

Search history

Search 1: FT=(zeolite and chrome and silica) (Results 2117)
Search 2: FT=(ethanol and propylene) (Results 250557)
Search 3: FT=(1 and 2) (Results 520)
Search 4: FT=((3) AND PD=(2009 OR 2010 OR 2006 OR 2008 OR 2007 OR 2004 OR 2005 OR 2003 OR 1998 OR 2002 OR 2001 OR 1994 OR 1996)) (Results 339)
Search 5: FT=(catalyst and 3) (Results 323)
Search 6: FT=(catalyst and 4) (Results 208)
Search 7: FT=(PROCESS FOR PREPARING and propylene) (Results 66772)
Search 8: FT=(1 and 8) (Results 2108)
Search 9: FT=(1 and 7) (Results 121)

1) Family number: 243687 (US3364136A)

© PatBase

Title: NOVEL CYCLIC CATALYTIC PROCESS FOR THE CONVERSION OF HYDROCARBONS

Abstract: Source: GB1174569A 1,174,569. Regenerating cracking catalysts. MOBIL OIL CORP. 9 Dec., 1966 [10 Dec., 1965], No. 55193/66. Heading B1E. [Also in Division CI] In a process for the continuous catalytic conversion of an organic charge comprising contacting the charge with a catalyst system in a conversion zone so as to effect conversion of the organic charge with concomitant deposition of coke on the catalyst, and passing the catalyst through a regeneration zone in order to burn off the carbonaceous deposit thereby forming CO+CO₂, the catalyst system comprises a first component which is a solid material effective to promote the conversion admixed with a second component which is a crystalline **zeolite** effective to oxidise CO within its pore structure but not n-butane molecules. Preferably the pore size is 3-5S. Component one may be selected from Cr, Ni, Fe, Mo, Co, Pt, Pd, Cu and Zn.

Classifications:

International (IPC 8-9): B01D53/62 B01J29/06 B01J29/70 B01J38/12 C01B31/20 C07C2/02 C07C45/34 C07C45/35 C07C45/36 C07C7/148 C10G27/04 (Advanced/Invention); B01D53/62 B01J29/00 B01J38/00 C01B31/00 C07C2/00 C07C45/00 C07C7/00 C10G27/00 (Core/Invention)

International (IPC 1-7): B01J19/14 B01J8/00 C01B31/18 C01B31/20 C01B33/28 C07B29/00 C07B3/00 C07C7/13 C07C7/148 C10G11/04 C10G27/00

CPC: C10G27/04 Y02C10/04 B01D53/62 B01J29/70 C10G11/00 C10G11/05 C07C45/36 B01J29/06 B01J38/12 C07C2/02 C07C7/14816 C07C45/34 C07C45/35 C07C2529/06 Y02P20/584 C01B32/50

European: 124AA8D1A 23B5D3D2 B01D53/62 B01J29/06 B01J29/70 B01J38/12 C01B31/20 C07C2/02 C07C45/34 C07C45/35 C07C45/36 C07C7/148B2 M07C529/06

US: 208/113 208/118 208/120 208/120.01 208/120.15 208/2422/211 423/212 423/213.2 423/328.1 423/600 502/38 502/42 585/539 585/653 585/899 60/299 60/311

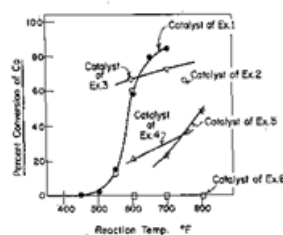
PatBase - US3181928_A

May 4, 1965

V. J. FRILETTE ET AL
PROCESS FOR PREPARING NAHCO₃
Filed Feb. 28, 1960

3,181,928

FIG. 1



INVENTORS
Vincent J. Frilette
Paul B. Meitz
Attorney

Family:

Publication number	Publication date	Application number	Application date
DE1232569 B	19670119	DE1961S072073	19610114
DE1289048 B	19690213	DE1961S094656	19610114
DE1289048 C2	19691016	DE1961S094656	19610114
DE1467160 A1	19690410	DE19611467160	19610114
DE1593119 A1	19700430	DE19661593119	19661209

DE1593119 B2	19730405	DE19661593119	19661209
DE1593119 C3	19731115	DE19661593119	19661209
FR1285310 A	19620223	FR19610849144	19610109
FR93806 E	19690523	FR19660086959	19661209
GB1174569 A	19691217	GB19660055193	19661209
GB979381 A	19650101	GB19610000415	19610104
GB979382 A	19650101	GB19640039259	19610104
GB979383 A	19650101	GB19640039260	19610104
US3136713 A	19640609	US19600039868	19600630
US3181928 A	19650504	US19600004797	19600126
US3364136 A	19680116	US19650513063	19651210

Priority:

US19600002599 19600115 US19600004797 19600126 US19650513063 19651210
US19600039868 19600630

Probable Assignee: MOBIL OIL CORP

Assignee(s): (std): MOBIL OIL CORP ; SOCONY MOBIL OIL CO ; SOCONY MOBIL OIL CO INC

Assignee(s): MOBIL OIL CORP NEW YORK N Y V ST A

Inventor(s): (std): BURG WEISZ PAUL ; FRILETTE VINCENT JOSEPH ; JOSEPH FRILETTE VINCENT ; LEAMAN WILBUR KAUFMANN ; MIALE JOSEPH NICOLAS ; WEISZ PAUL BURG ; YNEN CHEN NAI ; YUEN CHEN NAI ; WEISZ PAUL B ; NICOLAS MIALE JOSEPH ; MIALE JOSEPH N ; FRILETTE VINCENT J

Inventor(s): WEISZ PAUL BURG MEDIA PA ; CHEN NAI YNEN ; CHEN NAI YUEN CHERRY HILL N J ; CHEN NAI YUEN CHERRY HILL NJ

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
DE1232569 B	19670119	LSPB	+	published / reissued	
DE1289048 B	19690213	LSPB	+	published / reissued	
DE1289048 C2	19691016	LSGT	+	granted / extensions (spc, cpc, pte)	
DE1467160 A1	19690410	LSPB	+	published / reissued	
DE1593119 A1	19700430	LSPB	+	published / reissued	
DE1593119 A1	19731115	LSGT	+C3	GRANT AFTER TWO PUBLICATION STEPS (3RD PUBLICATION)	
DE1593119 B2	19730405	LSPB	+	published / reissued	
DE1593119 C3	19731115	LSGT	+	granted / extensions (spc, cpc, pte)	
FR1285310 A	19620223	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1174569 A	19691217	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1174569 A	19700429	LSGT	+PS	PATENT SEALED	
GB1174569 A	19760707	LSLE	-PLNP	PATENT LAPSED THROUGH NONPAYMENT OF RENEWAL FEES	
GB979381 A	19650101	LSGT	+	granted / extensions (spc, cpc, pte)	
GB979382 A	19650101	LSGT	+	granted / extensions (spc, cpc, pte)	
GB979383 A	19650101	LSGT	+	granted / extensions (spc, cpc, pte)	
US3136713 A	19640609	LSGT	+	granted / extensions (spc, cpc, pte)	
US3181928 A	19650504	LSGT	+	granted / extensions (spc, cpc, pte)	
US3364136 A	19680116	LSGT	+	granted / extensions (spc, cpc, pte)	

2) Family number: 30543285 (US3508867A)

© PatBase

Title: CRYSTALLINE ALUMINOSILICATES

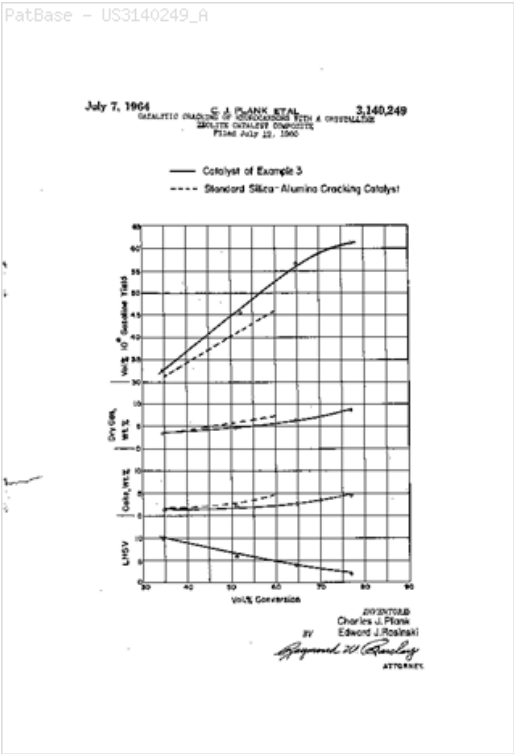
Abstract: Source: US3508867A ABSTRACT OF THE DISCLOSURE Crystalline aluminosilicates of the molecular sieve type having non-metallic ions such as hydrogen or ammonium lg ions in combination with metallic cations having a valence greater than one selected from Groups I-B through VIII of the Periodic Table. The compositions are prepared by treating a crystalline aluminosilicate with a solution containing the desired ions until such time as „q the aluminosilicate is base-exchanged so as to contain combinations of the aforementioned metallic and non-metallic cations. The compositions have particular use as catalysts for the conversion of hydrocarbons. This application is a continuation-in-part of copending application Ser. No. 754,915 filed Aug. 14, 1958, now U.S. Patent 3,140,322.

Classifications:

International (IPC 8-9): B01J20/10 B01J20/18 B01J21/00 B01J21/12 B01J21/16 B01J29/00 B01J29/06 B01J29/08 B01J29/28 B01J29/50 B01J29/70 B01J29/80 C07C4/06 C10G11/00 C10G11/02 C10G11/05 C10G13/02 C10G23/02 C10G35/06 C10G35/095 C10G45/64 C10G47/16 C10G49/08 C10G51/02 (Advanced/Invention); B01J29/08 B01J29/70 (Advanced/Non-invention); B01J20/10 B01J21/00 B01J29/00 C07C4/00 C10G11/00 C10G35/00 C10G45/58 C10G47/00 C10G49/00 C10G51/00 (Core/Invention); C10G (Subclass/Invention)

International (IPC 1-7): B01J11/32 B01J11/40 B01J11/52 B01J11/58 B01J21/00 B01J21/12 B01J29/06 C01B33/28 C10G11/02 C10G11/04 C10G11/05 C10G11/18 C10G13/02 C10G13/04 C10G23/02

C10G37/02 C10G47/18
CPC: B01J29/7003 B01J29/80 B01J20/18 B01J21/00 B01J21/12
B01J29/061 B01J2229/36 B01J29/085 B01J29/146 B01J29/185
B01J29/50 B01J29/54 B01J29/7053 B01J29/7065 B01J29/7607
C10G35/095 C10G51/026 Y10S423/21 Y10S423/24 Y10S423/32
Y10S423/37 B01J21/16 B01J29/082 B01J29/084 B01J29/087
B01J29/088 B01J29/7407 C10G11/04 B01J29/7015 B01J20/10
B01J29/06 B01J29/70 B01J2229/26 B01J2229/42 C07C4/06
C07C2529/06 C10G11/05 C10G45/64 C10G47/16 C10G49/08
European: 124AA 124AA9B2 12G4A3E2F 23B5D3 B01J20/10
B01J20/18 B01J21/00 B01J21/12 B01J21/16 B01J29/06 B01J29/06D
B01J29/08W B01J29/08Y B01J29/08Z1 B01J29/08Z2 B01J29/50
B01J29/70 B01J29/70D B01J29/74A B01J29/80 C07C4/06
C10G11/04 C10G11/05 C10G35/095 C10G45/64 C10G47/16
C10G49/08 C10G51/02D L01J229/26 L01J229/36 L01J229/42
L01J29/08W L01J29/08Y L01J29/08Z L01J29/08Z1 L01J29/08Z2
L01J29/14Y L01J29/18Z L01J29/50 L01J29/54 L01J29/70A
L01J29/70Z2 L01J29/70Z8 L01J29/76A M07C529/06
US: 208/11.1 208/111 208/111.01 208/111.15 208/111.35 208/119
208/120.01 208/120.15 208/120.25 208/120.35 208/2 208/59 208/75
23/111 252/455Z 423/700 423/DIG.21 423/DIG.24 423/DIG.32
423/DIG.37 502/60 502/62 502/65 502/67 502/70 502/74 502/79
502/80 568/698



Family:

Publication number	Publication date	Application number	Application date
AT256295 B	19670810	AT19610005386	19610712
AT257786 B	19671025	AT19620000200	19620111
AT257788 B	19671025	AT19650011276	19610712
AT270030 B	19690410	AT19620009798	19621214
AU3346363 A1	19650128	AU19630033463	19630726
AU3346463 A1	19650128	AU19630033464	19630726
AU3805163 A1	19650527	AU19630038051	19631126
BE612553 A	00000000		00000000
BE612554 A	00000000		00000000
BE613178 A	00000000		00000000
BE640858 A	19640401		19631205
BR6130715 A0	19730104	BR19610130715	19610711
CH476829 A	19690815	CH19640003529	19640318
DE1249834 B	00000000		00000000
DE1261262 B	19680215	DE19625077500	19620111
DE1271870 B	19680704	DE19631271870	19631205
DE1297606 B	19690619	DE19645090084	19640318
DE1297792 B	19690619	DE19645091643	19640620
DE1442834 A1	19690508	DE19621442834	19620111
DE1442847 A1	19690731	DE19621442847	19621212
DE1442867 A1	19681212	DE19631442867	19630807
DE1442868 A1	19690320	DE19631442868	19630807
DE1470643 A1	19700618	DE19631470643	19630716
DE1545356 A1	19690731	DE19651545356	19650412
DK132545 B	19751229	DK19660004738	19660914
DK132545 C	19760524	DK19660004738	19660914
ES273560 A1	19620701	ES19620273560	19620111
FI42951 B	19700902	FI19610001260	19610712
FI47280 B	19730731	FI19620000051	19620112
FI47280 C	19731112	FI19620000051	19620112
FI47281 B	19730731	FI19620000052	19620112
FI47281 C	19731112	FI19620000052	19620112
FR1310520 A	19621130	FR19610865998	19610624
FR1314623 A	19630111	FR19620884365	19620110
FR1389502 A	19650219	FR19630955799	19631203
FR1394323 A	19650402	FR19640967759	19640317
FR1494704 A	19670915	FR19640979712	19640626
FR82741 E	19640403	FR19620918602	19621214
GB1000901 A	19650811	GB19610021366	19610710
GB1008698 A	19651103	GB19620045801	19621204
GB1058189 A	19670208	GB19640026885	19640629
GB1058190 A	19670208	GB19650027273	19640629
GB1058762 A	19670215	GB19630027928	19630715
GB1064032 A	19670405	GB19640011673	19640319
GB996856 A	19650630	GB19620001244	19620112
JP50003322 B4	19750203	JP19650023212	19650421
NL132193 C	00000000		00000000
NL140896 B	19740115	NL19640007339	19640626

NL142983 B	19740515	NL19610266889	19610712
NL273445 A	00000000		00000000
NL273446 A	00000000		00000000
NL286758 A	00000000		00000000
NL296166 A	00000000		00000000
NL296167 A	00000000		00000000
NL300835 A	00000000		00000000
NL6402852 A	19640921	NL19640002852	19640318
NL6407339 A	19641229	NL19640007339	19640626
NO115115 B	19680729	NO19620142785	19620108
SE306520 B	19681202	SE19620000294	19620111
US3140249 A	19640707	US19600042284	19600712
US3140251 A	19640707	US19610161241	19611221
US3140252 A	19640707	US19640343489	19640210
US3508867 A	19700428	US19610161242	19611221
US3594311 A	19710720	US19680266186	19680319
US3769202 A	19731030		19660509
US4001106 A	19770104	US19730388682	19730815
US4339353 A	19820713	US19710163458	19710716

Priority:

DK19620000128	19620111	FR19610865998	19610624	FR19620884365	19620110
FR19620918602	19621214	FR19630955799	19631203	FR19640979712	19640626
GB19640026885	19640629	FR19640967759	19640317	US19600042284	19600712
US19610161241	19611221	US19640343489	19640210	US19630266186	19630319
US19620242594	19621206	US19630291304	19630628	US19630291585	19630628
US19610161237	19611221	US19610161242	19611221	US19620215291	19620807
US19620210215	19620716	US19620215272	19620807	US19610159626	19611215
US19680266186	19680319	US19710163458	19710716	US19730388682	19730815
US19660548376	19660509	US19650455648	19650513		

Probable Assignee: MOBIL OIL CORP

Assignee(s): (std): MOBIL OIL ; MOBIL OIL CO ; MOBIL OIL CORP ; MOBIL OIL CORP NEW YORK US ; SOCONY MOBIL OIL CO INC ; SOCONY MOBIL OIL CO

Assignee(s): MOBIL OIL CORP US ; MOBIL OIL NEW YORK CORP ; MOBIL OIL CORP NEW YORK

Inventor(s): (std): BURG WEISZ PAUL ; FRILETTE V ERLTON ; FRILETTE VINCENT JOSEPH ; JOSEPH FRILETTE VINCENT ; JOSEPH PLANK CHARLES ; JOSEPH ROSINSKI EDWARD ; PLANK C GLOUCESTER ; ROSINSKI E SEWELL ; WEISZ P B ; WEISZ P ; ROSINSKI EDWARD J ; ROSINSKI E J ; ROSINSKI E ; PLANK CHARLES JOSEPH ; PLANK CHARLES J ; PLANK C J ; PLANK C ; FRILETTE VINCENT J ; FRILETTE V J ; FRILETTE V ; WEISZ ; ROSINSKI ; PLANK ; FRILETTE ; VINCENT JOSEPH FRILETTE ; PAUL BURG WEISZ ; WEISZ P MEDIA DELAWARE ; WEISZ PAUL BURG ; WEISZ PAUL B ; ROSINSKI EDWARD JOSEPH

Inventor(s): VINCENT J FRILETTE ; WEISZ P MEDIA DELAWARE US ; CHARLES JOSEPH PLANK AND EDWARD JOSEPH ROSINSKI II ; CHARLES JOSEPH PLANK AND EDWARD JOSEPH ROSINSKI ; EDWARD JOSEPH ROSINSKI AND CHARLES JOSEPH PLANK ; EDWARD JOSEPH ROSINSKI ; CHARLES JOSEPH PLANK ; ROSINSKI E US ; PLANK C US ; PAUL B WEISZ

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
AT256295 B	19670810	LSGT	+	granted / extensions (spc, cpc, pte)	
AT257786 B	19671025	LSGT	+	granted / extensions (spc, cpc, pte)	
AT257788 B	19671025	LSGT	+	granted / extensions (spc, cpc, pte)	
AT270030 B	19690410	LSGT	+	granted / extensions (spc, cpc, pte)	
AU3346363 A1	19650128	LSPB	+	published / reissued	
AU3346463 A1	19650128	LSPB	+	published / reissued	
AU3805163 A1	19650527	LSPB	+	published / reissued	
BE612553 A	00000000	LSPB	+	published / reissued	
BE612554 A	00000000	LSPB	+	published / reissued	
BE613178 A	00000000	LSPB	+	published / reissued	
BE640858 A	19640401	LSPB	+	published / reissued	
CH476829 A	19690815	LSGT	+	granted / extensions (spc, cpc, pte)	
CH476829 A	19831130	LSLE	-PL	PATENT CEASED	
DE1249834 B	00000000	LSPB	+	published / reissued	
DE1261262 B	19680215	LSPB	+	published / reissued	
DE1271870 B	19680704	LSPB	+	published / reissued	
DE1297606 B	19690619	LSPB	+	published / reissued	
DE1297792 B	19690619	LSPB	+	published / reissued	
DE1442834 A1	19690508	LSPB	+	published / reissued	
DE1442847 A1	19690731	LSPB	+	published / reissued	
DE1442867 A1	19681212	LSPB	+	published / reissued	
DE1442868 A1	19690320	LSPB	+	published / reissued	

DE1470643 A1	19700618	LSPB	+	published / reissued
DE1545356 A1	19690731	LSPB	+	published / reissued
DK132545 B	19751229	LSPB	+	published / reissued
DK132545 C	19760524	LSGT	+	granted / extensions (spc, cpc, pte)
ES273560 A1	19620701	LSGT	+	granted / extensions (spc, cpc, pte)
FI42951 B	19700902	LSPB	+	published / reissued
FI47280 B	19730731	LSPB	+	published / reissued
FI47280 C	19731112	LSGT	+	granted / extensions (spc, cpc, pte)
FI47281 B	19730731	LSPB	+	published / reissued
FI47281 C	19731112	LSGT	+	granted / extensions (spc, cpc, pte)
FR1310520 A	19621130	LSGT	+	granted / extensions (spc, cpc, pte)
FR1314623 A	19630111	LSGT	+	granted / extensions (spc, cpc, pte)
FR1389502 A	19650219	LSGT	+	granted / extensions (spc, cpc, pte)
FR1394323 A	19650402	LSGT	+	granted / extensions (spc, cpc, pte)
FR1494704 A	19670915	LSGT	+	granted / extensions (spc, cpc, pte)
GB1000901 A	19650811	LSGT	+	granted / extensions (spc, cpc, pte)
GB1008698 A	19651103	LSGT	+	granted / extensions (spc, cpc, pte)
GB1058189 A	19670208	LSGT	+	granted / extensions (spc, cpc, pte)
GB1058190 A	19670208	LSGT	+	granted / extensions (spc, cpc, pte)
GB1058762 A	19670215	LSGT	+	granted / extensions (spc, cpc, pte)
GB1064032 A	19670405	LSGT	+	granted / extensions (spc, cpc, pte)
GB996856 A	19650630	LSGT	+	granted / extensions (spc, cpc, pte)
JP50003322 B4	19750203	LSPB	+	published / reissued
NL132193 C	00000000	LSGT	+	granted / extensions (spc, cpc, pte)
NL140896 B	19740115	LSPB	+	published / reissued
NL142087 B	19740515	LSPB	+	published / reissued
NL142087 B	19870316	LSLE	-V4	LAPSED BECAUSE OF REACHING THE MAXIMUM LIFETIME OF A PATENT
NL266989 A	00000000	LSPB	+	published / reissued
NL273445 A	00000000	LSPB	+	published / reissued
NL273446 A	00000000	LSPB	+	published / reissued
NL286758 A	00000000	LSPB	+	published / reissued
NL296166 A	00000000	LSPB	+	published / reissued
NL296167 A	00000000	LSPB	+	published / reissued
NL300835 A	00000000	LSPB	+	published / reissued
NL6402852 A	19640921	LSPB	+	published / reissued
NL6407339 A	19641229	LSPB	+	published / reissued
NO115115 B	19680729	LSPB	+	published / reissued
SE306520 B	19681202	LSPB	+	published / reissued
US3140249 A	19640707	LSGT	+	granted / extensions (spc, cpc, pte)
US3140251 A	19640707	LSGT	+	granted / extensions (spc, cpc, pte)
US3140252 A	19640707	LSGT	+	granted / extensions (spc, cpc, pte)
US3508867 A	19700428	LSGT	+	granted / extensions (spc, cpc, pte)
US3594311 A	19710720	LSGT	+	granted / extensions (spc, cpc, pte)
US3769202 A	19731030	LSGT	+	granted / extensions (spc, cpc, pte)
US4001106 A	19770104	LSGT	+	granted / extensions (spc, cpc, pte)
US4339353 A	19820713	LSGT	+	granted / extensions (spc, cpc, pte)
US4339353 A	19820713	LSGT	PAT1	Patented Case

3) Family number: 9313 (GB1074129A)

© PatBase

Title: CHEMICAL REACTION CATALYST AND PREPARATION THEREOF

Abstract: Source: GB1074129A Hydrocarbon conversion reactions, e.g. hydrocracking, reforming, alkylation of isoparaffins and aromatics with C2- 15 olefins, dealkylation of alkyl substituted aromatics, e.g. toluene, isomerization of paraffins to isoparaffins, polymerization of C2 to C8 olefins to products boiling in the gasoline range are carried out using a catalyst

prepared by ion-exchanging a crystalline zeolitic molecular sieve having SiO₂:Al₂O₃ at least 1.8 with non-metal cations, ion-exchanging the non-metal cations with to a temperature of at least 350 DEG C. but below a temperature at which the crystalline structure of the sieve would be destroyed. A Pd-loaded Mg-exchanged sieve is used to hydrocrack a feed containing 27 volume per cent aromatics, 72 volume per cent saturates, with a hydrogen to feed ratio 8,500 scf/bbl., reaction pressure 1000 p.s.i.g. General hydrocracking conditions mentioned are temperature 150-475 DEG C., pressure 300-8000 p.s.i.g., WHSV 0.5-5.5, hydrogen to hydrocarbon mole ratio 5-40. Ca-, Zn- and Mn-exchanged sieves are used in the reaction of benzene and **propylene**. General alkylation conditions mentioned are temperature 20-300 DEG C., pressure atmospheric to 1000 p.s.i.g., typical feeds being iso C4-C6 paraffins plus gaseous C4-C6 olefins or aromatic hydrocarbons plus C2-C15 olefins. A Pt-loaded sieve may be used in hydrocarbon isomerization, typical conditions being temperature 250-425 DEG C., WHSV 1-10, hydrogen to hydrocarbon ratio 0.3 to 1, pressure between 100 and 1000 p.s.i.g. A noble metal-loaded catalyst is used for reforming, general conditions being temperature 300-600 DEG C., pressure 300-600 p.s.i.g., hydrogen to hydrocarbon mole ratio 1:1 to 20:1, WHSV 0.1 to 7. The non-metal loaded catalyst is used for polymerization of C2-C8 olefins, preferred conditions being temperature 0-300 DEG C., pressure atmospheric-10,000 p.s.i.g., WHSV 0.01-10. ALSO: A catalyst is prepared by a process comprising ion-exchanging a crystalline zeolitic molecular sieve having a **silica** to alumina mole ratio of at least 1.8 with non-metal cations, ion-exchanging the non-metal cations with polyvalent cations and heating the **zeolite** to a temperature of at least 350 DEG C. but below a temperature at which the crystalline structure of the **zeolite** would be destroyed. The **zeolite** may be **zeolite** g (exemplified), **zeolite** A, D, R, S, T, X, L, "zeolon", analcite, chabazite or erionite. The non-metal cation may be ammonium (exemplified), hydrogen, or quaternary ammonium, for example methyl quaternary ammonium. The polyvalent metal may be Be, Mg (exemplified) Ca, Sr, Ba, R.E. including Ce, Cr, Mn, Zn. A catalytically active metal may be introduced in quantity at least 0.05 wt. per cent. The metal may be Pd, (exemplified), Cu, Ag, Au, Zn, Cd, Ti, Sn, Pb, V, Sb, Bi, Cr, Mo, W, Mn, Re, Fe, Co, Ni, Pt. The catalyst may be pelleted. ALSO: A catalyst is prepared by a process comprising ion-exchanging a crystalline zeolitic molecular sieve having a **silica** to alumina mole ratio of at least 1.8 with non-metal cations, ion-exchanging the non-metal cations with polyvalent cations and heating the **zeolite** to a temperature of at least 350 degrees centigrade but below a temperature at which the crystalline structure of the **zeolite** would be destroyed. The **zeolite** may be **zeolite** Y (exemplified), **zeolite** A, D, R, S, T, X, L, "zeolon", analcite, chabazite or erionite. The non-metal cation may be ammonium (exemplified), hydrogen, or quaternary ammonium, for example methyl quaternary ammonium. The polyvalent metal may be Be, Mg (exemplified) Ca, Sr, Ba, R, E, including Ce, Cr, Mn, Zn. A catalytically active metal may be introduced in quantity at least 0.05 weight percent. The metal may be Pd, (exemplified), Cu, Ag, Au, Zn, Cd, Ti, Sn, Pb, V, Sb, Bi, Cr, Mo, W, Mn, Re, Fe, Co, Ni, Pt. The catalyst may be pelleted, optionally with clays, alumina, **silica**, starches, sugars or graphite as additives. A catalyst test reactor comprises a 4\sv x 1" stainless steel tube having an axial thermocouple well and surrounded by 6" thick alumina blocks. The 16" long catalyst bed is diluted with quartz chips and is supported in the centre of the reactor by a post-heat section of 1/8 " stainless steel balls, the pre-heat section which fills the rest of the reactor also being of 1/8 " stainless steel balls.

Classifications:

International (IPC 8-9): B01J20/18 B01J29/06 B01J29/08 B01J29/42 B01J29/60 C01B3/00 C01B4/00 C07C2/12 C07C2/54 C07C5/02 C07C5/22 C07C5/32 C07C5/367 C07C5/41 C10G11/05 C10G47/16 (Advanced/Invention); B01J20/10 B01J29/00 C01B3/00 C01B4/00 C07C2/00 C07C5/00 C10G11/00 C10G47/00 (Core/Invention)
International (IPC 1-7): B01J11/06 C01B33/28 C07B29/00 C07C3/00 C07C7/13
CPC: B01J29/06 C01B4/00 C10G11/05 C07C5/324 B01J20/186 B01J29/084 B01J29/42 B01J29/60 C01B3/0089 C07C2/12 C07C2/54 C07C5/02 C07C5/222 C07C5/226 C07C5/321 C07C5/325 C07C5/367 C07C5/41 C07C5/415 C07C2529/08 C07C2529/18 C07C2529/60 C07C2529/70 C10G47/16 Y02E60/324
European: B01J20/18D B01J29/06 B01J29/08Y B01J29/42 B01J29/60 C01B3/00P C01B4/00 C07C2/12 C07C2/54 C07C5/02 C07C5/22B4 C07C5/22B8 C07C5/32B C07C5/32B4 C07C5/32B4B C07C5/367 C07C5/41 C07C5/41D C10G11/05 C10G47/16 M07C529/08 M07C529/18 M07C529/60 M07C529/70 Y02E60/32F

Family:

Publication number	Publication date	Application number	Application date
AT253469 B	19670410	AT19630009662	19631203
AT286245 B	19701125	AT19660003760	19631203
BE640629 A	19640316		19631129
DE1467177 A1	19681202	DE19631467177	19631202
FR1413872 A	19651015	FR19630955750	19631202
GB1074129 A	19670628	GB19630046401	19631125
NL301296 A	00000000		00000000
SE309770 B	19690408	SE19630013312	19631202
SE343568 B	19720313	SE19630032567	19631202
SE343568 B	19720313	SE19670000325	19670110

Priority:

FR19630955750 19631202 US19620241494 19621203
Probable Assignee: UNION CARBIDE CORP
Assignee(s): (std): UNION CARBIDE CORP
Inventor(s): (std): PICKERT P ; EUGENE PICKERT PAUL

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT253469 B	19670410	LSGT	+	granted / extensions (spc, cpc, pte)	
AT286245 B	19701125	LSGT	+	granted / extensions (spc, cpc, pte)	
AT286245 B	19750115	LSLE	-ELJ	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
BE640629 A	19640316	LSPB	+	published / reissued	
DE1467177 A1	19681202	LSPB	+	published / reissued	
FR1413872 A	19651015	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1074129 A	19670628	LSGT	+	granted / extensions (spc, cpc, pte)	
NL301296 A	00000000	LSPB	+	published / reissued	
SE309770 B	19690408	LSPB	+	published / reissued	
SE343568 B	19720313	LSPB	+	published / reissued	
SE343568 B	19720313	LSPB	+	published / reissued	

Title: Crystalline aluminosilicate catalyst

Abstract: Source: GB1070906A A metal-containing aluminosilicate **zeolite**, prepared by crystallization of an aqueous reaction mixture containing a minor amount of a water-soluble compound of the metal, followed by dehydration of the product, may be used for:-(a) selective hydrogenation of hydrocarbons, e.g. (i) n-butene in the presence of iso-butene, (ii) butadiene and piperylene in the presence of isoprene; (b) cracking of hexane to give a gas mixture containing ethylene, **propylene**, and minor amounts of higher olefins. The metal may be Cu, Ti, V, Cr, Mo, Mn, Fe, Co, or Ni, and may be added as a simple salt, a metal-containing anion, or a complex. The **zeolite** may be A, X, T, or E, and is prepared by conventional methods. The product may be calcined, optionally in H₂ to produce free metal. Alkali metal ions in the **zeolite** may be replaced, e.g. by Ca, Ba, Zn, Ni, Co, or rare earth ions. ALSO: An aluminosilicate **zeolite** containing a metal (other than a Pt group metal) in its structure is prepared by crystallization of an aqueous reaction mixture which contains a minor amount of a water-soluble compound of the metal, followed by dehydration of the product. The metal may be Cu, Ti, V, Cr, Mo, Mn, Fe, Co, or Ni. The aluminosilicate may be **zeolite** A, X, T, or E, and is prepared by conventional methods, e.g. from Na aluminate and Na metasilicate. The metal may be added to either reactant or to the mixture, in amounts to give a content of 0.001-5 percent in the product. A simple salt or a cationic, anionic or neutral complex may be used. The Na salt of such an anionic complex may replace part of the alkali metal aluminate in the reaction mixture. Crystallization is effected at 21-150 DEG C., and after drying at 100-140 DEG C. the product may be calcined at 250-1100 DEG F., and simultaneously or subsequently heated in H₂ to obtain at least some free metal. The product may be washed prior to drying with a solution of pH 10.5-11.5 which contains the same ions as the aluminosilicate, e.g. 2-4 equ. Na⁺ per litre, and may contain small amounts of the Na aluminate and silicate. The alkali metal ions in the **zeolite** may be wholly or partly replaced with other metal cations, e.g. Ca, Ba, Zn, Ni, Co or rare earths, e.g. La, Ce, Pr, Gd, Sm, Y, Yb, or Sc, by contacting with a solution of the metal salt of pH greater than 10.5 containing 2-4 equ. metal cation per litre. Examples 1-19, 26-39 and 53 describe the use of alkali metal salts of complex anions containing Mn, Fe, V, Cr, Mo and Ti, and Examples 20-25 and 40-45 the use of the simple salts FeCl₃, TiCl₃, NiCl₂, CoCl₂ and CrCl₃. Examples 1-25 relate to the preparation of a **zeolite** of faujasite structure with pores 13 <\>rA in diameter, and Examples 26-45 relate to **zeolite** 4A. Example 52 describes the use of a Cu ethylene diamine complex. ALSO: An aluminosilicate **zeolite** containing a metal (other than a Pt group metal) in its structure is prepared by crystallization of an aqueous reaction mixture which contains a minor amount of a water-soluble compound of the metal, followed by dehydration of the product. The metal may be Cu, Ti, V, Cr, Mo, Mn, Fe, Co, or Ni. The aluminosilicate may be **zeolite** A, X, T, or E, and is prepared by conventional methods, e.g. from Na aluminate and Na metasilicate. The metal may be added to either reactant or to the mixture, in amounts to give a content of 0.001-5 percent in the product. A simple salt or a cationic, anionic or neutral complex may be used. The Na salt of such an anionic complex may replace part of the alkali metal aluminate in the reaction mixture. Crystallization is effected at 21-150 DEG C., and after drying at 100-140 degrees centigrade the product may be calcined at 250-1100 DEG F., and simultaneously or subsequently heated in H₂ to obtain at least some free metal. The product may be washed prior to drying with a solution of pH 10.5-11.5 which contains the same ions as the aluminosilicate, e.g. 2-4 equ. Na⁺SW per litre, and may contain small amounts of the Na aluminate and silicate. The alkali metal ions in the **zeolite** may be wholly or partly replaced with other metal cations e.g. Ca, Ba, Zn, Ni, Co or rare earths, e.g. La, Ce, Pr, Gd, Sm, Y, Yb, or Sc, by contacting with a solution of the metal salt of pH greater than 10.5 containing 2-4 equ. metal cation per litre. Examples 1-19, 26-39 and 53 describe the use of alkali metal salts of complex anions containing Mn, Fe, V, Cr, Mo and Ti, and Examples 20-25 and 40-45 the use of the simple salts Fe Cl₃, Ti Cl₃, Ni Cl₂, Co Cl₂ and Cr Cl₃. Examples 1-25 relate to the preparation of a **zeolite** of faujasite structure with pores 13 in diameter, and Examples 26-45 relate to **zeolite** 4A. Example 52 describes the use of a Cu ethylene diamine complex.

Classifications:

International (IPC 8-9): B01J20/18 B01J29/06 (Advanced/Invention);

B01J20/10 B01J29/00 (Core/Invention)

International (IPC 1-7): C01B33/28

CPC: B01J20/186 B01J29/061 C01B33/2892 C10G11/02

European: 23B5D9 B01J20/18D B01J29/06D C01B33/28B14 C10G11/02

US: 208/111.2 208/111.3 208/111.35 252/455 502/74

Family:

Publication number	Publication date	Application number	Application date
FR1386295 A	19650122	FR19630952537	19631031
GB1070906 A	19670607	GB19630043232	19631101
US3373109 A	19680312	US19630319639	19631029

Priority:

FR19630952537 19631031 US19630319639 19631029

Probable Assignee: MOBIL OIL CORP

Assignee(s): (std): MOBIL OIL ; MOBIL OIL CORP ; SOCONY MOBIL OIL CO

Assignee(s): SOCONY MOBIL OIL CO INC

Inventor(s): (std): FRILETTE VINCENT J ; MAATMAN RUSSELL W

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
FR1386295 A	19650122	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1070906 A	19670607	LSGT	+	granted / extensions (spc, cpc, pte)	
US3373109 A	19680312	LSGT	+	granted / extensions (spc, cpc, pte)	

5) Family number: 21121522 (FR1389130A)

Title: NOUVEAUX ALUMINOSILICATES CRISTALLINS A RAPPORT SILICE-ALUMINE ELEVE NEW CRYSTAL ALUMINOSILICATES A **SILICA**-ALUMINA REPORT HIGH (Machine translation)

Abstract: Source: FR1389130A (Claim 1) 1. On soumet l'aluminosilicate ou la matiere isomorphe de cet aluminosilicate a une solvolysse alors qu'il se trouve partiellement au moins dans sa forme hydrogene;

Machine translation: (Claim 1) 1. Subjecting the aluminosilicate or isomorphous matter of this aluminosilicate has a solvolysis while it is at least partially in its hydrogen form;

Classifications:

International (IPC 8-9): B01J20/18 B01J29/06 C01B39/02 (Advanced/Invention);

B01J29/08 (Advanced/Non-invention);
B01J20/10 B01J29/00 C01B39/00 (Core/Invention)
International (IPC 1-7): C01B33/26
CPC: B01J20/186 B01J29/06 B01J29/084 B01J2229/16 B01J2229/34 C01B33/2869
European: B01J20/18D B01J29/06 C01B33/28B8 L01J229/16 L01J229/34 L01J29/08Y

Family:

Publication number	Publication date	Application number	Application date
BE644432 A	00000000		00000000
FR1389130 A	19650212	FR19640965298	19640227

Priority:

FR19640965298 19640227

Probable Assignee: SOCONY MOBIL OIL CO

Assignee(s): (std): SOCONY MOBIL OIL CO

Assignee(s): SOCONY MOBIL OIL CO INC ; SOCONY MOBIL OIL COMPANY INC

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
BE644432 A	00000000	LSPB	+	published / reissued	
FR1389130 A	19650212	LSGT	+	granted / extensions (spc, cpc, pte)	

6) Family number: 30996690 (US3409682A)

© PatBase

Title: ISOMERIZATION OF SATURATED HYDROCARBONS

Abstract: Source: US3409682A ABSTRACT OF THE DISCLOSURE A saturated hydrocarbon is isomerized utilizing a catalyst comprising at least one active catalytic component, preferably platinum, on an alumina support having dispersed therein less than about 20 wei.-ht percent of a finely divided crystalline aluminosilicate.

Classifications:

International (IPC 8-9): B01J21/12 B01J21/16 B01J23/42 B01J23/64 B01J23/644 B01J29/00 B01J29/06 C07B61/00 C07C1/00 C07C11/00 C07C5/22 C07C5/25 C07C5/27 C07C5/29 C07C5/32 C07C5/333 C07C67/00 C10G35/06 C10G35/095 C10G45/12 C10G45/64 (Advanced/Invention);

B01J21/08 (Advanced/Non-invention);
B01J21/00 B01J23/42 B01J23/54 B01J29/00 C07B61/00 C07C1/00 C07C11/00 C07C5/00 C07C67/00 C10G35/00 C10G45/02 C10G45/58 (Core/Invention)

International (IPC 1-7): B01J11/06 B01J11/32 B01J11/40 B01J11/46 B01J21/12 B01J23/38 B01J23/64 B01J29/06 B01J29/12 B01J29/20 B01J29/22 B12G11/06 C01B33/28 C01F C07C11/00 C07C12/00 C07C5/18 C07C5/24 C07C5/27 C07C5/30 C07C5/36 C07C5/40 C07D C10G11/02 C10G35/06 C10G35/08

CPC: C07C5/22 C07C5/333 Y10S208/01 Y10S585/906 Y10S585/952 C07C5/325 B01J23/64 B01J23/644 C07C5/3337 C10G35/095 B01J21/08 B01J21/12 B01J21/16 B01J23/42 B01J29/061 C07C5/222 C07C5/226 C07C5/2556 C07C5/2708 C07C5/2721 C07C5/2724 C07C5/2737 C07C5/2754 C07C5/2791 C07C5/29 C07C2529/08 C07C2529/18 Y02P20/582 Y02P20/52

European: B01J21/12 B01J21/16 B01J23/42 B01J23/64 B01J23/644 B01J29/06D C07C5/22 C07C5/22B4 C07C5/22B8 C07C5/25B8 C07C5/27A4 C07C5/27A6F2 C07C5/27A8 C07C5/27B2F C07C5/27B2J C07C5/27D2J C07C5/29 C07C5/32B4B C07C5/333 C07C5/333D2 C10G35/095 L01J21/08 M07C529/08 M07C529/18

US: 208/135 208/138 208/2 208/DIG.1 260/666 260/668 260/683.2 502/330 502/74 502/78 585/374 585/481 585/660 585/663 585/666 585/669 585/670 585/671 585/739 585/906 585/952

Family:

Publication number	Publication date	Application number	Application date
AT289725 B	19710510	AT19660012003	19661229
AT289726 B	19710510	AT19670001327	19670210
AT291951 B	19710810	AT19680011351	19670210
AT303239 B	19721110	AT19680012464	19661229
BE691990 A	19670529		19661230
BE693975 A	19670717		19670213
CH490121 A	19700515	CH19670002136	19670214
CH495166 A	19700831	CH19660018820	19661230
CS168494 B2	19760629	CS19670001077	19670214
CS178802 B2	19771031	CS19670002464	19670405
CS178810 B2	19771031	CS19670001000	19670405
DE1545418 A1	19691211	DE19661545418	19661230
DE1545418 B2	19740516	DE19661545418	19661230
DE1545418 C3	19750403	DE19661545418	19661230
DE1643152 A1	19720413	DE19671643152	19670211
DE1643152 B2	19730530	DE19671643152	19670211
DE1643152 C3	19740110	DE19671643152	19670211
DE1792719 A1	19720706	DE19671792719	19670211
DK136935 B	19771219	DK19670000779	19670213
DK136935 C	19780529	DK19670000779	19670213
DK138067 B	19780710	DK19660006747	19661229
DK138067 C	19790102	DK19660006747	19661229
ES335068 A1	19680516	ES19660335068	19661229
ES336765 A1	19680101	ES19670336765	19670213
ES347233 A1	19690501	ES19670347233	19671116
FI45832 B	19720630	FI19670000429	19670214
FI45832 C	19721010	FI19670000429	19670214

FR1510253 A	19680119	FR19660089297	19661229
FR1511209 A	19680126	FR19670094264	19670209
GB1168342 A	19691022	GB19670005789	19670207
GB1169729 A	19691105	GB19660058119	19661229
GR33330 B	19671123	GR19670133330	19670125
GR33491 B	19671209	GR19670133491	19670214
IL27400 A1	19700719	IL19670027400	19670207
JP51015044 B4	19760514	JP19700087053	19701002
JP54003834 B4	19790227	JP19670000793	19661228
NL154263 B	19770815	NL19660018468	19661230
NL6618468 A	19670703	NL19660018468	19661230
NL6618468 A1	19670703	NL19660018468	19661230
NL6702164 A	19670815	NL19670002164	19670213
NO119490 B	19700525	NO19670166826	19670213
OA2319 A	19700505	OA19670052754	19670210
SE332803 B	19710222	SE19670002069	19670214
SE351840 B	19721211	SE19660017903	19661229
US3291755 A	19661213	US19660527051	19660214
US3293319 A	19661220	US19660541066	19660408
US3409682 A	19681105	US19660541077	19660408
US3409686 A	19681105	US19660541128	19660408
US3409699 A	19681105	US19660541080	19660408
YU31340 B	19730430	YU19660002477	19661230
YU31343 A	00000000		00000000
YU31343 B	19730430	YU19670000281	19670214

Priority:

US19650517845 19651230	US19650517853 19651230	US19660517853 19660408
US19660541077 19660408	US19660541080 19660408	US19660541128 19660408
US19660527051 19660214	US19660541066 19660408	

Probable Assignee: UNIVERSAL OIL PROD CO

Assignee(s): (std): ADDISON GEORGE E ; ADDISON GEORGE E US ; MITSCH ROY T ; MITSCH ROY T US ; UNIV OIL PRODUCTS CO ; UNIVERSAL OIL PROD CO ; UNIVERSAL OIL PRODUCTS CO ; UNIVERSAL OIL PRODUCTS COMPANY

Assignee(s): UNIVERSAL OIL PRODUCTS COMPANY DES PLAINES ILLINOIS VER ST V AM ; UNIVERSAL OIL PRODUCTS CO DES PLAINES ILLINOIS VER ST V AM ; UNIVERSAL OIL PRODUCTS CO DES PLAINES ILL V ST A ; UNIVERSAL OIL PRODUCTS COMPANY DES PLAINES ILLINOI

Inventor(s): (std): ADDISON G E ; ADDISON GEORGE E ; ADDISON GEORGE EDGAR ; MITSCH R T ; MITSCH ROY THOMAS ; VLADIMIR HAENSEL ; JAMES HOEKSTRA ; THOMAS MITSCH ROY ; ROY THOMAS MITSCH ; HOEKSTRA JAMES ; HAENSEL VLADIMIR ; GEORGE EDGAR ADDISON ; MITSCH R ; ADDISON G ; MITSCH ROY T ; EDGAR ADDISON GEORGE ; HOEKSTRA J ; HOECKSTRA J ; HAENSEL V

Inventor(s): HAENSEL VLADIMIR HINSDALE ; ADDISON GEORGE EDGAR MT PROSPECT ; HOEKSTRA JAMES EVERGREEN PARK ; MITSCH ROY THOMAS ISLAND LAKE

Agent(s): REINHOLD COHN AND PARTNERS

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT289725 B	19710510	LSGT	+	granted / extensions (spc, cpc, pte)	
AT289725 B	19870615	LSLE	-ELJ	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT289726 B	19710510	LSGT	+	granted / extensions (spc, cpc, pte)	
AT289726 B	19810615	LSLE	-ELJ	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT291951 B	19710810	LSGT	+	granted / extensions (spc, cpc, pte)	
AT291951 B	19780915	LSLE	-ELJ	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT303239 B	19721110	LSGT	+	granted / extensions (spc, cpc, pte)	
AT303239 B	19871215	LSLE	-ELJ	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
BE691990 A	19670529	LSPB	+	published / reissued	
BE691990 A	19860630	LSLE	-RE	LAPSED	OWNER NAME : UNIVERSAL OIL PRODUCTS CY EFFECTIVE DATE : 19851231
BE693975 A	19670717	LSPB	+	published / reissued	
CH490121 A	19700515	LSGT	+	granted / extensions (spc, cpc, pte)	
CH490121 A	19801031	LSLE	-PL	PATENT CEASED	
CH495166 A	19700831	LSGT	+	granted / extensions (spc, cpc, pte)	

CH495166 A	19860829	LSLE	-PL	PATENT CEASED
CS168494 B2	19760629	LSGT	+	granted / extensions (spc, cpc, pte)
CS178802 B2	19771031	LSGT	+	granted / extensions (spc, cpc, pte)
CS178810 B2	19771031	LSGT	+	granted / extensions (spc, cpc, pte)
DE1545418 A1	19691211	LSPB	+	published / reissued
DE1545418 A1	19750403	LSGT	+C3	GRANT AFTER TWO PUBLICATION STEPS (3RD PUBLICATION)
DE1545418 B2	19740516	LSPB	+	published / reissued
DE1545418 C3	19750403	LSGT	+	granted / extensions (spc, cpc, pte)
DE1643152 A1	19720413	LSPB	+	published / reissued
DE1643152 A1	19740110	LSGT	+C3	GRANT AFTER TWO PUBLICATION STEPS (3RD PUBLICATION)
DE1643152 B2	19730530	LSPB	+	published / reissued
DE1643152 C3	19740110	LSGT	+	granted / extensions (spc, cpc, pte)
DE1792719 A1	19720706	LSPB	+	published / reissued
DK136935 B	19771219	LSPB	+	published / reissued
DK136935 C	19780529	LSGT	+	granted / extensions (spc, cpc, pte)
DK138067 B	19780710	LSPB	+	published / reissued
DK138067 B	19860825	LSLE	-PBP	PATENT LAPSED
DK138067 C	19790102	LSGT	+	granted / extensions (spc, cpc, pte)
ES335068 A1	19680516	LSGT	+	granted / extensions (spc, cpc, pte)
ES336765 A1	19680101	LSGT	+	granted / extensions (spc, cpc, pte)
ES347233 A1	19690501	LSGT	+	granted / extensions (spc, cpc, pte)
FI45832 B	19720630	LSPB	+	published / reissued
FI45832 C	19721010	LSGT	+	granted / extensions (spc, cpc, pte)
FR1510253 A	19680119	LSGT	+	granted / extensions (spc, cpc, pte)
FR1511209 A	19680126	LSGT	+	granted / extensions (spc, cpc, pte)
GB1168342 A	19691022	LSGT	+	granted / extensions (spc, cpc, pte)
GB1168342 A	19700304	LSGT	+PS	PATENT SEALED
GB1168342 A	19770901	LSLE	-PLNP	PATENT LAPSED THROUGH NONPAYMENT OF RENEWAL FEES
GB1169729 A	19691105	LSGT	+	granted / extensions (spc, cpc, pte)
GB1169729 A	19700318	LSGT	+PS	PATENT SEALED
GB1169729 A	19820728	LSLE	-PCNP	PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE
GR33330 B	19671123	LSGT	+	granted / extensions (spc, cpc, pte)
GR33491 B	19671209	LSGT	+	granted / extensions (spc, cpc, pte)
IL27400 A1	19700719	LSPB	+	published / reissued
JP51015044 B4	19760514	LSPB	+	published / reissued
JP54003834 B4	19790227	LSPB	+	published / reissued
NL154263 B	19770815	LSPB	+	published / reissued
NL154263 B	19870817	LSLE	-V1	LAPSED BECAUSE OF NON-PAYMENT OF THE ANNUAL FEE
NL6618468 A	19670703	LSPB	+	published / reissued
NL6618468 A1	19670703	LSPB	+	published / reissued
NL6702164 A	19670815	LSPB	+	published / reissued
NO119490 B	19700525	LSPB	+	published / reissued

OA2319 A	19700505	LSGT	+	granted / extensions (spc, cpc, pte)
SE332803 B	19710222	LSPB	+	published / reissued
SE351840 B	19721211	LSPB	+	published / reissued
US3291755 A	19661213	LSGT	+	granted / extensions (spc, cpc, pte)
US3293319 A	19661220	LSGT	+	granted / extensions (spc, cpc, pte)
US3409682 A	19681105	LSGT	+	granted / extensions (spc, cpc, pte)
US3409686 A	19681105	LSGT	+	granted / extensions (spc, cpc, pte)
US3409699 A	19681105	LSGT	+	granted / extensions (spc, cpc, pte)
YU31340 B	19730430	LSGT	+	granted / extensions (spc, cpc, pte)
YU31343 A	00000000	LSPB	+	published / reissued
YU31343 B	19730430	LSGT	+	granted / extensions (spc, cpc, pte)

7) Family number: 954752 (US3582497A)

© PatBase

Title: COMPOSITIONS DERIVED FROM CONTACTING ALUMINOSILICATES AND ALUMS AND **PROCESS FOR PREPARING** SAME

Abstract: Source: US3582497A ABSTRACT OF THE DISCLOSURE Reacting cation-exchangeable aluminosilicates with alums forms novel compositions having cation-exchange 15 capacity permitting optional ion-exchange for control of catalytic activity and for metal-loading. In général the compositions are rendered substantially amorphous by calcination and once calcined, are useful as catalysts in various hydrocarbon modification reactions.

Classifications:

International (IPC 8-9): B01J29/08 C01B33/46 C07C1/24 C07C2/58 C07C2/66 C07C4/10 C07C4/18 C07C5/02 C07C5/22 C07C5/27 C07C5/32 C07C6/04 C07C6/12 C08F10/00 C10G11/05 C10G35/095 C10G45/12 C10G47/16 (Advanced/Invention); B01J29/00 C01B33/00 C07C1/00 C07C2/00 C07C4/00 C07C5/00 C07C6/00 C08F10/00 C10G11/00 C10G35/00 C10G45/02 C10G47/00 (Core/Invention)

International (IPC 1-7): B01J11/00 B01J11/40 B01J11/60 C01B33/00 C01B33/26 C01B33/28 C07B29/00 C07C3/00 C07C5/00 C10G11/04 C10G15/04 C10G23/02 C10G35/06

CPC: C01B33/42 B01J29/084 C01B33/26 C01B33/40 C01B33/46 C07C1/24 C07C2/58 C07C2/66 C07C4/10 C07C4/18 C07C5/02 C07C5/2233 C07C5/226 C07C5/2713 C07C5/2724 C07C5/322 C07C6/04 C07C6/123 C07C6/126 C07C2529/04 C08F10/00 C10G11/05 C10G35/095 C10G45/12 C10G47/16

European: B01J29/08Y C01B33/26 C01B33/40 C01B33/42 C01B33/46 C07C1/24 C07C2/58 C07C2/66 C07C4/10 C07C4/18 C07C5/02 C07C5/22B6B C07C5/22B8 C07C5/27A6B C07C5/27A8 C07C5/32B2 C07C6/04 C07C6/12B C07C6/12D C08F10/00 C10G11/05 C10G35/095 C10G45/12 C10G47/16 M07C529/04

US: 208/111.15 208/111.35 252/455R 502/65 502/68

Family:

Publication number	Publication date	Application number	Application date
DE1956627 A1	19700611	DE19691956627	19691111
FR2023134 A1	19700807	FR19690038872	19691112
NL6917024 A	19700514	NL19690017024	19691112
US3582497 A	19710601	US19680077509	19681112

Priority:

US19680077509 19681112 US19680775098 19681112

Probable Assignee: UNION CARBIDE CORP

Assignee(s): (std): UNION CARBIDE CORP

Assignee(s): MORGAN GUARANTY TRUST CO ; MORGAN GUARANTY TRUST CO OF NEW YORK AND MORGAN BA ; MORGAN GUARANTY TRUST CO OF NEW YORK AND MORGAN BANK (DELAWARE) COLLATERAL (AGENTS) SEE RECORD FOR REMAINING ASSIGNEES AS ; MORGAN GUARANTY TRUST CO OF NEW YORK AND MORGAN BANK DELAWARE COLLATERAL AGENTS SEE RECORD FOR REMAINING ASSIGNEES AS

Inventor(s): (std): BEST DONALD FRANCIS ; BOLTON ANTHONY PETER ; PETER BOLTON ANTHONY ; FRANCIS BEST DONALD

Inventor(s): DONALD FRANCIS BEST ; ANTHONY PETER BOLTON

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
DE1956627 A1	19700611	LSPB	+	published / reissued	
FR2023134 A1	19700807	LSPB	+	published / reissued	
FR2023134 A1	19740125	LSLE	-ST	NOTIFICATION OF LAPSE	
NL6917024 A	19700514	LSPB	+	published / reissued	
US3582497 A	19710601	LSGT	+	granted /	

					extensions (spc, cpc, pte)
US3582497 A	19860109	LSAS	AS	ASSIGNMENT	OWNER NAME : MORGAN GUARANTY TRUST COMPANY OF NEW YORK, AND MOR DESCRIPTION : MORTGAGE; ASSIGNORS:UNION CARBIDE CORPORATION, A CORP.,; STP CORPORATION, A CORP. OF DE.,; UNION CARBIDE AGRICULTURAL PRODUCTS CO., INC., A CORP. OF PA.,; AND OTHERS; REEL/FRAME:004547/0001 EFFECTIVE DATE : 19860106
US3582497 A	19861008	LSAS	AS	ASSIGNMENT	OWNER NAME : UNION CARBIDE CORPORATION, DESCRIPTION : RELEASED BY SECURED PARTY; ASSIGNOR:MORGAN BANK (DELAWARE) AS COLLATERAL AGENT; REEL/FRAME:004665/0131 EFFECTIVE DATE : 19860925

8) Family number: 1556850 (US4221564A)

© PatBase

Title: Water-insoluble alkali metal aluminosilicates and polycarboxylic acids in the tanning process for the production of leather

Abstract: Source: US4221564A In the process of tanning for the production of leather comprising subjecting uncured hides to the action of an aqueous liquor containing (1) chemical tanning agents, and (2) auxiliary chemicals to tanning and recovering leather, the improvement consisting of essentially of employing water-insoluble aluminosilicate, containing bound water of the formula $(\text{Cat}_2/\text{nO})_x.\text{Al}_2\text{O}_3.(\text{SiO}_2)_y$ wherein Cat represents a cation selected from the group consisting of alkali metals, bivalent metal ions, trivalent metal ions, and mixtures thereof, n represents an integer from 1 to 3 of the valence of said cation, x is an integer from 0.5 to 1.8 and y is an integer from 0.8 to 50, said aluminosilicates having an average particle size in the range of 0.1 μ to 5 mm and a calcium binding power of from 0 to 200 mg CaO/gm of anhydrous active substance measured at 22 degrees C. according to the Calcium Binding Power Test Method set out in the specification, in combination with a polycarboxylate selected from the group consisting of aliphatic dicarboxylic acids having from 2 to 8 carbon atoms, aliphatic tricarboxylate acids having from 4 to 8 carbon atoms, benzene dicarboxylic acids, benzenetricarboxylic acids and hydrolyzable partial esters thereof with aliphatic alcohols having from 1 to 6 carbon atoms and 1 to 6 hydroxyl groups as partial replacement of said chemical tanning agents and said auxiliary chemicals to tanning.

Classifications:

International (ipc 8-9): C14C1/00 C14C1/08 C14C3/02 C14C3/04 C14C3/06 C14C5/00 (Advanced/Invention); C14C1/00 C14C3/00 C14C5/00 (Core/Invention)

International (ipc 1-7): C01B33/26 C14C1/00 C14C1/08 C14C3/00 C14C3/02 C14C3/04 C14C3/06 C14C3/08 C14C3/22 C14C5/00

CPC: C14C1/08 C14C3/02 C14C5/00 C14C3/06 C14C3/04

European: C14C1/08 C14C3/02 C14C3/04 C14C3/06 C14C5/00

US: 8/94.15 8/94.17 8/94.18 8/94.19R 8/94.2 8/94.25 8/94.26 8/94.27 8/94.29 8/94.3

PatBase - US4221564_R



Family:

Publication number	Publication date	Application number	Application date
AR218073 A1	19800515	AR19780272928	19780712
AR219600 A1	19800829	AR19790276595	19790521
AT355706 B	19800325	AT19780005100	19780714
AT510078 A	19790815	AT19780005100	19780714
AU197838034 A1	19800117	AU19780038034	19780714
AU519847 B2	19811224	AU19780038034	19780714
BR7803010 A	19790508	BR19780003010	19780512
BR7903084 A	19791204	BR19790003084	19790518
BR7903085 A	19791204	BR19790003085	19790518
BR7903086 A	19791204	BR19790003086	19790518
BR7903114 A	19791211	BR19790003114	19790518
CA1103408 A1	19810623	CA19780307372	19780714
CA1121109 A1	19820406	CA19790320963	19790206
CA1130055 A1	19820824	CA19790332266	19790720
CS207632 B2	19810831	CS19780004664	19780712
DE2732217 A1	19790201	DE19772732217	19770716
DE2732217 C2	19890824	DE19772732217	19770716
DE2822072 A1	19791129	DE19782822072	19780520
DE2822073 A1	19791122	DE19782822073	19780520
DE2822074 A1	19791122	DE19782822074	19780520
DE2822075 A1	19791122	DE19782822075	19780520
DE2822076 A1	19791129	DE19782822076	19780520
DE2832089 A1	19800131	DE19782832089	19780721
EP0005546 A2	19791128	EP19790101513	19790517
EP0005546 A3	19791212	EP19790101513	19790517
EP0005546 B1	19820623	EP19790101513	19790517
ES471773 A1	19791001	ES19780471773	19780714
ES480706 A1	19791201	ES19790480706	19790518
ES482711 A1	19800401	ES19790482711	19790720
FR2397459 A1	19790209	FR19780014299	19780512
FR2397459 B1	19801212	FR19780014299	19780512
GB1603720 A	19811125	GB19780019469	19780515
GB2026026 A1	19800130	GB19790025456	19790720
GB2026026 B2	19830427	GB19790025456	19790720

HR930664 B1	19960430	HR19930000664	19930401
HU178566 P	19820528	HU1978HE00771	19780714
HU180777 B	19830429	HU1979HE00784	19790517
IN151252 A	19830319	IN1978CA00714	19780728
IT1097007 A	19850826	IT19780025590	19780712
IT7825590 A0	19780712	IT19780025590	19780712
JP1365147 C3	19870226	JP19780084623	19780713
JP1414313 C3	19871210	JP19790060615	19790518
JP54020102 A2	19790215	JP19780084623	19780713
JP54154501 A2	19791205	JP19790060615	19790518
JP61029400 B4	19860707	JP19780084623	19780713
JP62019800 B4	19870501	JP19790060615	19790518
KR840002218 B1	19841203	KR19790000378	19790208
MX153312 A	19860912	MX19790177717	19790518
MX153313 A	19860912	MX19790177718	19790518
MX153314 A	19860912	MX19790177719	19790518
MX158184 A	19890116	MX19790177716	19790518
NZ187864 A	19810316	NZ19780187864	19780714
NZ190493 A	19820316	NZ19790190493	19790518
NZ191074 A	19820330	NZ19790191074	19790720
PL112885 B1	19801129	PL19780208384	19780713
PL115247 B1	19810331	PL19790215664	19790517
PL208384 A1	19790312	PL19780208384	19780713
PL215664 A1	19800225	PL19790215664	19790517
SI7811639 A8	19960229	SI19780011639	19780710
SU912048 D	19820307	SU19782633993	19780713
TR19873 A	19800403	TR19780019873	19780711
TR20107 A	19800806	TR19790020107	19790515
TR20410 A	19810501	TR19790020410	19790514
TR20436 A	19810708	TR19790020436	19790515
US4221564 A	19800909	US19780923662	19780711
US4264318 A	19810428	US19790056350	19790710
US4272242 A	19810609	US19780923576	19780711
YU115179 A	19831031	YU19790001151	19790516
YU163978 A	19831031	YU19780001639	19780710
YU42096 B	19880430	YU19790001151	19790516
YU42281 B	19880831	YU19780001639	19780710
ZA7804029 A	19790725	ZA19780004029	19780714
ZA7903664 A	19800730	ZA19790003664	19790719

Priority:

CA19780307372 19780714	CA19790320963 19790206	DE19782822073 19780520
DE19782822072 19780520	DE19772732217 19770716	CA19790332266 19790720
DE19782822076 19780520	DE19782832089 19780721	DE19782822074 19780520
DE19782822075 19780520	YU19780001639 19780710	

Probable Assignee: HENKEL KGAA

Assignee(s): (std): HENKEL KGAA

Assignee(s): HENKEL KGAA 4000 DUESSELDORF DE ; HENKEL KOMMNSDITGESELLSCHAFT AUF AKTIEN HENKELSTRA ; HENKEL KOMMANDITGESELLSCHAFT AUF AKTIEN ; HENKEL KOMMANDIT GESELLSCHAFT AUF AKTIEN ; KHENKEL A A FA KG ; HENKEL KOMMNSDITGESELLSCHAFT AUF AKTIEN A CORP ; HENKEL KOMMANDITGESELLSCHAFT AUF AKTIEN HENKEL KGAA ; SCHUMANN KLAUS ; SMOLKA HEINZ G ; RUSCHEINSKY EMIL ; PLAPPER JUERGEN ; JANSEN HERMAN JF ; SCHWUGER MILAN J ; ARNDT EMANUEL ; HENKEL AUF AKTIEN HENKEL KG KG ; HENKEL AUF AKTIEN HENKEL KGAA KG ; HENKEL AUF AKTIEN KG ; HENKEL KG ; HENKEL KG AUF AKTIEN ; HENKEL KG AUF AKTIEN DE

Inventor(s): (std): ARNDR E ; ARNDT E ; ARNDT EMANUEL ; EMANUERU ARUNTO ; EMIIRU RUSHIYAINSUKII ; JANSEN H ; JANSEN HERMAN ; JANSEN HERMANN ; HAINTSU GERUTO SHIYUMORUKA ; KURASU SHIYUUMAN ; MIRAN YOHAN SHIYUUGERU ; PLAPPER JUERGEN ; PLAPPER JUERGEN DIPL CHEM DR ; PLAPPER JURGEN ; PLAPPER JURGEN DR ; PLEPPER JUERGEN ; RUSCHEINSKY E ; RUSCHEINSKY EMIL ; RUSCHNEINSKY E ; RUSCHNEINSKY EMIL ; SCHUMANN K ; SCHUMANN KLAUS ; SCHUMANN KLAUS DR ; SCHUWER MILAN JOHANN ; SCHWUGER M ; SCHWUGER M J ; SCHWUGER M JOHANN ; SCHUMANN KLAUS DIPL CHEM DR ; SCHWUGER MILAN JOHANN DIPL ING ; SCHWUGER MLAN JOHANN ; SMOLKA H ; SMOLKA H G ; SMOLKA HEINS GERD ; SMOLKA HEINZ G ; SCHWUGER MILAN J ; PLAPPER J ; JANSEN HERMAN J F ; SMOLKA HEINZ GERD DIPL CHEM DR ; YUURUGEN PURATSUPUPERU ; YUURUGEN PURATSUPERU ; SMOLKA HEINZ GERD ; SMOLKA GEJNTS GERD ; SHVUGER MILAN IOGANN ; SHUMANN KLAUS ; PLAPPER YURGEN ; EMANIYUURU ARUNTO ; YANZEN GERMAN ZHAN FRANSUA ; SCHWUGER MILAN JOHANN ; RUSHEINSKI EMIL ; SCHUHMANN K

Inventor(s): RUSCHEINSKY EMIL 5090 LEVERKUSEN DE ; SCHUMANN KLAUS DIPL CHEM DR 4006 ERKRATH DE ; SMOLKA HEINZ GERD DIPL CHEM DR 4018 LANGENFELD DE ; PLAPPER JUERGEN DIPL CHEM DR 4010 HILDEN DE ; MIRAN YOHAN SHUUGERU ; KURASU SHUUMAN ; JANSEN HERMAN JF ; HAINTSU GERUTO SHUMORUKA ; GERD DIPL CHEM DR SMOLKA HEINZ ; EMIIRU RUSHAINSUKII ; EMANYUURU ARUNTO ; ARNDT EMANUEL 4000 DUESSELDORF DE ; SCHWUGER MILAN JOHANN DIPL ING DR 5657 HAAN DE ; SCHWUGER MILAN JOHANN DIPL ING DR ; YURGEN PLAPPER DE ; J PLAPPER ; HEINZ GERD SMOLKA ; GERMAN ZHAN FRANSUA YANZEN NL ; GEJNTS GERD SMOLKA DE ; EMIL RUSHEINSKI DE ; EMIL RUSCHEINSKY ; EMANUEL ARNDT DE ; EMANUEL ARNDT ; MILAN JOHANN SCHWUGER ; MILAN IOGANN SHVUGER DE ; KLAUS SHUMANN DE ; KLAUS SCHUMANN ; JUERGEN PLAPPER ; SMOLKA HEINZ G DE ; SCHWUGER MILAN JOHANN DIPL INGDR ; SCHUMANN KLAUS DIPL CHEMDR ; SCHWUGER MILAN J DE ; SCHUMANN KLAUS DE ; RUSCHEINSKY EMIL DE ; PLAPPER JUERGEN DIPL CHEMDR ; PLAPPER JUERGEN DE ; M JOHANN SCHWUGER ; MILAN JOHANN SCHUWER ; HEINS GERD SMOLKA ; HERMANN JANSEN ; JUERGEN PLEPPER ; JURGEN PLAPPER ; EMIL RUSCHNEINSKY ; GERD DIPL CHEMDR SMOLKA HEINZ ; ARNDT EMANUEL DE

Agent(s): MACRAE AND CO

Designated states: BE DE FR GB IT

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AR218073 A1	19800515	LSGT	+	granted / extensions (spc, cpc, pte)	
AR219600 A1	19800829	LSGT	+	granted / extensions (spc, cpc, pte)	
AT355706 B	19800325	LSGT	+	granted / extensions (spc, cpc, pte)	
AT355706 B	19980515	LSLE	-ELJ	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
AT510078 A	19790815	LSPB	+	published / reissued	
AU197838034 A1	19800117	LSPB	+	published / reissued	
AU519847 B2	19811224	LSGT	+	granted / extensions (spc, cpc, pte)	
BR7803010 A	19790508	LSPB	+	published / reissued	
BR7903084 A	19791204	LSPB	+	published / reissued	
BR7903085 A	19791204	LSPB	+	published / reissued	
BR7903086 A	19791204	LSPB	+	published / reissued	
BR7903114 A	19791211	LSPB	+	published / reissued	
CA1103408 A1	19810623	LSPB	+	published / reissued	
CA1103408 A1	19980623	LSLE	-MKEX	EXPIRY	
CA1121109 A1	19820406	LSPB	+	published / reissued	
CA1121109 A1	19990406	LSLE	-MKEX	EXPIRY	
CA1130055 A1	19820824	LSPB	+	published / reissued	
CA1130055 A1	19990824	LSLE	-MKEX	EXPIRY	
CS207632 B2	19810831	LSGT	+	granted / extensions (spc, cpc, pte)	
DE2732217 A1	19790201	LSPB	+	published / reissued	
DE2732217 A1	19840830	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE2732217 A1	19860528	LSWD	-8176	PROCEEDINGS SUSPENDED BECAUSE OF APPLICATION NO:	REF DOCUMENT NUMBER : 2728812 COUNTRY OF REF DOCUMENT : DE FORMAT OF REF DOCUMENT (F/P) : P
DE2732217 A1	19880511	LSRE	+8178	SUSPENSION CANCELLED	
DE2732217 A1	19890824	LSGT	+D2	GRANT AFTER EXAMINATION	
DE2732217 A1	19900222	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE2732217 C2	19890824	LSGT	+	granted / extensions (spc, cpc, pte)	
DE2822072 A1	19791129	LSPB	+	published / reissued	
DE2822072 A1	19850718	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE2822072 A1	19870416	LSWD	-8176	PROCEEDINGS SUSPENDED BECAUSE OF APPLICATION NO:	REF DOCUMENT NUMBER : 2732217 COUNTRY OF REF DOCUMENT : DE FORMAT OF REF DOCUMENT (F/P) : P
DE2822072 A1	19900222	LSRE	+8178	SUSPENSION CANCELLED	
DE2822072 A1	19910508	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE	
DE2822073 A1	19791122	LSPB	+	published / reissued	
DE2822073 A1	19850718	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE2822073 A1	19870527	LSRV	-8131	REJECTION	
DE2822074 A1	19791122	LSPB	+	published / reissued	
DE2822074 A1	19850814	LSLE	-8141	DISPOSAL/NO REQUEST FOR EXAMINATION	
DE2822075 A1	19791122	LSPB	+	published / reissued	
DE2822075 A1	19850718	LSES	+8110	REQUEST FOR EXAMINATION	

PARAGRAPH 44					
DE2822075 A1	19861106	LSWD	-8176	PROCEEDINGS SUSPENDED BECAUSE OF APPLICATION NO:	REF DOCUMENT NUMBER : 2732217 COUNTRY OF REF DOCUMENT : DE FORMAT OF REF DOCUMENT (F/P) : P
DE2822075 A1	19900215	LSWD	-8130	WITHDRAWAL	
DE2822075 A1	19900215	LSRE	+8178	SUSPENSION CANCELLED	
DE2822076 A1	19791129	LSPB	+	published / reissued	
DE2822076 A1	19850718	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE2822076 A1	19870619	LSRV	-8131	REJECTION	
DE2832089 A1	19800131	LSPB	+	published / reissued	
DE2832089 A1	19850718	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44	
DE2832089 A1	19870402	LSWD	-8176	PROCEEDINGS SUSPENDED BECAUSE OF APPLICATION NO:	REF DOCUMENT NUMBER : 2732217 COUNTRY OF REF DOCUMENT : DE FORMAT OF REF DOCUMENT (F/P) : P
DE2832089 A1	19900222	LSRE	+8178	SUSPENSION CANCELLED	
DE2832089 A1	19910425	LSWD	-8130	WITHDRAWAL	
EP0005546 A2	19791128	LSPB	+	published / reissued	
EP0005546 A2	19800611	LSES	+17P	REQUEST FOR EXAMINATION FILED	
EP0005546 A2	19890430	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 19890430 YEAR OF FEE PAYMENT : 11
EP0005546 A2	19890517	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : FR PAYMENT DATE : 19890517 YEAR OF FEE PAYMENT : 11
EP0005546 A2	19890703	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : BE PAYMENT DATE : 19890703 YEAR OF FEE PAYMENT : 11
EP0005546 A2	19900517	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : GB EFFECTIVE DATE : 19900517
EP0005546 A2	19900531	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : BE EFFECTIVE DATE : 19900531
EP0005546 A2	19901130	LSLE	-BERE	BE: LAPSED	OWNER NAME : HENKEL K.G.A.A. EFFECTIVE DATE : 19900531
EP0005546 A2	19910116	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON-PAYMENT OF RENEWAL FEE	
EP0005546 A2	19910131	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM.	REF COUNTRY CODE : FR

FROM NAT. OFFICE TO EPO					EFFECTIVE DATE : 19910131
EP0005546 A2	19910405	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
EP0005546 B1	19820623	LSGT	+	granted / extensions (spc, cpc, pte)	
ES471773 A1	19791001	LSGT	+	granted / extensions (spc, cpc, pte)	
ES471773 A1	20001201	LSLE	-FD1A	PATENT LAPSED	EFFECTIVE DATE : 20001009
ES471773 A1	20001201	LSLE	-FD1A	PATENT LAPSED	EFFECTIVE DATE : 20001009
ES480706 A1	19791201	LSGT	+	granted / extensions (spc, cpc, pte)	
ES482711 A1	19800401	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2397459 A1	19790209	LSPB	+	published / reissued	
FR2397459 A1	19980327	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2397459 B1	19801212	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1603720 A	19811125	LSGT	+	granted / extensions (spc, cpc, pte)	
GB1603720 A	19820217	LSGT	+PS	PATENT SEALED	
GB1603720 A	19980107	LSLE	-PCNP	PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 19970515
GB2026026 A1	19800130	LSPB	+	published / reissued	
GB2026026 A1	19830427	LSGT	+PG	PATENT GRANTED	
GB2026026 A1	19910320	LSLE	-PCNP	PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	
GB2026026 B2	19830427	LSGT	+	granted / extensions (spc, cpc, pte)	
HU178566 P	19820528	LSGT	+	granted / extensions (spc, cpc, pte)	
HU180777 B	19830429	LSGT	+	granted / extensions (spc, cpc, pte)	
HU180777 B	19910429	LSLE	HMM4	CANCELLATION OF FINAL PROT. DUE TO NON-PAYMENT OF FEE	
IN151252 A	19830319	LSPB	+	published / reissued	
IT1097007 A	19850826	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1097007 A	19991027	LSFE	TA	FEE PAYMENT DATE (SITUATION AS OF PRS-DATE), DATA COLLECTED SINCE 19931001	EFFECTIVE DATE : 19950729
JP1365147 C3	19870226	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1414313 C3	19871210	LSGT	+	granted / extensions (spc, cpc, pte)	
JP54020102 A2	19790215	LSPB	+	published / reissued	
JP54154501 A2	19791205	LSPB	+	published / reissued	
JP61029400 B4	19860707	LSPB	+	published / reissued	
JP62019800 B4	19870501	LSPB	+	published / reissued	
KR840002218 B1	19841203	LSGT	+	granted / extensions (spc, cpc, pte)	
MX153312 A	19860912	LSGT	+	granted / extensions (spc, cpc, pte)	
MX153313 A	19860912	LSGT	+	granted / extensions (spc, cpc, pte)	
MX153314 A	19860912	LSGT	+	granted / extensions (spc, cpc, pte)	
MX158184 A	19890116	LSGT	+	granted / extensions (spc, cpc, pte)	
NZ187864 A	19810316	LSPB	+	published / reissued	
NZ190493 A	19820316	LSPB	+	published / reissued	
NZ191074 A	19820330	LSPB	+	published / reissued	
PL112885 B1	19801129	LSGT	+	granted / extensions (spc, cpc, pte)	
PL115247 B1	19810331	LSGT	+	granted / extensions (spc, cpc, pte)	
PL208384 A1	19790312	LSPB	+	published / reissued	
PL215664 A1	19800225	LSPB	+	published / reissued	
SU912048 D	19820307	LSGT	+	granted / extensions (spc, cpc, pte)	

TR19873 A	19800403	LSGT	+	granted / extensions (spc, cpc, pte)
TR20107 A	19800806	LSGT	+	granted / extensions (spc, cpc, pte)
TR20410 A	19810501	LSGT	+	granted / extensions (spc, cpc, pte)
TR20436 A	19810708	LSGT	+	granted / extensions (spc, cpc, pte)
US4221564 A	19800909	LSGT	+	granted / extensions (spc, cpc, pte)
US4221564 A	19800909	LSGT	PAT1	Patented Case
US4264318 A	19810428	LSGT	+	granted / extensions (spc, cpc, pte)
US4264318 A	19810108	LSGT	PAT1	Patented Case
US4272242 A	19810609	LSGT	+	granted / extensions (spc, cpc, pte)
US4272242 A	19810211	LSGT	PAT1	Patented Case
YU115179 A	19831031	LSPB	+	published / reissued
YU163978 A	19831031	LSPB	+	published / reissued
YU42096 B	19880430	LSPB	+	published / reissued
YU42281 B	19880831	LSPB	+	published / reissued
ZA7804029 A	19790725	LSGT	+	granted / extensions (spc, cpc, pte)
ZA7903664 A	19800730	LSGT	+	granted / extensions (spc, cpc, pte)

9) Family number: 29501322 (US4243514A)

© PatBase

Title: Preparation of FCC charge from residual fractions

Abstract: Source: US4243514A Residual fractions from distillation of petroleum are rendered suitable for charge to catalytic cracking by high temperature, short time contact in a decarbonizing zone with a fluidizable solid particles of essentially inert character and low surface area to deposit high boiling components of the crude and metals on the fluidizable solid particles whereby Conradson Carbon values and metal content of the hydrocarbon feedstock are reduced to levels tolerable in catalytic cracking and carbon laid down on the inert fluidizable particles is burned in a burning zone separate from the decarbonizing zone. Heated inert particles are recycled at least in part to the decarbonizing zone and then to the burning zone. Additional charge of fluidizable inert solid is produced in situ in the burner on a regular or intermittent basis by spraying a slurry of a precursor of the fluidizable inert solid into the hot gases in the burner whereby the sprayed mist dries in the form of fine beads composed of inert material and the beads are cycled to the decarbonizing zone to reduce Conradson Carbon and metals content of new feedstock charge.

Classifications:

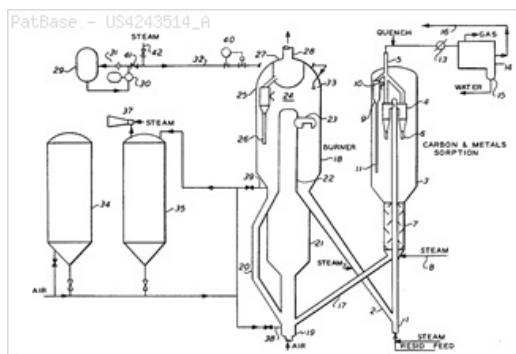
International (IPC 8-9): C07C4/06 C10B57/04 C10G11/10 C10G11/18 C10G21/22 C10G25/00 C10G25/06 C10G25/08 C10G25/09 C10G25/11 C10G25/12 C10G31/06 C10G51/04 C10G53/06 C10G55/04 C10G55/06 C10G9/20 C10G9/30 C10G9/32 (Advanced/Invention); C07C4/00 C10B57/00 C10G11/00 C10G25/00 C10G31/00 C10G51/00 C10G55/00 C10G9/00 (Core/Invention); C10G (Subclass/Invention)

International (IPC 1-7): A01D34/76 B01J35/02 B01J8/00 B01J8/24 C07C4/06 C10B57/04 C10G11/00 C10G11/02 C10G11/10 C10G11/14 C10G11/16 C10G11/18 C10G23/00 C10G25/00 C10G25/05 C10G25/06 C10G25/08 C10G25/09 C10G25/11 C10G25/12 C10G29/02 C10G29/16 C10G31/00 C10G31/06 C10G37/00 C10G45/26 C10G51/04 C10G53/08 C10G53/10 C10G55/06 C10G7/00 C10G9/18 C10G9/20 C10G9/30 C10G9/32 C10L F16D13/74 F27B15/00

CPC: C10G2300/107 C10G25/003 Y10S208/01 C10G25/09 C10G9/32 C10G51/04 C10G55/06

European: C10G21/22 C10G25/00B C10G25/09 C10G51/04 C10G53/06 C10G55/04 C10G55/06 C10G9/32 M10G300/10H

US: 208/113 208/120.01 208/127 208/153 208/157 208/251.00R 208/251R 208/252 208/273 208/299 208/301 208/305 208/307 208/309 208/50 208/52CT 208/52R 208/55 208/73 208/80 208/90 208/91 208/93 208/DIG.1 422/140 422/144 422/190 422/223 423/651 502/20 502/29 502/41



Family:

Publication number	Publication date	Application number	Application date
AT188881 A	19850615	AT19810001888	19810427
AT379609 B	19860210	AT19810001888	19810427
AU198169885 A1	19811105	AU19810069885	19810427
AU545668 B2	19850725	AU19810069885	19810427
BR7900718 A	19790904	BR19790000718	19790206
BR8102552 A	19820105	BR19810002552	19810427
CA1127581 A1	19820713	CA19780317476	19781206
CA1169010 A1	19840612	CA19810376433	19810428
CA1179287 A1	19841211	CA19810381637	19810713
CA1181026 A1	19850115	CA19820410746	19820903
CA1181026 AA	19850115	CA19820410746	19820903
CA1183797 A1	19850312	CA19820400554	19820406
CH650014 A	19850628	CH19810002736	19810427
DD158645 A5	19830126	DD19810229560	19810428
DE2904230 A1	19790809	DE19792904230	19790205
DE2904230 C2	19880908	DE19792904230	19790205
DE3116598 A1	19820325	DE19813116598	19810427
EG15374 A	19860630	EG19810000233	19810425
ES502300 A0	19820401	ES19810502300	19810428
ES502300 A2	19820416	ES19810502300	19810428
ES8203412 A1	19820701	ES19810502300	19810428
FR2481311 A1	19811030	FR19810008463	19810428

FR2481311 B1	19860718	FR19810008463	19810428
GB2015564 A1	19790912	GB19790002530	19790124
GB2015564 B2	19820929	GB19790002530	19790124
GB2075048 A1	19811111	GB19810013041	19810428
GB2075048 B2	19850109	GB19810013041	19810428
GR74886 B	19840712	GR19810064789	19810422
GR74886 B	19840712	GR19810164789	19810422
HU189505 B	19860728	HU19810001090	19810427
IT1110273 A	19851223	IT19790019950	19790206
IT1139087 A	19860917	IT19810021424	19810428
IT7919950 A0	19790206	IT19790019950	19790206
IT8121424 A0	19810428	IT19810021424	19810428
JP1488549 C3	19890323	JP19790007288	19790126
JP54113602 A2	19790905	JP19790007288	19790126
JP56167787 A2	19811223	JP19810063503	19810428
JP63037154 B4	19880722	JP19790007288	19790126
LU83319 A	19811201	LU19810083319	19810427
MX157605 A	19881205	MX19810187039	19810428
MX6265 U	19850222	MX19790101601U	19790202
NL7900957 A	19790808	NL19790000957	19790206
NL8102095 A	19811116	NL19810002095	19810428
NO161325 B	19890424	NO19810001411	19810427
NO161325 C	19890802	NO19810001411	19810427
NO811411 A	19811029	NO19810001411	19810427
OA6800 A	19821231	OA19810057391	19810428
PL134116 B1	19850731	PL19810230887	19810428
PL230887 A1	19820215	PL19810230887	19810428
PT72931 A	19810501	PT19810072931	19810427
PT72931 B	19820412	PT19810072931	19810427
RO82099 B	19850330	RO19810104137	19810428
RO82099 B1	19850330	RO19810104137	19810428
RO82099 P	19850315	RO19810104137	19810428
SU1299518 A3	19870323	SU19823479653	19820415
SU1391503 A3	19880423	SU19813289552	19810520
US4243514 A	19810106	US19790038928	19790514
US4256567 A	19810317	US19790079227	19790926
US4263128 A	19810421	US19790090247	19791101
US4309274 A	19820105	US19800139043	19800410
US4311579 A	19820119	US19800155735	19800602
US4311580 A	19820119	US19800144477	19800428
US4325809 A	19820420	US19800177321	19800808
US4328091 A	19820504	US19800155736	19800602
US4427538 A	19840124	US19810299361	19810904
US4446009 A	19840501	US19810260145	19810504
ZA8102797 A	19820428	ZA19810002797	19810428
ZA8106910 A	19820929	ZA19810006910	19811006
ZW10081 A	19810722	ZW19810000100	19810428

Priority:

CA19780317476 19781206	CA19810376433 19810428	MX19790176492 19790202
CA19820410746 19820903	CA19810381637 19810713	CA19820400554 19820406
SU19823479653 19820415	SU19813289552 19810520	US19790079227 19790926
US19800139043 19800410	US19790038928 19790514	US19790092719 19791109
US19790090247 19791101	US19780875326 19780206	US19800177321 19800808
US19800155735 19800602	US19810299361 19810904	US19800155736 19800602
US19810260145 19810504	US19800144477 19800428	

Probable Assignee: PHIBRO CORP

Assignee(s): (std):	ENGELHARD CORP ; ENGELHARD MIN AND CHEM ; ENGELHARD MINERALS AND CHEMICALS CORP ; ENGELHARD MINERALS AND CHEMICALS TE ED CORP ; ENGELHARD MINERALS CHEMICALS CORP ; ENGELHARD MINERALS CHEM CORP ; NISSHIN KOGYO K K
Assignee(s):	ENGELHARD MINERALS U CHEMICALS CORP ; ENGELHARD MINERALS CHEMICALS COR ; ENGLEHARD A CORP OF DE CORP ; ENGLEHARD MINERALS AND CHEMICALS CORP ; ENGELHARD MINERALS AND CHEMICALS CORP US ; ENGELHARD MINERALS AND CHEMICALS CORP EDISON N J US ; ENGELHARD MINERALS AND CHEMICALS TE EDISON NEW JERSEY VER ST V AM CORP ; PHIBRO CORP ; ENGELHARD MINERALS AND CHEMICAL CORP ; ENGELHARD MINERALS AND CHEM CORP ; ENGLEHARD CORP ; ENGELHARD MINERALS AND CHEMICALS CORP EDISON N J U ; BARTHOLIC DAVID B
Inventor(s): (std):	BARTHOLIC ; BARTHOLIC D ; BARTHOLIC D B ; BARTHOLIC DAVID B ; BARTHOLIC DAVID BRUCE ; BARTHOLICD DAVID BRUCE ; BARTOLIK DEVID BRUTS ; BRUCE BARTHOLIC DAVID ; DAVID BBARTHOLIC US ; DAVID BRUCE BARTHOLIC ; DEBITSUDO BURUUSU BAASORITSUKU ; DEBITSUTO BURUUSU BAASORITSUKU ; DEVID BRUTS BARTOLIK US ; S NAGAI
Inventor(s):	DAVID B BARTHOLIC US ; BARTHOLIC DAVID BRUCE WATCHUNG N J ; BARTHOLIC DAVID BRUCE WATCHUNG N J US
Agent(s):	SMART AND BIGGAR; MCFADDEN FINCHAM; OSLER HOSKIN AND HARCOURT LLP

Legal status (INPADOC)

[View legal status timeline](#)

Patent	Date recorded	Event group	Code	Event	Details
AT188881 A	19850615	LSPB	+	published / reissued	
AT379609 B	19860210	LSGT	+	granted / extensions (spc, cpc, pte)	

AT379609 B	19930315	LSLE	-ELJ	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE
AT379609 B	20011215	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE
AT379609 B	20090415	LSLE	-REN	CEASED DUE TO NON-PAYMENT OF THE ANNUAL FEE
AU198169885 A1	19811105	LSPB	+	published / reissued
AU545668 B2	19850725	LSGT	+	granted / extensions (spc, cpc, pte)
AU545668 B2	20001130	LSLE	-MK14	PATENT CEASED SECTION 143(A) (ANNUAL FEES NOT PAID) OR EXPIRED
BR7900718 A	19790904	LSPB	+	published / reissued
BR8102552 A	19820105	LSPB	+	published / reissued
BR8102552 A	19950620	LSLE	-MM	LAPSE DUE TO NON-PAYMENT OF FEES (ART. 50)
CA1127581 A1	19820713	LSPB	+	published / reissued
CA1127581 A1	19990713	LSLE	-MKEX	EXPIRY
CA1169010 A1	19840612	LSPB	+	published / reissued
CA1169010 A1	20010612	LSLE	-MKEX	EXPIRY
CA1179287 A1	19841211	LSPB	+	published / reissued
CA1179287 A1	20011211	LSLE	-MKEX	EXPIRY
CA1181026 A1	19850115	LSPB	+	published / reissued
CA1181026 A1	20020116	LSRE	+MKEC	EXPIRY (CORRECTION)
CA1181026 A1	20020903	LSLE	-MKEX	EXPIRY
CA1181026 AA	19850115	LSPB	+	published / reissued
CA1183797 A1	19850312	LSPB	+	published / reissued
CA1183797 A1	20020313	LSRE	+MKEC	EXPIRY (CORRECTION)
CA1183797 A1	20020406	LSLE	-MKEX	EXPIRY
CH650014 A	19850628	LSGT	+	granted / extensions (spc, cpc, pte)
CH650014 A	19861231	LSLE	-PL	PATENT CEASED
DD158645 A5	19830126	LSGT	+	granted / extensions (spc, cpc, pte)
DD158645 A5	19960425	LSLE	-ENJ	CEASED DUE TO NON-PAYMENT OF RENEWAL FEE
DE2904230 A1	19790809	LSPB	+	published / reissued
DE2904230 A1	19860116	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44
DE2904230 A1	19880908	LSGT	+D2	GRANT AFTER EXAMINATION
DE2904230 A1	19890302	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION
DE2904230 C2	19880908	LSGT	+	granted / extensions (spc, cpc, pte)
DE3116598 A1	19820325	LSPB	+	published / reissued
DE3116598 A1	19880707	LSES	+8110	REQUEST FOR EXAMINATION PARAGRAPH 44
DE3116598 A1	19930408	LSLE	-8139	DISPOSAL/NON-PAYMENT OF THE ANNUAL FEE
EG15374 A	19860630	LSGT	+	granted / extensions (spc, cpc, pte)
ES8203412 A1	19820701	LSGT	+	granted / extensions (spc, cpc, pte)
FR2481311 A1	19811030	LSPB	+	published / reissued
FR2481311 A1	19930226	LSLE	-ST	NOTIFICATION OF LAPSE
FR2481311 B1	19860718	LSGT	+	granted / extensions (spc, cpc, pte)

GB2015564 A1	19790912	LSPB	+	published / reissued	
GB2015564 A1	19820929	LSGT	+PG	PATENT GRANTED	
GB2015564 A1	19990217	LSLE	-PE20	PATENT EXPIRED AFTER TERMINATION OF 20 YEARS	EFFECTIVE DATE : 19990123
GB2015564 B2	19820929	LSGT	+	granted / extensions (spc, cpc, pte)	
GB2075048 A1	19811111	LSPB	+	published / reissued	
GB2075048 A1	19850109	LSGT	+PG	PATENT GRANTED	
GB2075048 A1	19921223	LSLE	-PCNP	PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	
GB2075048 B2	19850109	LSGT	+	granted / extensions (spc, cpc, pte)	
GR74886 B	19840712	LSGT	+	granted / extensions (spc, cpc, pte)	
GR74886 B	19840712	LSGT	+	granted / extensions (spc, cpc, pte)	
HU189505 B	19860728	LSGT	+	granted / extensions (spc, cpc, pte)	
HU189505 B	19940228	LSLE	HMM4	CANCELLATION OF FINAL PROT. DUE TO NON-PAYMENT OF FEE	
IT1110273 A	19851223	LSGT	+	granted / extensions (spc, cpc, pte)	
IT1110273 A	19991027	LSFE	TA	FEE PAYMENT DATE (SITUATION AS OF PRS-DATE), DATA COLLECTED SINCE 19931001	EFFECTIVE DATE : 19980225
IT1139087 A	19860917	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1488549 C3	19890323	LSGT	+	granted / extensions (spc, cpc, pte)	
JP54113602 A2	19790905	LSPB	+	published / reissued	
JP56167787 A2	19811223	LSPB	+	published / reissued	
JP63037154 B4	19880722	LSPB	+	published / reissued	
LU83319 A	19811201	LSGT	+	granted / extensions (spc, cpc, pte)	
MX157605 A	19881205	LSGT	+	granted / extensions (spc, cpc, pte)	
NL7900957 A	19790808	LSPB	+	published / reissued	
NL7900957 A	19860303	LSES	+BA	A REQUEST FOR SEARCH OR AN INTERNATIONAL- TYPE SEARCH HAS BEEN FILED	
NL7900957 A	19880901	LSES	BB	A SEARCH REPORT HAS BEEN DRAWN UP	
NL7900957 A	19890201	LSES	+BC	A REQUEST FOR EXAMINATION HAS BEEN FILED	
NL7900957 A	19921001	LSLE	-BV	THE PATENT APPLICATION HAS LAPSED	
NL8102095 A	19811116	LSPB	+	published / reissued	
NL8102095 A	19880601	LSES	+BA	A REQUEST FOR SEARCH OR AN INTERNATIONAL- TYPE SEARCH HAS BEEN FILED	
NL8102095 A	19880701	LSES	BB	A SEARCH REPORT HAS BEEN DRAWN UP	
NL8102095 A	19881201	LSES	+BC	A REQUEST FOR EXAMINATION HAS BEEN FILED	
NL8102095 A	19931201	LSLE	-BV	THE PATENT APPLICATION HAS LAPSED	
NO161325 B	19890424	LSPB	+	published / reissued	
NO161325 C	19890802	LSGT	+	granted / extensions (spc, cpc, pte)	

NO811411 A	19811029	LSPB	+	published / reissued	
OA6800 A	19821231	LSGT	+	granted / extensions (spc, cpc, pte)	
PL134116 B1	19850731	LSGT	+	granted / extensions (spc, cpc, pte)	
PL230887 A1	19820215	LSPB	+	published / reissued	
PT72931 A	19810501	LSPB	+	published / reissued	
PT72931 B	19820412	LSGT	+	granted / extensions (spc, cpc, pte)	
RO82099 B	19850330	LSGT	+	granted / extensions (spc, cpc, pte)	
RO82099 P	19850315	LSPB	+	published / reissued	
SU1299518 A3	19870323	LSGT	+	granted / extensions (spc, cpc, pte)	
SU1391503 A3	19880423	LSGT	+	granted / extensions (spc, cpc, pte)	
US4243514 A	19810106	LSGT	+	granted / extensions (spc, cpc, pte)	
US4243514 A	19800927	LSGT	PAT1	Patented Case	
US4243514 A	19820416	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGLEHARD CORPORATION A CORP. OF DE., NEW JERSE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:PHIBRO CORPORATION; REEL/FRAME:003981/0436 EFFECTIVE DATE : 19810518
US4243514 A	19830610	LSAS	AS	ASSIGNMENT	OWNER NAME : PHIBRO CORPORATION DESCRIPTION : CHANGE OF NAME; ASSIGNOR:ENGELHARD MINERALS AND CHEMICALS CORPORATION; REEL/FRAME:004140/0512 EFFECTIVE DATE : 19830328
US4256567 A	19810317	LSGT	+	granted / extensions (spc, cpc, pte)	
US4256567 A	19801118	LSGT	PAT1	Patented Case	
US4256567 A	19820416	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGLEHARD CORPORATION A CORP. OF DE., NEW JERSE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:PHIBRO CORPORATION; REEL/FRAME:003981/0436 EFFECTIVE DATE : 19810518
US4263128 A	19810421	LSGT	+	granted / extensions (spc, cpc, pte)	
US4263128 A	19801230	LSGT	PAT1	Patented Case	
US4263128 A	19820416	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGLEHARD CORPORATION A CORP. OF DE., NEW JERSE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:PHIBRO CORPORATION; REEL/FRAME:003981/0436 EFFECTIVE DATE : 19810518
US4263128 A	19830610	LSAS	AS	ASSIGNMENT	OWNER NAME : PHIBRO CORPORATION DESCRIPTION : CHANGE OF NAME; ASSIGNOR:ENGELHARD MINERALS AND CHEMICALS CORPORATION; REEL/FRAME:004140/0512 EFFECTIVE DATE : 19830328
US4309274 A	19820105	LSGT	+	granted / extensions (spc, cpc, pte)	
US4309274 A	19820113	LSGT	PAT1	Patented Case	
US4309274 A	19820416	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGLEHARD CORPORATION A CORP. OF DE., NEW JERSE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:PHIBRO CORPORATION; REEL/FRAME:003981/0436 EFFECTIVE DATE : 19810518

US4309274 A	19830610	LSAS	AS	ASSIGNMENT	OWNER NAME : PHIBRO CORPORATION DESCRIPTION : CHANGE OF NAME; ASSIGNOR:ENGELHARD MINERALS AND CHEMICALS CORPORATION; REEL/FRAME:004140/0512 EFFECTIVE DATE : 19830328
US4311579 A	19820119	LSGT	+	granted / extensions (spc, cpc, pte)	
US4311579 A	19820127	LSGT	PAT1	Patented Case	
US4311579 A	19820416	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGLEHARD CORPORATION A CORP. OF DE., NEW JERSE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:PHIBRO CORPORATION; REEL/FRAME:003981/0436 EFFECTIVE DATE : 19810518
US4311579 A	19830610	LSAS	AS	ASSIGNMENT	OWNER NAME : PHIBRO CORPORATION DESCRIPTION : CHANGE OF NAME; ASSIGNOR:ENGELHARD MINERALS AND CHEMICALS CORPORATION; REEL/FRAME:004140/0512 EFFECTIVE DATE : 19830328
US4311580 A	19820119	LSGT	+	granted / extensions (spc, cpc, pte)	
US4311580 A	19820127	LSGT	PAT1	Patented Case	
US4311580 A	19820416	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGLEHARD CORPORATION A CORP. OF DE., NEW JERSE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:PHIBRO CORPORATION; REEL/FRAME:003981/0436 EFFECTIVE DATE : 19810518
US4311580 A	19830610	LSAS	AS	ASSIGNMENT	OWNER NAME : PHIBRO CORPORATION DESCRIPTION : CHANGE OF NAME; ASSIGNOR:ENGELHARD MINERALS AND CHEMICALS CORPORATION; REEL/FRAME:004140/0512 EFFECTIVE DATE : 19830328
US4325809 A	19820420	LSGT	+	granted / extensions (spc, cpc, pte)	
US4325809 A	19820115	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGELHARD MINERALS AND CHEMICALS CORPORATION, TOWNSH DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:BARTHOLIC, DAVID B.; REEL/FRAME:003943/0077 EFFECTIVE DATE : 19791105
US4325809 A	19820416	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGLEHARD CORPORATION A CORP. OF DE., NEW JERSE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:PHIBRO CORPORATION; REEL/FRAME:003981/0436 EFFECTIVE DATE : 19810518
US4325809 A	19820420	LSGT	PAT1	Patented Case	
US4325809 A	19830610	LSAS	AS	ASSIGNMENT	OWNER NAME : PHIBRO CORPORATION DESCRIPTION : CHANGE OF NAME; ASSIGNOR:ENGELHARD MINERALS AND CHEMICALS CORPORATION; REEL/FRAME:004140/0512 EFFECTIVE DATE : 19830328
US4328091 A	19820504	LSGT	+	granted / extensions (spc, cpc, pte)	
US4328091 A	19820416	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGLEHARD CORPORATION A CORP. OF DE., NEW JERSE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.;

					ASSIGNOR:PHIBRO CORPORATION; REEL/FRAME:003981/0436 EFFECTIVE DATE : 19810518
US4328091 A	19820504	LSGT	PAT1	Patented Case	
US4328091 A	19830610	LSAS	AS	ASSIGNMENT	OWNER NAME : PHIBRO CORPORATION DESCRIPTION : CHANGE OF NAME; ASSIGNOR:ENGELHARD MINERALS AND CHEMICALS CORPORATION; REEL/FRAME:004140/0512 EFFECTIVE DATE : 19830328
US4427538 A	19840124	LSGT	+	granted / extensions (spc, cpc, pte)	
US4427538 A	19810904	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGELHARD CORPORATION, TOWNSHIP, NJ A CORP. OF DE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:BARTHOLIC, DAVID B.; REEL/FRAME:003917/0759 EFFECTIVE DATE : 19810901
US4427538 A	19820416	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGLEHARD CORPORATION A CORP. OF DE., NEW JERSE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:PHIBRO CORPORATION; REEL/FRAME:003981/0436 EFFECTIVE DATE : 19810518
US4427538 A	19830610	LSAS	AS	ASSIGNMENT	OWNER NAME : PHIBRO CORPORATION DESCRIPTION : CHANGE OF NAME; ASSIGNOR:ENGELHARD MINERALS AND CHEMICALS CORPORATION; REEL/FRAME:004140/0512 EFFECTIVE DATE : 19830328
US4427538 A	19831125	LSGT	PAT1	Patented Case	
US4427538 A	19870601	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4427538 A	19920126	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	
US4427538 A	19920331	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19920126
US4446009 A	19840501	LSGT	+	granted / extensions (spc, cpc, pte)	
US4446009 A	19810504	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGELHARD MINERALS AND CHEMICALS CORPORATION. TOWNSH DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:BARTHOLIC DAVID B.; REEL/FRAME:003881/0967 EFFECTIVE DATE : 19810501
US4446009 A	19820416	LSAS	AS	ASSIGNMENT	OWNER NAME : ENGLEHARD CORPORATION A CORP. OF DE., NEW JERSE DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNOR:PHIBRO CORPORATION; REEL/FRAME:003981/0436 EFFECTIVE DATE : 19810518
US4446009 A	19830610	LSAS	AS	ASSIGNMENT	OWNER NAME : PHIBRO CORPORATION DESCRIPTION : CHANGE OF NAME; ASSIGNOR:ENGELHARD MINERALS AND CHEMICALS CORPORATION; REEL/FRAME:004140/0512 EFFECTIVE DATE : 19830328
US4446009 A	19840302	LSGT	PAT1	Patented Case	
US4446009 A	19870831	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4446009 A	19911101	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4446009 A	19950905	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 12

ZA8102797 A	19820428	LSGT	+	granted / extensions (spc, cpc, pte)
ZA8106910 A	19820929	LSGT	+	granted / extensions (spc, cpc, pte)
ZW10081 A	19810722	LSPB	+	published / reissued

10) Family number: 2445559 (US4548734A)

© PatBase

Title: Water soluble gum/polymer compositions and hydrosols prepared therefrom

Abstract: Source: US4548734A Compositions of matter, desirably in powder form, adapted for ready dispersion/dissolution in an aqueous medium, and which rapidly provide maximum viscosity values therefor, are comprised of an intimate admixture of a water soluble gum or polymer, a dispersion/dissolution enhancing amount of a water donor material, and, advantageously, an anionic and/or nonionic surfactant.

Classifications:

International (ipc 8-9): C08J3/03 C08J3/05 C08K3/00 C08L21/00 C08L33/00 C08L33/02 C08L5/00 C08L57/00

C08L7/00 (Advanced/Invention);

C08J3/02 C08K3/00 C08L21/00 C08L33/00 C08L5/00 C08L57/00

C08L7/00 (Core/Invention)

International (ipc 1-7): B01F3/18 B01J13/00 C08J3/02 C08J3/06 C08K1/08 C08K3/00 C08K5/41 C08L1/00 C08L33/00 C08L5/00 C08L7/00

CPC: C08J3/03 C08J3/05 C08J2300/10 C08L5/00 C08L57/00

European: C08J3/03 C08J3/05 C08L5/00 C08L57/00 M08J300/10

US: 106/162.8 106/205.01 106/205.9 252/311 252/363.5 516/53 516/56 516/58 516/64 516/67 516/76 524/847

PatBase - CA1202005_R1

**SUBSTITUTE
REPLACEMENT**

there are **NO DRAWINGS**

il n'y a PAS DE DESSINS

Family:

Publication number	Publication date	Application number	Application date
BR8206578 A	19830927	BR19820006578	19821112
CA1205595 A1	19860603	CA19820415544	19821115
DE3275195 D1	19870226	DE19823275195	19821115
EP0079837 A1	19830525	EP19820402080	19821115
EP0079837 B1	19870121	EP19820402080	19821115
FR2516526 A1	19830520	FR19810021359	19811116
FR2516526 B1	19870522	FR19810021359	19811116
JP1248015 C3	19850116	JP19820199829	19821116
JP58096635 A2	19830608	JP19820199829	19821116
JP59020692 B4	19840515	JP19820199829	19821116
MX7181 U	19871222	MX19820010353U	19821109
US4548734 A	19851022	US19830460772	19830125

Priority:

CA19820415544 19821115 FR19810021359 19811116 US19820442003 19821116

Probable Assignee: RHONE POULENC SPEC CHIM

Assignee(s): (std): RHONE POULENC SPEC CHIM

Assignee(s): RHONE POULENC SPECIALITES CHIMIQ ; RHONE POULENC SPECIALITES CHIMIQUES ; RHONE POULENC SPECIALTIES CHIMIQUES LES MIROIRS ; ROONUUPUURAN SUPESHIARITE SHIMIUKU ; ROONU PUURAN SUPESHIARITE SHIMIUKU ; ROUSSOS JOSIANE ; CHAUX JEAN BERNARD ; GAGNE PIERRE ; GARCIA MICHEL ; LESPINASSE DOMINIQUE

Inventor(s): (std): BERNARD CHAUX JEAN ; CHAUX JEAN BERNARD ; DOMINIKU REPINASU ; DOMINIQUE LESPINASSE ; GAGNE PIERRE ; GARCIA MICHEL ; JOSIANE ROUSSOS ; LESPINASSE DOMINIQUE ; MICHEL GARCIA ; JIYAN BERUNAARU SHIYOO ; JIYOJIANU RUSO ; MISHIERU GARUSHIA ; PIERERU GAANYU ; PIERRE GAGNE ; ROUSSOS JOSIANE

Inventor(s): PIERERU GAANYU ; JOJIANU RUSO ; MISHIERU GARUSHIA ; JAN BERUNAARU SHOO ; JEAN BERNARD CHAUX ; JEAN BERNARD CHAUX PIERRE GAGNE MICHEL GARCIA DOMI ; JEAN BERNARD CHAUX PIERRE GAGNE MICHEL GARCIA...

Agent(s): ROBIC ROBIC AND ASSOCIES ASSOCIATES

Designated states: BE CH DE FR GB IT LI NL SE

Legal status (INPADOC)

View legal status timeline

Patent	Date recorded	Event group	Code	Event	Details
BR8206578 A	19830927	LSPB	+	published / reissued	
BR8206578 A	19960402	LSLE	-MM	LAPSE DUE TO NON-PAYMENT OF FEES (ART. 50)	
CA1205595 A1	19860603	LSPB	+	published / reissued	
CA1205595 A1	20030603	LSLE	-MKEX	EXPIRY	
DE3275195 D1	19880211	LSGT	+8364	NO OPPOSITION DURING TERM OF OPPOSITION	
DE3275195 D1	19951109	LSLE	-8339	CEASED/NON-PAYMENT OF THE ANNUAL FEE	
EP0079837 A1	19830525	LSPB	+	published / reissued	
EP0079837 A1	19830817	LSSE	+17P	REQUEST FOR EXAMINATION FILED	EFFECTIVE DATE : 19830609
EP0079837 A1	19870923	LSAS	RAP2	TRANSFER OF RIGHTS OF AN EP GRANTED PATENT	OWNER NAME : RHONE-POULENC CHIMIE
EP0079837 A1	19871231	LSAS	BECN	BE: CHANGE OF HOLDER'S NAME	EFFECTIVE DATE : 19870121
EP0079837 A1	19880107	LSGT	+26N	NO OPPOSITION FILED	
EP0079837 A1	19931108	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : GB PAYMENT DATE : 19931108 YEAR OF FEE PAYMENT : 12
EP0079837 A1	19931110	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : DE PAYMENT DATE : 19931110 YEAR OF FEE PAYMENT : 12
EP0079837 A1	19931124	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : SE PAYMENT DATE : 19931124 YEAR OF FEE PAYMENT : 12
EP0079837 A1	19931125	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : CH PAYMENT DATE : 19931125 YEAR OF FEE PAYMENT : 12
EP0079837 A1	19931129	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : FR PAYMENT DATE : 19931129 YEAR OF FEE PAYMENT : 12
EP0079837 A1	19931130	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : NL PAYMENT DATE : 19931130 YEAR OF FEE PAYMENT : 12
EP0079837 A1	19931208	LSFE	+PGFP	POSTGRANT: ANNUAL FEES PAID TO NATIONAL OFFICE	REF COUNTRY CODE : BE PAYMENT DATE : 19931208 YEAR OF FEE PAYMENT : 12
EP0079837 A1	19941115	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : GB EFFECTIVE DATE : 19941115
EP0079837 A1	19941116	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : SE EFFECTIVE DATE : 19941116
EP0079837 A1	19941130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : LI EFFECTIVE DATE : 19941130
EP0079837 A1	19941130	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : CH EFFECTIVE DATE : 19941130
EP0079837 A1	19941130	LSLE	-PG25	LAPSED IN A	REF COUNTRY CODE : BE

				CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	EFFECTIVE DATE : 19941130
EP0079837 A1	19950531	LSLE	-BERE	BE: LAPSED	OWNER NAME : RHONE-POULENC CHIMIE EFFECTIVE DATE : 19941130
EP0079837 A1	19950601	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : NL EFFECTIVE DATE : 19950601
EP0079837 A1	19950712	LSLE	-GBPC	GB: EUROPEAN PATENT CEASED THROUGH NON- PAYMENT OF RENEWAL FEE	EFFECTIVE DATE : 19941115
EP0079837 A1	19950717	LSLE	-NLV4	NL: LAPSED OR ANULLED DUE TO NON-PAYMENT OF THE ANNUAL FEE	
EP0079837 A1	19950731	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : FR EFFECTIVE DATE : 19950731
EP0079837 A1	19950731	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : CH REF LEGAL EVENT CODE : PL
EP0079837 A1	19950801	LSLE	-PG25	LAPSED IN A CONTRACTING STATE ANNOUNCED VIA POSTGRANT INFORM. FROM NAT. OFFICE TO EPO	REF COUNTRY CODE : DE EFFECTIVE DATE : 19950801
EP0079837 A1	19950807	LSLE	-EUG	SE: EUROPEAN PATENT HAS LAPSED	REF DOCUMENT NUMBER : 82402080.4 FORMAT OF REF DOCUMENT (F/P) : F
EP0079837 A1	19950929	LSLE	REG	REFERENCE TO A NATIONAL CODE	REF COUNTRY CODE : FR REF LEGAL EVENT CODE : ST
EP0079837 B1	19870121	LSGT	+	granted / extensions (spc, cpc, pte)	
FR2516526 A1	19830520	LSPB	+	published / reissued	
FR2516526 A1	19890922	LSLE	-ST	NOTIFICATION OF LAPSE	
FR2516526 B1	19870522	LSGT	+	granted / extensions (spc, cpc, pte)	
JP1248015 C3	19850116	LSGT	+	granted / extensions (spc, cpc, pte)	
JP58096635 A2	19830608	LSPB	+	published / reissued	
JP59020692 B4	19840515	LSPB	+	published / reissued	
US4548734 A	19851022	LSGT	+	granted / extensions (spc, cpc, pte)	
US4548734 A	19830125	LSAS	AS	ASSIGNMENT	OWNER NAME : RHONE-POULENC SPECIALTIES CHIMIQUES LES MIROIRS 18 DESCRIPTION : ASSIGNMENT OF ASSIGNORS INTEREST.; ASSIGNORS:CHAUX, JEAN- BERNARD; GAGNE, PIERRE; GARCIA, MICHEL; AND OTHERS; REEL/FRAME:004088/0031 EFFECTIVE DATE : 19821118
US4548734 A	19850820	LSGT	PAT1	Patented Case	
US4548734 A	19890403	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 4
US4548734 A	19930408	LSFE	+FPAY	FEE PAYMENT	YEAR OF FEE PAYMENT : 8
US4548734 A	19971019	LSLE	-LAPS	LAPSE FOR FAILURE TO PAY MAINTENANCE FEES	

US4548734 A	19971230	LSLE	-FP	EXPIRED DUE TO FAILURE TO PAY MAINTENANCE FEE	EFFECTIVE DATE : 19971022
-------------	----------	------	-----	---	---------------------------