

Search history

Search 1: SFT=(method and treatment and waste and water) (Results 194392)

Search 2: 1 and electrodiffusion (Results 1)

Search 3: 1 and electro-flotation (Results 13)

Title: **Method** and installation for the **treatment** of **waste water** to form useful **water**

Abstract: Source: US3939070A A **method** for the **treatment** of **waste water** to form useful **water**, comprising the steps of subjecting the **waste water** to a chemical flocculation **treatment**, floating the formed turbid portion of the **waste water**, and subjecting the clarified **water** to reverse osmosis filtration.

Classifications:

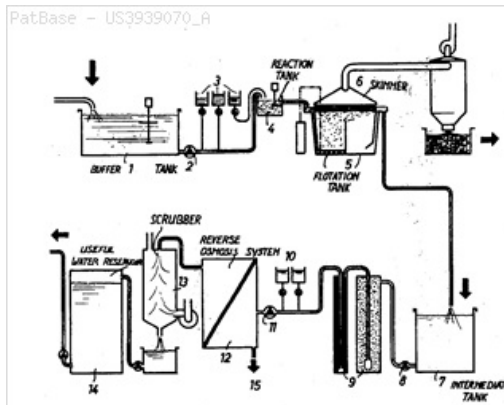
International (IPC 8-9): B01D17/02 B01D21/00 B03D1/24 C02F1/00 C02F1/24 C02F1/465 C02F1/52 C02F9/00 (Advanced/Invention); B01D17/02 B01D21/00 B03D1/14 C02F1/00 C02F1/24 C02F1/461 C02F1/52 C02F9/00 (Core/Invention)

International (IPC 1-7): B01D13/00 B01D21/00 B01D21/01 B01D31/00 C02C1/00 C02C1/26 C02C1/40 C02C5/00 C02C5/02 C02C5/06 C02C5/12

CPC: B01D17/02 C02F1/441 C02F1/465 C02F1/52 C02F9/00

European: B01D17/02 C02F1/44B C02F1/465 C02F1/52 C02F9/00

US: 210/23H 210/259 210/636 210/638 210/639 210/655



Family:

Publication number	Publication date	Application number	Application date
AR208515 A1	19770215	AR19740254658	19740712
AT338707 B	19770912	AT19740005411	19740701
AT541174 A	19761215	AT19740005411	19740701
BR7405748 A0	19750520	BR19740005748	19740712
CA1030673 A1	19780502	CA19740204605	19740711
CH556800 A	19741213	CH19730010289	19730713
DE2431993 A1	19750130	DE19742431993	19740703
FR2236792 A1	19750207	FR19740023630	19740708
FR2236792 B1	19810612	FR19740023630	19740708
GB1470242 A	19770414	GB19740029288	19740702
IT1015735 A	19770520	IT19740024892	19740708
JP50038356 A2	19750409	JP19740079772	19740713
NL7409338 A	19750115	NL19740009338	19740710
SE7409099 A	19750114	SE19740009099	19740710
US3939070 A	19760217	US19740486949	19740710
ZA7404319 A	19750730	ZA19740004319	19740704

Priority:

CH19730010289 19730713

Probable Assignee: SWISSAIR

Assignee(s): (std): SWISSAIR ; SWISSAIR AG ; SWISSAIR AND O SCHWEIZERISCHE LU ; SWISSAIS AG ; SWISSAIR SWISS AIR TRANSPORT C

Assignee(s): SWISSAIR SCHWEIZERISCHE LUFTVERKEHR ZUERICH SC AG ; SWISSAIR SWISS AIR TRANSPORT COMPANY LTD ; ROTH HANS P ; SWISSAIR SCHWEIZERISCHE LUFTVERKEHR AKTIENGESELLSCHAFT ; SWISSAIR SCHWEIZERISCHE LUFTVERKEHR AG ZUERICH SCHWEIZ ; SWISSAIR SCHWEIZERISCHE LUFTVERKEHR AKTIEN GESELLSCHAFT TE ZUERICH ZWITSERLAND ; SWISSAIR AND O SCHWEIZERISCHE LUFTVERKEHR AG ; SWISSAIR SCHWEIZERISCHE LUFTVERK ; SWISSAIR SCHWEIZERISCHE LUFTVERK CH ; SWISSAIR SCHWEIZERISCHE LUFTVERKEHR AG

Inventor(s): (std): ROTH H ; ROTH HANS P ; ROTH HANSPETER ; ROTH HANSPETER DIPL CHEM

Inventor(s): ROTH HANSPETER DIPL CHEM EFFRETIKON SCHWEIZ

Title: **WATER** PURIFIED BY ELECTROFLOTATION - FOR RAPID SEDIMENTATION AND CLEAN CLARIFIED **WATER**

Abstract: Source: FR2256903A (Claim 1) REVsKsICATIONS t.- Procède pour traiter les eaux d'égouts, caractérisé par le fait qu'on fait passer les eaux d'égouts à travers une unité d'élec tro-flottation dans laquelle de petites bulles d'oxygene et d 'hydro- gene sont degagees par electrolyse dans la zone du fond de ces eaux d'égouts liquides, les bulles s' elevant à travers le liquide en transportant vers le haut les solides en suspension et les produits en emulsion. Process for treating **waste water** comprises passing it through an electrofloatation station where small bubbles of H2 and O2 are produced electrolytically within the lower regions of the **water** and as these bubbles rise they entrain solids held in suspension or in emulsion. Pref. large solid particles are broken up before **treatment** and chemical flocculants may be added during electrolysis. Also claimed is an apparatus for carrying out this process in which the electrofloatation station is provided with one or more electrolysis grids each having several spaced-apart anodes and cathodes. Process is rapid (3-90 min. if 12-36 hr. for classical sedimentation processes), and is applicable to **waters** not amenable to purely biological purification (e.g. those contg. detergents or other poisons) and those at any temp. Since the clarified **water** produced is fairly clean further **treatment** stages may be effected in relatively small apparatus.

Classifications:

International (IPC 8-9): C02F1/46 C02F1/463 C02F1/465

C02F3/04 (Advanced/Invention);

C02F11/02 (Advanced/Non-invention);

C02F1/46 C02F1/461 C02F1/463 C02F3/04 (Core/Invention);

C02F11/02 (Core/Non-invention)

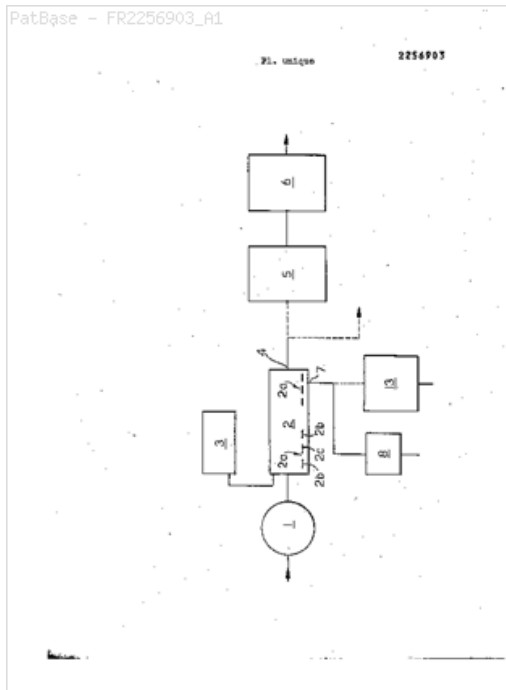
International (IPC 1-7): B01D21/00 C02C1/00 C02C1/18 C02C1/40

C02C5/12

CPC: Y02W10/15 C02F1/465 C02F3/04 C02F11/02

European: C02F1/465 C02F3/04 M02F11/02

PatBase - FR2256903_A1



Family:

Publication number	Publication date	Application number	Application date
AU197477026 A1	19760701	AU19740077026	19741231
BE824201 A1	19750502	BE19750152230	19750108
BR7500124 A	19751104	BR19750000124	19750108
DE2500016 A1	19750710	DE19752500016	19750102
DK2675 A	19750825	DK19750000026	19750107
FI750024 A	19750709	FI19750000024	19750107
FR2256903 A1	19750801	FR19750000423	19750108
FR2256903 B3	19770930	FR19750000423	19750108
IT1026251 A	19780920	IT19750047549	19750107
JP50106458 A2	19750821	JP19750004617	19750107
LU71591 A	19750617	LU19750071591	19750106
NL7500215 A	19750710	NL19750000215	19750108
SE7500169 A	19750709	SE19750000169D	19750108
ZA7408238 A	19760128	ZA19740008238	19741230

Priority:

GB19740000739 19740108

Probable Assignee: BARVIEW DEV LTD

Assignee(s): (std): BARRIEW DEVELOPMENTS LTD ; BARVIEW DEV ; BARVIEW DEV LTD ; BARVIEW DEVELOPMENTS LIMITED ; BARVIEW DEVELOPMENTS LTD

Assignee(s): BARVIEW DEVELOPMENTS LTD GB ; BARVIEW DEVELOPMENTS TE LONDEN LTD ; BARVIEW DEVELOPMENTS LIMITED TE LONDEN

Inventor(s): (std): BARRETT F ; BARRETT FREDERICK

Inventor(s): FREDERICK BARRETT

Title: **TREATMENT** OF **WASTE WATERS** BY **ELECTRO FLOTATION**

Abstract: Source: GB1463240A 1463240 Treating **waste water** by electroflotation ETUDES ET PROCEDES D'ASSAINISSEMENT PURATOR 14 May 1975 [14 May 1974] 20447/75 Heading C1C [Also in Division C7] Aqueous effluent is subjected to electroflotation between electrodes containing a metal which is attacked by nascent oxygen under electrolysis conditions to yield the metal hydroxide using a D.C. which is reversed once every 10 to 3600 seconds. Electrodes containing Al, Mg, Fe or Zn are suitable and corrosion of each electrode is maintained constant by using electrodes of equal size and shape or by appropriate adjustment of the current intensity and reversal frequency. The electrodes may comprise a pair of comb structures arranged with the teeth intermeshing and coated with varnish at their interface. They may be perforated or not, in the latter case the lower surfaces are also varnished. Abattoir effluent, urban **waste water** and a hydrocarbon emulsion may be treated.

Classifications:

International (IPC 8-9): B03D1/14 C02F1/465

G11B5/00 (Advanced/Invention);

C02F1/461 C02F1/463 (Advanced/Non-invention);

B03D1/14 C02F1/461 G11B5/00 (Core/Invention);

C02F1/463 (Core/Non-invention)

International (IPC 1-7): C02C1/00 C02C5/12

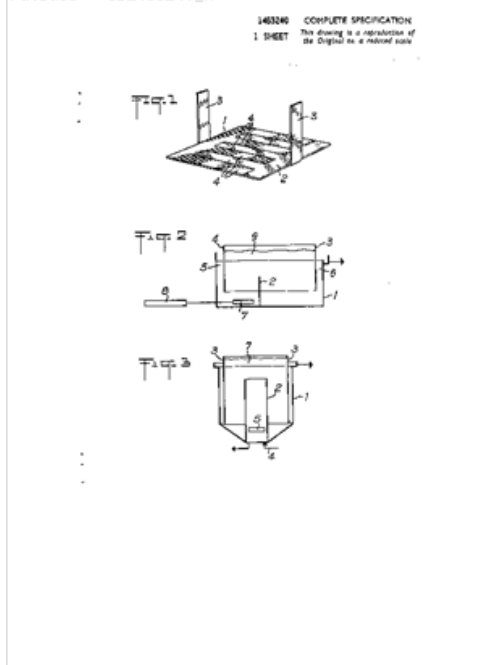
CPC: B03D1/1412 C02F1/465 B03D1/1437 C02F1/46109 C02F1/463

C02F2201/4613 G11B5/00

European: B03D1/14E C02F1/465 G11B5/00 M02F1/461B2

M02F1/463 M02F201/461B6B2

PatBase - GB1463240_A



Family:

Publication number	Publication date	Application number	Application date
BE829007 A1	19750901	BE19750156294	19750513
CH597103 A	19780331	CH19750006069	19750512
DE2520950 A1	19760408	DE19752520950	19750510
ES437636 A1	19770101	ES19750437636	19750513
FR2271180 A1	19751212	FR19740016671	19740514
FR2271180 B1	19801226	FR19740016671	19740514
GB1463240 A	19770202	GB19750020447	19750514
IT1035705 A	19791020	IT19750049566	19750513
NL7505621 A	19751118	NL19750005621	19750513

Priority:

FR19740016671 19740514

Probable Assignee: EPAP

Assignee(s): (std): EPAP ; E P P A P S A ; PROCEDES D ASSAINISSEMENT PURA ; PROCEDES DASSAINISSEMENT PURAT

Assignee(s): ETUDES ET PROCEDES DASSAINISSEMENT PURATOR ; ETUDES ET PROCEDES D ASSAINISSEMENT PURATOR EPAP SOCIETE ANONYME TE PARIJS ; ETUDES ET PROCEDES D ASSAINISSEMENT PURATOR EPAP SOC ANONYME TE PARIJS ; E P A P (ETUDES ET PROCEDES D'ASSAINISSEMENT... ; E P A P ETUDES ET PROCEDES D ASSAINISSEMENT PURAT ; E P A P ETUDES ET PROCEDES D ASSAINISSEMENT PURATOR ; E P P A P ; EPAP FR ; ETUDES ET PROCEDES D ASSAINISSEMENT PURATOR EPAP S ; ETUDES ET PROCEDES D ASSAINISSEMENT PURATOR E P A ; ETUDES ET PROCEDES D ASSAINISSEMENT PURATOR E P A P S A ; ETUDES ET PROCEDES D ASSAINISSEMENT PURATOR EPAP ; EPAP ETUDES ET PROCEDES D ASSAINISSEMENT PURATOR

Inventor(s): (std): FERY P ; FERY PATRIC ; FERY PATRICK ; JACQUES ROUET ; LEWANDOWSKI R ; LEWANDOWSKI RAYMOND ; PATRICK FERY ; RAYMOND LEWANDOWSKI ; ROUET J ; ROUET JACQUES

Inventor(s): R LEWANDOWSKI ; P FERY ; J ROUET

Title: Removal of dyestuffs from **water** by electroflotation process.

Abstract: Source: EP0091504A1 Dissolved sulphonated azo dyestuffs are removed from **water** by an electrochemical-flotation process which comprises feeding said **water** to and electrolyzing the **water** in an electrolytic cell containing a pair of closely spaced iron electrodes, supplying an electrolyzing quantity of an electric current to said electrodes of from about 100 to about 500 amperes per square meter of electrode surface while maintaining the pH of the **water** from about 6.5 to about 10. The dyes are converted to insoluble complexes which are floated to the surface of the **water** and are removed therefrom.

Classifications:

International (IPC 8-9): C02F1/465 (Advanced/Invention);
C02F1/461 (Core/Invention)

International (IPC 1-7): C02F1/46

CPC: C02F1/465 C02F2103/30

European: C02F1/465 M02F103/30

Family:

Publication number	Publication date	Application number	Application date
DE3268754 D1	19860313	DE19823268754	19820414
EP0091504 A1	19831019	EP19820103142	19820414
EP0091504 B1	19860129	EP19820103142	19820414

Priority:

EP19820103142 19820414

Probable Assignee: MORTON THIOKOL INC

Assignee(s): (std): THIOKOL MORTON INC

Assignee(s): MORTON THIOKOL INC

Inventor(s): (std): VAN HERTUM WILLEM A ; VOEPEL LOUI P

Designated states: BE DE FR GB IT NL

Title: **WASTE WATER** BIOLOGICAL **TREATMENT** - USING ACTIVATED SLURRIES REMOVED BY FLOTATION AFTER CLARIFICATION STAGE

Abstract: Source: CH675579A The biological **treatment** procedure for **waste water** using activated slurries, keeps the slurries in an oxygenated medium through the clarification stage which follows the aeration stage. The two stages are carried out in the same tank, with the slurries sepd. from the treated **water** by hydro- or **electro-flotation**. The tank (1) used for the procedure is divided lengthwise into two channels (A,B) with a flotation compartment (C) at one end, and aerating nozzles (8). The slurry sepd. by flotation in compartment (C) is removed by a surface scraper and since it remains in an active state it can be immediately recycled. ADVANTAGE - Higher efficiency, using single tank for complete process.

Classifications:

International (IPC 8-9): C02F1/24 C02F1/465

C02F3/12 (Advanced/Invention);

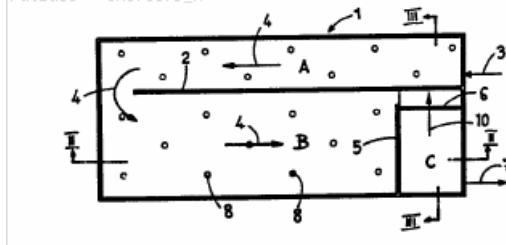
C02F1/24 C02F1/461 C02F3/12 (Core/Invention)

International (IPC 1-7): C02F3/12

CPC: Y02W10/15 C02F3/1257 C02F1/24 C02F1/465

European: C02F1/24 C02F1/465 C02F3/12N6

PatBase - CH675579_A



Family:

Publication number	Publication date	Application number	Application date
CH675579 A	19901015	CH19880000208	19880121

Priority:

CH19880000208 19880121

Probable Assignee:

TECHFINA S A

Assignee(s): (std):

TECHFINA S A ; TECHFINA SA

Inventor(s): (std):

BLANC JEAN LOUIS ; NESSIM LEON

Title: GAS DISSOLVING SYSTEM AND **METHOD**

Abstract: Source: US5049320A An improved gas dissolving and releasing system involving the use of multistages of porous gas dissolving media at the center and near the wall of a pressure vessel is described. The gas dissolving system includes a liquid pressure pump, a pressure vessel with tangential inlet and outlet, a gas injector, an inlet nozzle assembly, a center gas dissolving tube, one or more wall-mounted gas dissolving plate assembly, a gas compressor, gas regulators, gas flow meter(s), pressure gauge(s), safety valve(s), sight tube(s), a bleed-off point, a pressurized water release unit, and a liquid flow meter. The liquid flow pattern inside of the pressure vessel is controlled to be of either swirling upflow, swirling downflow or swirling horizontal flow at a rotation speed of over 2,500 rpm. A set of special nozzles with different orifices is designated for precise liquid flow control and liquid rotation speed control. More than one gases introduced at different inlets are dissolved simultaneously and efficiently in the pressure vessel under controlled pressure at 2-7 atm. The improved gas dissolving system is compact, simple and cost-effective, and is applied to ozonation, chlorination, recarbonation, oxygenation, nitrogenation, aeration, and flotation processes.

Classifications:

International (IPC 8-9): B01D53/04 B01D53/46 B01D53/68 B01D53/72 B01D53/86 B01F13/06 B01F3/04 B01F5/04 B01J19/18 B03D1/02 B03D1/04 B03D1/14 B09B3/00 B09C1/00 B09C1/02 B09C1/08 B09C1/10 B60K35/00 C02F1/20 C02F1/24 C02F1/28 C02F1/463 C02F1/465 C02F1/52 C02F1/66 C02F1/72 C02F11/02 C02F3/00 C02F3/12 C02F3/26 C02F3/34 G01D11/28 G01D13/02 G02F1/1335 G02F1/13357 G04B19/32 G04G9/00 G09F13/20 G09F13/42 G09F9/00 H01H13/02 H01H13/712 H05B33/00 (Advanced/Invention);

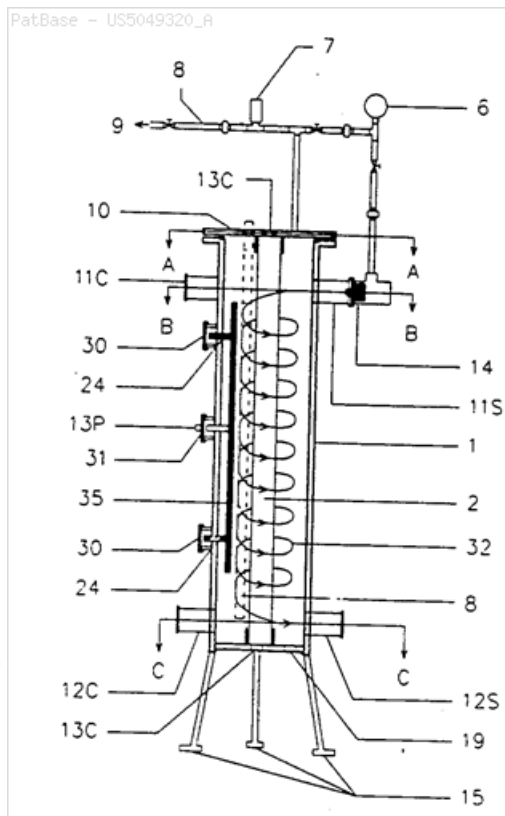
B01F5/00 C02F1/00 C02F1/52 (Advanced/Non-invention); B01D53/04 B01D53/46 B01D53/86 B01F13/00 B01F3/04 B01F5/04 B03D1/00 B03D1/14 B09C1/00 B60K35/00 C02F1/20 C02F1/24 C02F1/461 C02F1/463 C02F1/52 C02F1/72 C02F11/02 C02F3/00 C02F3/12 C02F3/26 C02F3/34 G01D11/28 G01D13/00 G02F1/13 G04B19/30 G04G9/00 G09F13/00 G09F13/20 G09F9/00 H01H13/02 H01H13/70 H05B33/00 (Core/Invention); B01F5/00 C02F1/00 C02F1/52 (Core/Non-invention)

International (IPC 1-7): B01D11/14 B01D17/035 B01D33/64 B01D53/02 B01D53/04 B01D53/14 B01D53/34 B01F3/04 B08B3/14 C02F1/20 C02F1/24 C02F1/28 C02F1/52 C02F1/72 C02F11/02 C02F11/14 C02F3/02 C02F3/12 C02F3/22 C02F3/26 C02F3/30 C02F3/34 C02F9/00

CPC: B01D53/10 B01D53/46 B01D53/68 B01J19/18 B09B3/0075 B09C1/00 B09C1/08 B09C1/10 C02F2301/022 Y10S261/75 Y10S210/908 B01F3/04836 B01F3/0446 B01F3/04496 B01F5/045 B01F5/0476 B01F13/065 B01F2003/0439 B01F2003/04865 B01F2003/04893 B01F2003/04907 B01F2003/04921 B01F2005/0017 B01F2005/002 B01F2215/0431 B01F2215/0468 B01J2219/182 B01J2219/187 C02F1/463 C02F1/52 C02F3/12 C02F3/26 C02F2301/02 C02F2301/024 C02F2301/026 C02F2301/066 C02F3/1263 B01D53/72 B01D53/8668 B01J2208/00 B01J2219/00029 B01J2219/00164 B01J2219/00177 B03D1/02 B03D1/04 B03D1/1431 B03D1/1437 C02F1/24 C02F1/465 C02F3/34 C02F3/342 C02F2303/04 B03D1/028 B03D1/1462 B03D1/1493 Y02W10/27 Y02W10/15 C02F3/006 B01D53/04 B01D53/047 B01D2253/102 B01D2253/202 B01D2257/708 B01D2259/401 B09C1/02

European: B01D53/04 B01D53/10 B01D53/46 B01D53/68 B01D53/72 B01D53/86P B01F13/06B B01F3/04C4 B01F3/04C4C B01F3/04C9A B01F5/04C13 B01F5/04C14C2 B01J19/18 B03D1/02 B03D1/04 B03D1/14 B03D1/14D B03D1/14E B09B3/00M B09C1/00 B09C1/02 B09C1/08 B09C1/10 C02F1/24 C02F1/463 C02F1/465 C02F3/00R C02F3/12 C02F3/12N8 C02F3/26 C02F3/34 C02F3/34B L01D253/102 L01D253/202 L01D257/708 L01D259/401 L01D53/04 L01D53/047 L01F215/04F2F L01F215/04F4N L01F3/04C1B2U10 L01F3/04C20B12 L01F3/04C20B4 L01F3/04C20B6 L01F3/04C20B8 L01F5/00A6 L01F5/00A8 L01J208/00 L01J219/00A6B L01J219/00B12 L01J219/00B6 L01J219/18B L01J219/18F M02F1/52 M02F301/02 M02F301/02B M02F301/02D M02F301/02F M02F301/06D M02F303/04

US: 134/26 134/42 209/170 210/137 210/139 210/141 210/142 210/143 210/177 210/178 210/179 210/180 210/187 210/188 210/194 210/195.1 210/195.3 210/197 210/199 210/202 210/205 210/206 210/208 210/209 210/218 210/219 210/220 210/221.2 210/221.252 210/250 210/251 210/252 210/256 210/258 210/259 210/260 210/266 210/295 210/322 210/525 210/601 210/603 210/604 210/605 210/608 210/615 210/621 210/622 210/624 210/626 210/63 210/630 210/631 210/632 210/703 210/707 210/747 210/747.1 210/748 210/748.01 210/804 210/805 210/908 261/121.1 261/122 261/122.1 261/22.1 261/DIG.75 96/10 96/204

**Family:**

Publication number	Publication date	Application number	Application date
CN1040070 C	19981007	CN19921002719	19920413
CN1067227 A	19921223	CN19921002719	19920413
TW283138 B	19960811	TW19920103617	19920509
US5049320 A	19910917	US19900547982	19900703
US5167806 A	19921201	US19910708777	19910529
US5232584 A	19930803	US19920929987	19920817
US5240600 A	19930831	US19920891826	19920601
US5275732 A	19940104	US19920984319	19921202
US5354458 A	19941011	US19920871041	19920420
US5399267 A	19950321	US19930029697	19930311
US5451320 A	19950919	US19900550515	19900710
US5552051 A	19960903	US19910714381	19910611

Priority:

US19900547982 19900703 US19900550515 19900710 US19910714381 19910611
 US19900551543 19900711 US19920871041 19920420 US19910708777 19910529
 US19930029697 19930311 US19920929987 19920817 US19920891826 19920601
 US19920984319 19921202

Probable Assignee: INT ENVIRONMENTAL SYSTEMS INC USA

Assignee(s): (std): INT ENVIRONMENTAL SYTEM INC ; INT ENVIRONMENTAL SYSTEM INC

Assignee(s): INT ENVIRONMENTAL SYSTEMS INC ; INT ENVIRONMENT SYSTEMS INC ; INT ENVIRONMENTAL SYSTEMS INC ; INT ENVIRONMENTAL SYSTEMS INC USA ; INTERNATIONAL ENVIRONMENTAL SYSTEM

INC ; INTERNATIONAL ENVIRONMENTAL SYSTEMS INC ; INTERNATIONAL ENVIRONMENTAL SYSTEMS
INC USA

Inventor(s): (std): KURLKO LUBOMYR ; WANG LAWRENCE K ; WANG MU HAO SUNG ; WANG MU HAO S ; WANG MU H S ;
WANG LAWRENCE KONGPU ; SUNG MU HAO ; KURLKO L ; HYRCYK OREST ; HRYCYK OREST

Inventor(s): MU HAO SUNG WANG ; MU HAO SUNG ; LUBOMYR KURLKO ; LAWRENCE KONGPU WANG ; L KURLKO

Title: **METHOD** FOR A **WASTE WATER TREATMENT** PLANT

Abstract: An electroflotation or electroflocculation **method** using a system for supplying compressed air, ozone and hydrogen peroxide in a reactor having iron, aluminium and/or graphite electrodes. According to the **method**, a **water**/sludge mixture flows upwards between vertical and parallel arrays of electrodes.

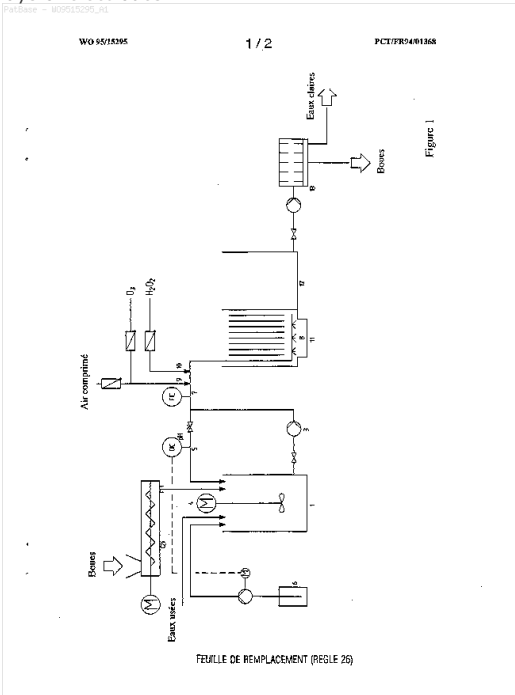
Classifications:

International (IPC 8-9): C02F1/465 C02F1/78 (Advanced/Invention); C02F1/72 (Advanced/Non-invention)

International (IPC 1-7): C02F1/463 C02F1/465 C02F1/72 C02F1/78

CPC: C02F1/465 C02F1/722 C02F1/78

European: C02F1/465 C02F1/78 M02F1/72C



Family:

Publication number	Publication date	Application number	Application date
AT176891 E	19990315	AT19940902170T	19941124
DE69416698 D1	19990401	DE19946016698	19941124
DE69416698 T2	19991014	DE19946016698T	19941124
EP0754166 A1	19970122	EP19950902170	19941124
EP0754166 B1	19990224	EP19950902170	19941124
ES2130572 T3	19990701	ES19950902170T	19941124
FR2712880 A1	19950602	FR19930014358	19931126
FR2712880 B1	19951222	FR19930014358	19931126
WO9515295 A1	19950608	WO1994FR01368	19941124

Priority:

FR19930014358 19931126 WO1994FR01368 19941124

Probable Assignee: DEHEURLES ALAIN

Assignee(s): (std): BEAUJEAN HOLGER ; DEHEURLES ; DEHEURLES ALAIN

Assignee(s): DEHEURLES ALAIN MONTBELIARD FR

Inventor(s): (std): BEAUJEAN HOLGER ; HOLGER BEAUJEAN

Inventor(s): BEAUJEAN HOLGER D 76297 STUTENSEE DE

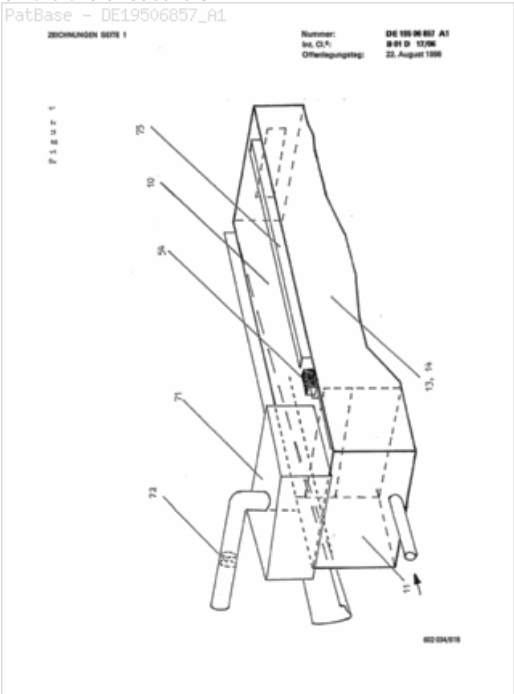
Designated states: AT BE CA CH CN DE DK ES FR GB GR IE IT LI LU MC NL PT SE US

Title: Electrochemical fission process and appts. comprising one cathode and two anodes

Abstract: An electrochemical fission process and appts. for the **treatment** of emulsions, wash **water**, drainage **water** and process **water** loaded with heavy metal ions and/or organic components, esp. toxic and carcinogenic aromatics and derivs., by **electro-flotation** without use of additional electrodes, comprises a 3-electrode system consisting of a cathode with a variable pitch and two anodes, one pref. a Ti anode coated with a Ti-Ru mixed oxide layer, and a second dimensionally stable anode including easily sol. metal chips, pref. Fe, Al and/or their alloys, in basket shape, and which can be pushed over the first partial electrode. In moderate pH ranges, very fine gas bubbles and oxidised hydroxide or oxide-hydrate gels are formed at the same time for the metal chips. The partial current ratio on the two anodes is 5:1-1:4.

Classifications:

International (ipc 8-9): A62D3/00 B01D17/06 B09C1/04 C02F1/465 (Advanced/Invention); C02F1/461 C02F1/463 (Advanced/Non-invention); B01D17/00 B09C1/00 C02F1/461 (Core/Invention); C02F1/463 (Core/Non-invention)
International (ipc 1-7): A62D3/00 B01D17/06 B09C1/04 C02F1/469 C23G1/36 C25B7/00 C25D21/20
CPC: B01D17/06 C02F1/46109 C02F1/463 C02F1/465 C02F2001/46123 C02F2001/46133 C02F2201/4612
European: A62D3/00E3 B01D17/06 C02F1/465 M02F1/461B2 M02F1/461B2F M02F1/461B2J M02F1/463 M02F201/461B6



Family:

Publication number	Publication date	Application number	Application date
DE19506857 A1	19960822	DE19951006857	19950214

Priority:

DE19951006857 19950214

Probable Assignee: G E R U S GES FUEER ELEKTROCHEM

Assignee(s): (std): G E R U S GES F ELEKTROCHEM ; G E R U S GES FUEER ELEKTROCHEM

Assignee(s): G E R U S GESELLSCHAFT FUEER ELEKTROCHEMISCHES RECYCLING UMWELT UND SOLARTECHNOLOGIE MBH 12459 BERLIN DE ; GERUS GES F ELEKTROCHEMISCHES RECYCLING UMWELT U S

Inventor(s): (std): CUCHS MANFRED ; GUENZEL KARL PETER ; JACOBS KLAUS PROF DR ; JANIETZ PETER DR

Inventor(s): JANIETZ PETER DR 12557 BERLIN DE ; JACOBS KLAUS PROF DR 12559 BERLIN DE ; GUENZEL KARL PETER 10405 BERLIN DE ; CUCHS MANFRED 06749 BITTERFELD DE

Title: Industrial electro-flotation **waste water treatment** process

Abstract: Source: DE19642999A1 **Electro-flotation** process and assembly treats esp. industrial **waste water** containing sludge and emulsions using iron and/or aluminium electrodes, one or more of which are sacrificed in the process. Materials esp. emulsions are recovered for re-use. The electrolytic **treatment** generates oxygen and hydrogen bubbles in the liquid, driving the precipitation and flocculation of **wastes**. The reaction vessels are located outside a collector vessel, allowing treated **water** to overflow from the reactor vessels into collection vessels.

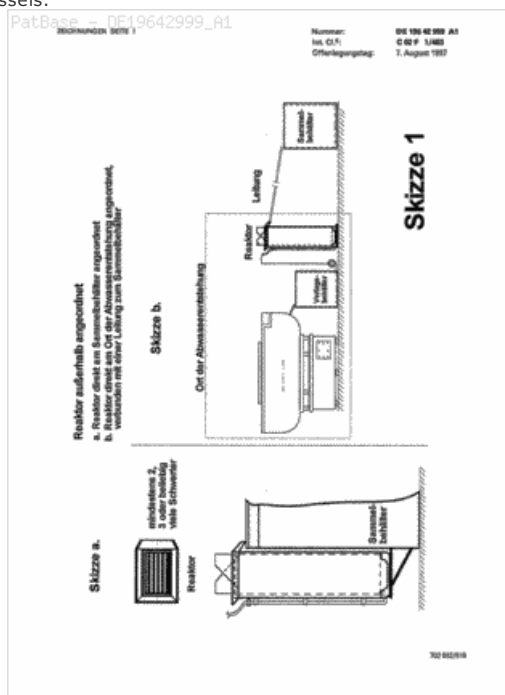
Classifications:

International (IPC 8-9): C02F1/463 C02F9/00 (Advanced/Invention);
C02F1/52 C02F1/72 C02F1/78 (Advanced/Non-invention)

International (IPC 1-7): C02F1/463

CPC: C02F1/463 C02F1/52 C02F1/72 C02F1/78 C02F9/00

European: C02F1/463 C02F9/00 M02F1/52 M02F1/72 M02F1/78



Family:

Publication number	Publication date	Application number	Application date
DE19642999 A1	19970807	DE19961042999	19961018

Priority:

DE19961042999 19961018

Probable Assignee: SCHREIBER WERNER

Assignee(s): (std): SCHREIBER WERNER

Assignee(s): SCHREIBER WERNER 40882 RATINGEN DE

Inventor(s): (std): PIPP SIEMS RUEDIGER ; SCHREIBER WERNER

Inventor(s): PIPP SIEMS RUEDIGER 40883 RATINGEN DE

Title: **METHOD** AND DEVICE FOR TREATING AQUEOUS FLUID INDUSTRIAL SEWAGE

Abstract: The invention concerns a **method** and a device for treating aqueous fluid industrial sewage of all types comprising the following steps: a first step of mixing in a vessel (4), a second step of treating said mixture using a device for electrolytic **treatment** by **electro-flotation** and/or electro-coagulation-flocculation (5) also comprising the separation of the polluting elements from the liquid phase, said polluting elements being then dried in a filter-press (6). The invention is characterised in that: previous to mixing, the effluents are stored in several storage vessels, i.e. one per type of effluent, mixing at least an effluent in the form of an emulsion with an effluent in the form of a true solution.

Classifications:

International (IPC 8-9): C02F1/465

C10M175/04 (Advanced/Invention);

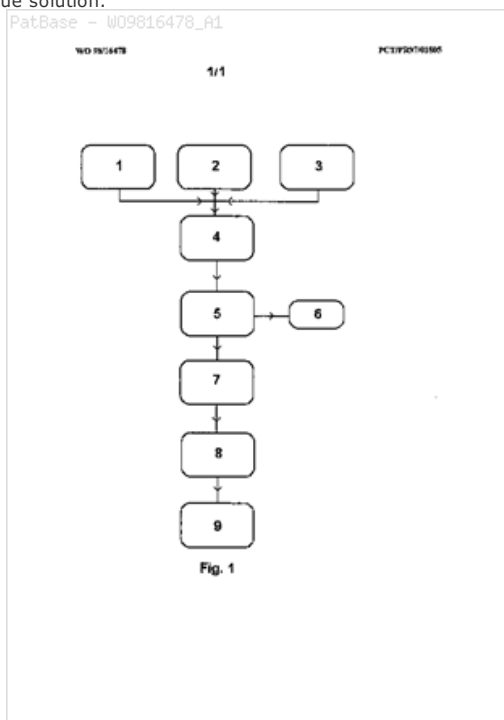
C02F1/461 C10M175/00 (Core/Invention)

International (IPC 1-7): C02F1/463 C02F1/465 C02F3/00 C02F9/00

C10M175/00 C10N40/20

CPC: C02F1/465 C10M175/04

European: C02F1/465 C10M175/04



Family:

Publication number	Publication date	Application number	Application date
AU199746281 A1	19980511	AU19970046281	19971010
FR2754531 A1	19980417	FR19960012668	19961014
FR2754531 B1	19981204	FR19960012668	19961014
WO9816478 A1	19980423	WO1997FR01805	19971010

Priority:

FR19960012668 19961014 WO1997FR01805 19971010

Probable Assignee: MINGHI OSVALD

Assignee(s): (std): MINGHI OSVALD

Assignee(s): OSVALD MINGHI

Inventor(s): (std): MINGHI OSVALD

Inventor(s): OSVALD MINGHI

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CZ DE DK EE ES FI FR GA GB GE GH GN GR HU IE IL IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SN SZ TJ TM TR TT UA UG US UZ VN ZW

Title: APPARATUS AND **METHOD** FOR ELECTROCHEMICAL **TREATMENT** OF WASTEWATER

Abstract: Source: US2012160706A The wastewater **treatment** apparatus of present invention has an electro-coagulation unit for removing contaminants with at least one anode and at least one cathode and an electro-oxidation unit for oxidizing contaminants with at least one anode and at least one cathode wherein oxidants are electrochemically generated. Based on the type of wastewater, the apparatus can have an **electro-flotation** unit between the electro-coagulation unit and the electro-oxidation unit. The apparatus also has an oxidant removal unit which can have a metal ion-liberating electrode for reacting with and removing residual oxidants. In some cases, portions of effluent from the oxidant removal unit can be recirculated to the electro-coagulation unit for increased efficiency.

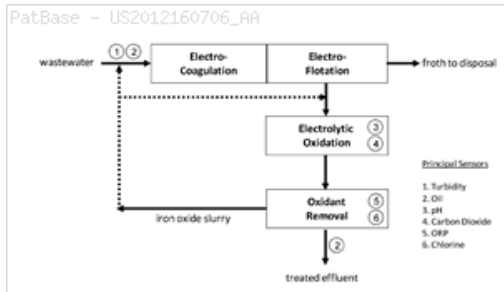
Classifications:

International (IPC 8-9): C02F1/24 C02F1/32 C02F1/46 C02F1/461 C02F1/463 C02F1/465 C02F1/467 C02F1/469 C02F1/72 C02F1/76 C02F9/00 C25B9/00 (Advanced/Invention); C02F1/32 C02F1/461 C02F1/463 C02F1/465 C02F1/467 C02F1/76 C02F103/00 C02F103/08 (Advanced/Non-invention); C02F (Subclass/Invention)

CPC: C02F1/76 C02F9/00 C02F1/32 C02F1/463 C02F1/465 C02F1/4674 C02F2001/46138 C02F2103/002 C02F2103/005 C02F2103/008 C02F2103/08 C02F2201/46135 C02F2201/4614 C02F2201/46175 C02F2209/02 C02F2209/04 C02F2209/05 C02F2209/06 C02F2209/11 C02F2209/245 C02F2209/29 C02F2209/40 C02F1/469 C02F1/46

European: C02F9/00 M02F1/32 M02F1/461B2J2 M02F1/463 M02F1/465 M02F1/467B2 M02F103/00C M02F103/00E M02F103/00S M02F103/08 M02F201/461B10F M02F201/461B6B4 M02F201/461B6B6 M02F209/02 M02F209/04 M02F209/05 M02F209/06 M02F209/11 M02F209/24G M02F209/29 M02F209/40

US: 204/229.4 204/229.400S 204/278 204/278S 205/756 210/758



Family:

Publication number	Publication date	Application number	Application date
AU2010268710 AA	20110106	AU20100268710	20100623
AU2010268710 BB	20151008	AU20100268710	20100623
BRP11015058 A2	20160419	BR2010PI15058	20100623
CA2766832 AA	20110106	CA20102766832	20100623
CN102781846 A	20121114	CN201080029442	20100623
CN102781846 B	20150408	CN201080029442	20100623
EP2448868 A1	20120509	EP20100793456	20100623
EP2448868 A4	20130109	EP20100793456	20100623
EP2448868 B1	20161116	EP20100793456	20100623
IN00579DN2012 A	20150612	IN2012DN00579	20120119
JP2012531303 T2	20121210	JP20120517985T	20100623
JP5840606 B2	20160106	JP20120517985T	20100623
KR101708702 B1	20170221	KR20127002456	20100623
KR20120065998 A	20120621	KR20127002456	20100623
MX2011013960 A1	20120508	MX20110013960	20100623
RU2012102984 A	20130810	RU20120102984	20100623
RU2534125 C2	20141127	RU20120102984	20100623
US2012160706 AA	20120628	US20100381173	20100623
US2016009583 AA	20160114	US20150861549	20150922
WO11000079 A1	20110106	WO2010CA00930	20100623
ZA201200566 A	20130327	ZA20120000566	20120124

Priority:

US20090221522P 20090629 US20100381173 20100623 WO2010CA00930 20100623
US20150861549 20150922 US20120381173 20120306

Probable Assignee: PROTERRGO INC

Assignee(s): (std): LEVEILLE VALERIE ; POIRIER NICOLE A ; PROTERGOU INK ; PROTERRGO INC

Inventor(s): (std): POIRIER NICOLE A ; POIRIER NICOLE ALICE ; PUAR E NIKOL A ; VALERIE LEVEILLE ; LEVEILLE VALERIE ; LEVEJE VALERI

Inventor(s): NICOLE A POIRIER

Agent(s): FRANKE HYLAND; ANGLEHART ET AL; REINHARDT HARRY; ANGLEHART JAMES

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

Title: SUBMERGED ARC REMOVAL OF CONTAMINANTS FROM LIQUIDS

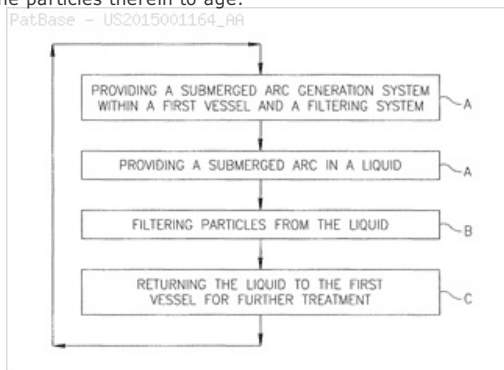
Abstract: Source: US2015001164A To remove a contaminant from a liquid, a pulsed electrical arc discharge is effected between two electrodes immersed in the liquid, thereby creating a plurality of particles within the liquid. One or both of the electrodes is metallic, for example iron or titanium. Before the pulsed electrical arc discharge is terminated, another step that promotes destruction of the contaminant by particles, such as removing the particles from the liquid or adding an oxidizer to the liquid, is performed. In the case of the extra step being adding an oxidizer to the liquid, preferably the termination of the pulsed electrical arc discharge is followed by allowing the liquid and the particles therein to age.

Classifications:

International (IPC 8-9): B01J19/08 C02F1/46 C02F1/467 C02F1/48 C02F1/72 C02F9/02 C02F9/08 H05H1/48 (Advanced/Invention)

CPC: H05H1/48 C02F1/001 C02F2201/4615 C02F2201/46175 C02F2201/4618 C02F2305/026 C02F2101/308 C02F1/4608 C02F1/46109 C02F1/722 C02F2201/46

US: 204/660 204/665 205/742 205/743 205/751 205/761 210/209 210/748.16

**Family:**

Publication number	Publication date	Application number	Application date
US2015001164 AA	20150101	US20120365641	20121203
WO13088291 A1	20130620	WO20121B56916	20121203

Priority:

US20110570846P 20111215 US20120365641 20121203 WO20121B56916 20121203

Probable Assignee: RAMOT AT TEL AVIV UNIV LTD

Assignee(s): (std): ALTERKOP BORIS A ; BERKH OLGA ; BOXMAN REUVEN LEV ; FAKTOROVICH SIMON EVELINA ; UNIV RAMOT ; PARKANSKY NAHUM ; VEGERHOF ADI

Assignee(s): RAMOT AT TEL AVIV UNIVERSITY LTD ; RAMOT AT TEL AVIV UNIV LTD

Inventor(s): (std): ALTERKOP BORIS A ; BERKH OLGA ; BOXMAN REUVEN LEV ; FAKTOROVICH SIMON EVELINA ; PARKANSKY NAHUM ; VEGERHOF ADI

Agent(s): DR MARK FRIEDMAN LTD

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR 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 SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: **METHODS** OF CULTURING MICROORGANISMS IN NON-AXENIC MIXOTROPHIC CONDITIONS

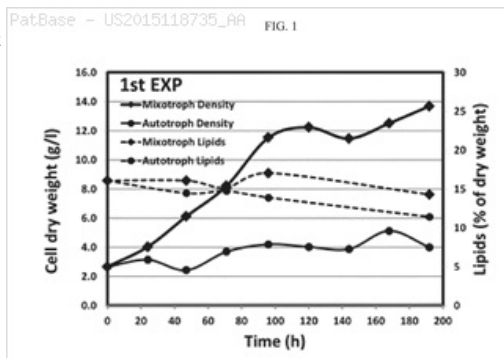
Abstract: Source: US2015118735A **Methods** of culturing microorganisms in non-axenic mixotrophic conditions are disclosed. A **method** of culturing microalgae mixotrophically and controlling bacterial contamination with an acetic acid/pH auxostat system is specifically described. **Methods** of culturing microalgae mixotrophically with an increased productivity through an increase in oxygen transfer to the culture, and controlling bacterial contamination with an oxidative agent are also described.

Classifications:

International (IPC 8-9): A01G33/00 B03C3/017 C12M1/00 C12M1/02 C12M1/06 C12M1/12 C12M1/34 C12N1/12 C12N1/34 C12N1/38 C12N13/00 C12N5/00 C12Q3/00 (Advanced/Invention)

CPC: B03C3/0175 C12M37/00 C12M47/02 C12N13/00 C12N1/34 C12N1/38 C12M23/34 A01G33/00 C12Q3/00 C12N1/12 C12M41/26 C12M21/02 C12M23/18 C12M27/06 C12M41/24 C12M23/38 C12N1/20

US: 435/257.3 435/289.1 435/292.1 435/3 435/303.3



Family:

Publication number	Publication date	Application number	Application date
AU2013341123 AA	20140515	AU20130341123	20131108
AU2014227722 AA	20140918	AU20140227722	20140314
CA2888493 AA	20150415	CA20132888493	20131108
CA2903544 AA	20150901	CA20142903544	20140314
CL2015001054 A1	20150703	CL20150001054	20150423
CN104955937 A	20150930	CN201380058619	20131108
CN105189725 A	20151223	CN201480015829	20140314
EP2917333 A2	20150916	EP20130795380	20131108
EP2970842 A1	20160120	EP20140722460	20140314
ID201701741 A	20170303	ID2015P0002614	20131108
JP2016501518 T2	20160121	JP20150541909T	20131108
JP2016512687 T2	20160509	JP20160502843T	20140314
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MX2015010818 A1	20160621	MX20150010818	20140314
SG11201503614U A1	20150629	SG201511103614	20131108
US2015118735 AA	20150430	US20140585371	20141230
US2015232802 AA	20150820	US20150699633	20150429
US2015240199 AA	20150827	US20150699659	20150429
US2015344830 AA	20151203	US20150822716	20150810
US2017145378 AA	20170525	US20170422829	20170202
US9758756 BB	20170912	US20150699633	20150429
WO14074769 A2	20140515	WO2013US69046	20131108
WO14074769 A3	20140717	WO2013US69046	20131108
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WO14074770 A2	20140515	WO2013US69047	20131108
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WO14074790 A1	20140515	WO2013US69091	20131108
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Priority:

US20120724710P 20121109	US20130798969P 20130315	US20130799151P 20130315
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Probable Assignee: HELIAE DEVELOPMENT LLC

Assignee(s): (std): HELIAE DEV LLC

Assignee(s): GANUZA ENKO ; LICAMELE JASON DAVID ; TONKOVICH ANNA LEE ; HELIAE DEVELOPMENT LLC ; SULLIVAN TIMOTHY JAMES ; LICAMELE JASON ; ADAME THOMAS ; ESLEER JAMES ; GALVEZ ADRIANO ; GALVEZ ADRIANO III ; HELIAE DEVELOPMENT LLC

Inventor(s): (std): ADAME THOMAS ; BELLEFEUILLE MICHAEL V ; BELLEFEUILLE MICHAEL VINCENT ; GALVEZ II ADRIANO ; GANUZA ENKO ; GANUZA TABERNA ENKO ; KALE ANIKET ; KUHLMAN SCOTT ; KULAGA THOMAS J ; KULAGA THOMAS JOHN ; LICAMELE JASON ; LICAMELE JASON D ; LICAMELE JASON DAVID ; SULLIVAN TIMOTHY ; SULLIVAN TIMOTHY JAMES ; ESLEER JAMES ; GALVEZ ADRIANO ; TONKOVICH ANNA LEE ; WYATT CAMERON ; WYATT CAMERON MILES

Inventor(s): GALVEZ ADRIANO III ; THOMAS ADAME ; TIMOTHY JAMES SULLIVAN ; JAMES ESLEER ; JASON DAVID LICAMELE ; ENKO GANUZA ; ADRIANO GALVEZ ; ANNA LEE TONKOVICH

Agent(s): PIZZEYS; PIZZEYS PATENT AND TRADE MARK ATTORNEYS PTY LTD; SMART AND BIGGAR; SILVA AND CIA PATENTES Y MARCAS LTDA; BASSIL NICHOLAS CHARLES; NABILA AM BADAR SH LLM; LEN; HELIAE DEVELOPMENT LLC; KNIEP JUSTIN

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

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