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(54) Title: METHOD AND DEVICE FOR ELECTROCHEMICALLY DISINFECTING FLUIDS

(57) Abstract: A method for treating fluids operates on a continuously flowing stream of fluid. The stream is acted upon in a continuous flow process to generate a disinfectant species (e.g., chlorine) in the stream and to simultaneously lower the pH of the stream below approximately 4.0. The stream is passed through an electrochemical cell and an electric potential difference is applied across electrodes of the cell during the passage of the stream through the cell. Relative to its flow through a channel upstream of the cell, the stream is accelerated when flowing through the cell. The stream at an outlet of the electrochemical cell to raise the pH of the stream to a neutral range, thus producing a disinfected solution. This step may be implemented by passing the effluent stream between differentially charged electrodes, for example, of the same electrochemical cell. A chemical disinfecting method is also disclosed.

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US00/42584

A. CLASSIFICATION OF SUBJECT MATTER

IPC(7) : C02F 01/461; C11D 03/48
 US CL : 205/ 742, 746,756; 510/ 382

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 U.S. : Please See Continuation Sheet

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
 EAST

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 5,858,202 A (NAKAMURA) 12 January 1999 (12.01.1999), Abstract; column 6, line 24 through column 7, line 24: Experiment #1.	1-38, 51-54 ----- 39-43
X	US 5,858,201 A (OTSUKA et al.) 12 January 1999 (12.01.1999), Abstract; column 4, lines 15-57.	1-15, 24, 26-27, 31-34, 36-38, 51-54
X --- Y	US 5,759,489 A (MIURA et al.) 02 June 1998 (02.06.1998), Abstract; column 3, line 18 through column 4; line 44; column 16, lines 28-39.	1-13, 51-54 ----- 39-43
A	US 5,207,877 A (WEINBERG et al.) 04 May 1993 (04.05.1993).	44-50
A	US 5,965,009 A (SHIMAMUNE et al.) 12 October 1999 (12.10.1999).	31-38
A,P	US 6,139,714 A (LIVSHITS) 31 October 2000 (31.10.2000).	1-30
A,P	US 6,056,866 A (MAEDA et al.) 02 May 2000 (02.05.2000).	1-13, 51-54

Further documents are listed in the continuation of Box C.

See patent family annex.

* Special categories of cited documents:	"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	"&" document member of the same patent family
"O" document referring to an oral disclosure, use, exhibition or other means	
"P" document published prior to the international filing date but later than the priority date claimed	

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Continuation of B. FIELDS SEARCHED Item 1: 205/ 742, 746,756;
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