23D7/00/500 A23D7/005 A23D7/015 A23G1/00 A23G1/56 A23K10/00 A23L2/38/F A23L33/10 A23L5/00/K A23L7/126 C12N15/10/200/Z A21D13/06 A21D13/40 A21D13/80 A21D2/14 A23L2/56 A23L7/109/E C12N15/11 C12N5/04 C12P7/64

Family:

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AU2009303354 AA	20100422	AU20090303354	20091014	
AU2009303354 BB	20150903	AU20090303354	20091014	
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Priority:

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Probable Assignee: SOLAZYME INC

Assignee(s): (std): ALGENIST HOLDINGS INC ; ARANA FELIPE ; AVILA JEFF ; BALIU ENRIQUE ; BROOKS GEOFFREY ; FRANKLIN SCOTT ; DECKER STEPHEN M ; PIECHOCKI JOHN ; CORAGLIOTTI ANNA ; DAY ANTHONY G ; NORRIS LESLIE M ; NORRIS LESLIE M ; CORBION BIOTECH INC ; SOLAZYME INC ; RAKITSKY WALTER ; ZDANIS DANA ; WITTENBERG JON ; TERRAVIA HOLDINGS INC

Assignee(s): SIENA LENDING GROUP LLC ; ALGENIST BRANDS LLC ; N A

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Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW