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1) Family number: 32576106 (US2005244304A)

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Title: TAILORED AND UNIFORM COATINGS IN MICROCHANNEL APPARATUS

Abstract: Interior microchannels within microchannel apparatus are uniformly coated. Remarkably, these uniform coatings are formed from materials that are applied to the interior microchannels after an apparatus has been assembled or manufactured. Coatings can be made uniform along the length of a microchannel, in the corner of a microchannel, and/or throughout numerous microchannels in an array of microchannels. Techniques for tailoring the application of washcoats onto microchannels is also described.

Classifications:

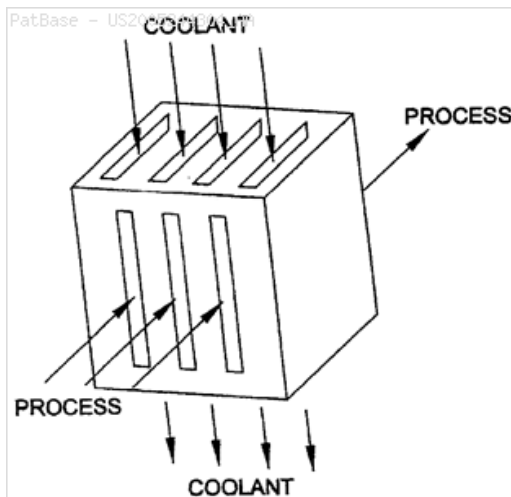
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B01F17/00 C07B61/00 H01M8/12 (Core/Non-invention);
B01F B01J (Subclass/Invention)

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Probable Assignee: VELOCYS INC

Assignee(s): (std): CAO CHUNSHE ; CHEN HAIBIAO ; CHIN YA HUEI ; DALY FRANCIS ; FITZGERALD SEAN P ; HESSE DAVID J ; DALY FRANCIS P ; FREEMAN JENNIFER ANNE ; DAYMO ERIC ; GLASS AMANDA RAE DIVAN ; FREEMAN HARLEY D ; FREEMAN JENNIFER A ; GLASS AMANDA R D ; FITZGERALD SEAN PATRICK ; FANELLI MADDALENA ; JAROSH KAI ; MANZANEC TERRY ; JOHNSON BRADLEY R ; LI XIAOHONG ; HICKEY THOMAS P ; LITT ROBERT D ; LITT ROBERT DWAYNE ; HU JIANLI ; LONG RICHARD ; LAPLANTE TIMOTHY J ; LAMONT MICHEAL J ; HESSE DAVID JOHN ; LAMONT MICHAEL JAY ; LONG RICHARD Q ; MARCHIANDO MICHAEL A ; JAROSCH KAI T P ; JAROSCH KAI TOD PAUL ; JAROSCH KAI ; KUHLMANN DAVID J ; KILANOWSKI DAVID R ; IDA JUNKO ; LAMONT MICHAEL JAY ; KILANOWSKI DAVID ; YANG BARRY L ; MAZANEC TERRY ; YANG BIN ; NEAGLE PAUL W ; MARCO JEFF ; YUSCHAK THOMAS D ; RAMLER JEFFREY J ; MARCHIANDO MIKE ; YANG BARRY ; TONKOVICH ANNA L ; SIMMONS WAYNE W ; SILVA LAURA J ; QIU DONGMING ; PERRY STEVEN T ; YUSCHAK THOMAS ; SMITH AMANDA ; NEAGLE PAUL ; VELOCYS INC ; TONKOVICH ANNA LEE ; SIMMONS WAYNE ; WATSON JUNKO M ; WANG YONG ; TAHA RACHID ; PAUL JAROSCH KAI T ; STEVENSON RICHARD ; PAGNOTTO KRISTINA M ; MARCHIANDO MICHAEL ALAN ; MARCO JEFFREY DALE ; ROGERS WILLIAM A JR ; MARCO JEFFREY D ; MARCO MICHAEL ALAN ; SULLIVAN TIM ; MASANEC TERRY ; SULLIVAN TIMOTHY J ; VELOCYS ; ARORA RAVI ; PERRY STEVEN J ; VELOSIS INK ; VELOCYS CORP

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Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM 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 MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: POLYMERIZATION PROCESS

Abstract: The present invention relates to a continuous gas phase process comprising polymerizing one or more hydrocarbon monomer(s) in a fluidized bed reactor in the presence of catalyst system or polymerization catalyst and a condensable fluid for a period of at least 12 hours where the bed temperature is less than the Critical Temperature and the dew point temperature of the gas composition in the reactor is within 25 degrees centigrade of the bed temperature.

Classifications:

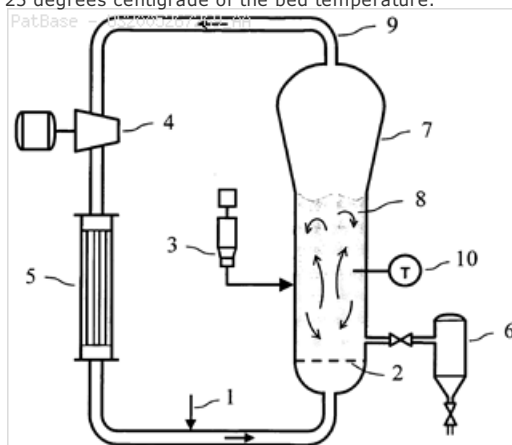
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International (ipc 1-7): B08J3/00 C08F10/00 C08F10/02 C08F10/06 C08F10/14 C08F110/02 C08F2/00 C08F2/01 C08F2/06 C08F2/14 C08F210/16 C08F4/642 C08F4/649 C08F4/69

CP: C08F4/6592 C08F2400/02 C08F6/003 C08F110/06 C08F4/65908 C08F4/65912 C08F10/06 C08F210/06 Y10S526/901 Y10S526/912 Y10S526/943 C08F2410/01 C08F2410/02 C08F210/16 C07C17/389 C07C19/08 C07C19/10 C07C21/18 C08F4/65916 C08F4/65925 C08F4/65927 C08F110/02 Y02P20/127 C08F10/00

European: C07C17/389 C07C19/08 C07C19/10 C07C21/18 C08F10/00 C08F10/06 C08F110/02 C08F210/16 C08F6/00B2 M08F110/02 M08F110/06 M08F210/06 M08F210/16 M08F4/6592 M08F4/6592B2 M08F4/6592B4 M08F4/659D M08F4/659K M08F4/659L M08F400/02

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Family:

Publication number	Publication date	Application number	Application date
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Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI 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 PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

3) Family number: 28579362 (US5514277A)

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Title: TREATMENT OF WASTEWATER AND SLUDGES

Abstract: A system for wastewater and sludge treatment utilizes an anaerobic reactor to modify the wastewater and generate sludge and liquid effluent. The sludge is transferred to a conditioner wherein anaerobic, aerobic and chemical means may be utilized to cultivate the required strains of organisms and break down various pollutants. Various chemicals may be solubilized, or precipitated, or adsorbed to remove them from the waste stream. Aerobic conditioning may be used to increase the volume of sludge, and to increase the temperature of the sludge. A shell having multiple compartments can provide for the entire process by utilizing the upper portion for anaerobic reaction and the lower portion for conditioning. An aerobic reactor can be disposed centrally of the conditioning compartments. Pipes and pumps can be used to transfer components from one compartment to another, and to discharge the cleaned effluent. The sludge is further subjected to aerobic reaction and bioheating. Some chemicals may be added to assist in removal of heavy metals and other toxic substances. Finally, the sludge and water are separated, and the sludge is dried.

Classifications:

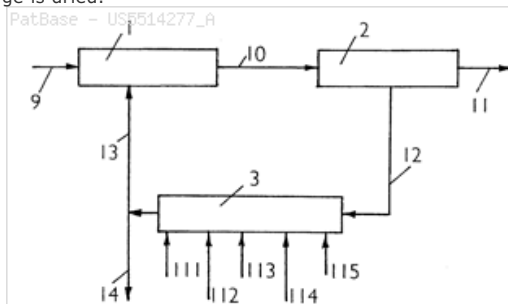
International (IPC 8-9): C02F11/04 C02F11/12 C02F3/00 C02F3/12 C02F3/28 C02F3/30 (Advanced/Invention); C02F3/00 C02F3/12 C02F3/28 C02F3/30 (Core/Invention)

International (IPC 1-7): C02F11/04 C02F11/12 C02F3/12 C02F3/28 C02F3/30

CPC: Y02E50/343 C02F3/302 C02F2307/08 Y02W10/15 C02F3/1221 C02F3/006 C02F3/28 C02F3/2806 C02F3/30 C02F3/308 C02F2209/02 C02F2209/06 C02F2209/08 C02F2209/20 C02F2209/22 C02F2209/245 C02F2209/28 C02F2209/38 C02F2209/40

European: C02F3/00R C02F3/12A6 C02F3/28 C02F3/28C C02F3/30 C02F3/30D C02F3/30F M02F209/02 M02F209/06 M02F209/08 M02F209/20 M02F209/22 M02F209/24G M02F209/28 M02F209/38 M02F209/40 M02F3/30 M02F307/08

US: 210/151 210/195.1 210/218 210/262 210/603 210/605 210/607 210/623 210/624 210/625 210/629 210/630 210/631 210/747 210/747.1



Family:

Publication number	Publication date	Application number	Application date
AU199466212 A1	19941108	AU19940066212	19940328
AU199515623 A1	19950801	AU19950015623	19950109
BRPI9405922 A	19951212	BR1994PI05922	19940328
BRPI9505641 A	19960109	BR1995PI05641	19950109
CA2160373 AA	19951011	CA19942160373	19940328
US5514277 A	19960507	US19930102618	19930805
US5514278 A	19960507	US19940181387	19940113
US5616241 A	19970401	US19950532606	19951012
US5846424 A	19981208	US19960602085	19960215
US6015496 A	20000118	US19970824608	19970326
WO9424056 A1	19941027	WO1994US03374	19940328
WO9519322 A1	19950720	WO1995US00317	19950109

Priority:

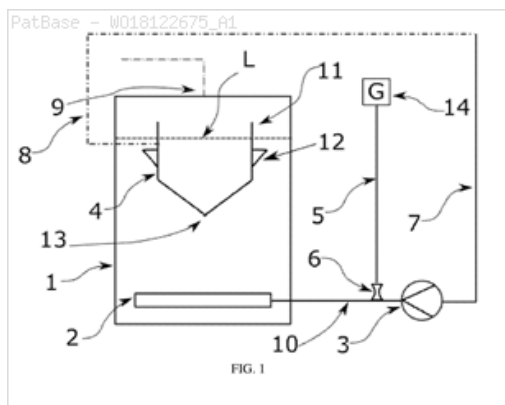
US19930046788	19930412	US19930102618	19930805	US19940181387	19940113
WO1994US03374	19940328	WO1995US00317	19950109	US19950532606	19951012

Probable Assignee: KHUDENKO ENGINEERING INC**Assignee(s):** (std): BORIS M KHUDENKO ; KHUDENKO BORIS M ; KHUDENKO ENGINEERING INC**Assignee(s):** KHUDENKO BORIS MIKHAILOVICH**Inventor(s):** (std): KHUDENKO BORIS MIKHAILOVICH ; KHUDENKO BORIS M**Inventor(s):** BORIS M KHUDENKO**Agent(s):** FINLAYSON AND SINGLEHURST**Designated states:** AM AT AU BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IT JP KE KG KP KR KZ LK LR LT LU LV MC MD MG ML MN MR MW NE NL NO NZ PL PT RO RU SD SE SI SK SN SZ TD TG TJ TT UA US UZ VN**4) Family number: 70342688** (WO18122675A1)

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Title: FLUIDISED-BED REACTOR WITH MULTIPHASE SEPARATION

Abstract: The invention relates to a fluidised-bed reactor with multiphase separation, and to a unit for reaction by fluidisation with multiphase separation. The reactor comprises a tank with a liquid level and a liquid-gas distributor arranged at the bottom of the tank; and includes a solid-liquid-gas separation unit arranged inside the tank, above the liquid-gas distributor. The solid-liquid-gas separation unit comprises a liquid inlet arranged below the liquid level and a liquid outflow pipe arranged between the liquid level and the liquid inlet. The solid-liquid-gas separation unit has an outlet for solids arranged at the bottom of the solid-liquid-gas separation unit and a gas outlet arranged above the liquid level. In addition, the reactor includes a pump with a suction pipe connected to the liquid outflow pipe, and a discharge pipe connected to the liquid-gas distributor. Furthermore, the reactor has a gas supply unit connected to the discharge pipe by means of a gas-transporting pipe that has a Venturi; and has a gas outflow pipe connected to the tank, arranged above the liquid level. Moreover, the reaction unit comprises a first fluidised-bed reactor and a second fluidised-bed reactor that can be interconnected for the co-current, counter-current, serial or parallel circulation of at least two phases (liquid, solid or gas) that react in said reactors.

Classifications:**International (IPC 8-9):** B01J8/00 C02F3/00 C02F3/08 C02F3/28 (Advanced/Invention)**CPC:** B01J8/00 C02F3/00 C02F3/08 C02F3/28 Y02W10/15**Family:**

Publication number	Publication date	Application number	Application date
CO20160005798 A1	20180719	CO20160005798	20161226
WO18122675 A1	20180705	WO20171B58078	20171218

Priority:

CO20160005798 20161226

Probable Assignee: UNIV EAFIT**Assignee(s):** (std): UNIV EAFIT**Assignee(s):** UNIVERSIDAD EAFIT**Inventor(s):** (std): GONZALEZ MEJIA CARLOS ALBERTO ; ACOSTA MAYA DIEGO ANDRES**Inventor(s):** CARLOS ALBERTO GONZALEZ MEJIA ; DIEGO ANDRES ACOSTA MAYA**Agent(s):** CARLOS REINALDO OLARTE GARCIA; RENDON VERA JOSE SANTIAGO**Designated states:** AE AG AL 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 DJ 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 JO JP KE KG KH KM KN KP KR KW KZ LA LC 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**5) Family number: 51331709** (US2014039143A)

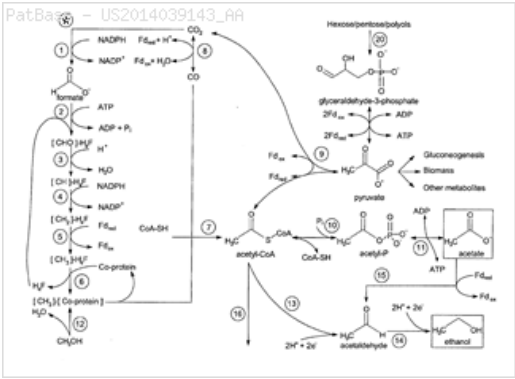
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Title: PROCESS FOR PRODUCING PROPYLENE FROM SYNGAS VIA FERMENTATIVE PROPANOL PRODUCTION AND DEHYDRATION

Abstract: A process for making propylene by dehydration of propanol can include gasifying a carbonaceous solid or liquid feedstock, or reforming a gaseous carbonaceous feedstock into synthesis gas. The synthesis gas can be fermented or co-fermented by means of a microorganism into propanol. The microorganism can be a wild strain having the natural capability to ferment synthesis gas into propanol. The microorganism can be a microorganism possessing the required nucleic acid sequence information to express the enzymes for the biosynthesis of C3-oxygenates modified with the required nucleic acid sequence information to express the enzymes of the Wood-Ljungdahl pathway. The microorganism can be a microorganism possessing the required nucleic acid sequence information to express the enzymes of the Wood-Ljungdahl pathway, modified with the required nucleic acid sequence information to express the enzymes for the biosynthesis of C3-oxygenates. The stream can be fractionated, purified, and then dehydrated at conditions effective to make propylene.

Classifications:**International (IPC 8-9):** C07C1/24 C07C11/06 C08F10/06 C12N15/63 C12P5/02 C12P7/04 (Advanced/Invention)

CPC: C07C2521/04 C07C2521/08 C07C2529/40 C07C2529/65 C07C2529/70 C07C2529/83 C07C2529/85 C12P5/02 C07C1/24 C08F10/06 Y02E50/343 C12P7/04
European: C07C1/24 C12P7/04 M07C521/04 M07C521/08 M07C529/40 M07C529/65 M07C529/70 M07C529/83 M07C529/85
US: 435/167 526/339 526/348 526/348.2 526/348.3 526/348.5 585/16



Family:

Publication number	Publication date	Application number	Application date
BR112013014790 A2	20160927	BR20131114790	20111215
CN103370420 A	20131023	CN201180067740	20111215
CO6731096 A2	20130815	CO20130144231	20130617
EP2652140 A1	20131023	EP20110797321	20111215
IN05008DN2013 A	20141128	IN2013DN05008	20130606
KR20130086246 A	20130731	KR20137015582	20111215
US2014039143 AA	20140206	US20110994988	20111215
WO12080421 A1	20120621	WO2011EP72958	20111215

Priority:

EP20100195765 20101217 EP20110797321 20111215 WO2011EP72958 20111215

Probable Assignee: TOTAL RES AND TECHNOLOGY FELUY

Assignee(s): (std): TOTAL PETROCHEMICALS RES FELUY ; TOTAL RES AND TECHNOLOGY FELUY ; VERMEIREN WALTER

Assignee(s): TOTAL RESEARCH AND TECHNOLOGY FELUY ; TOTAL PETROCHEMICALS RESEARCH FELUY

Inventor(s): (std): VERMEIREN WALTER

Inventor(s): WALTER VERMEIREN

Agent(s): HELENA CAMARGO WILLIAMSON; LEYDER FRANCIS

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 QA RO RS RU RW 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