

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
9 February 2006 (09.02.2006)

PCT

(10) International Publication Number
WO 2006/015299 A3

(51) International Patent Classification:
A61K 9/70 (2006.01) *A61M 37/00* (2006.01)

(21) International Application Number:
PCT/US2005/027201

(22) International Filing Date: 1 August 2005 (01.08.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/592,537 30 July 2004 (30.07.2004) US

(71) Applicant (for all designated States except US): **MI-CROCHIPS, INC.** [US/US]; 6-B Preston Court, Bedford, MA 01730 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **SANTINI JR., John, T.** [US/US]; 12 Maynard Circle, North Chelmsford, MA 01863 (US). **STAPLES, Mark, Andrew** [US/US]; 10 Rogers Street, #906, Cambridge, MA 02142 (US). **HERMAN, Stephen, J.** [US/US]; 50 Sunset Rock Road, Andover, MA 01810 (US).

(74) Agent: **KING, Kevin, W.**; Sutherland Asbill & Brennan LLP, 999 Peachtree Street, NE, Atlanta, GA 30309-3996, (US).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

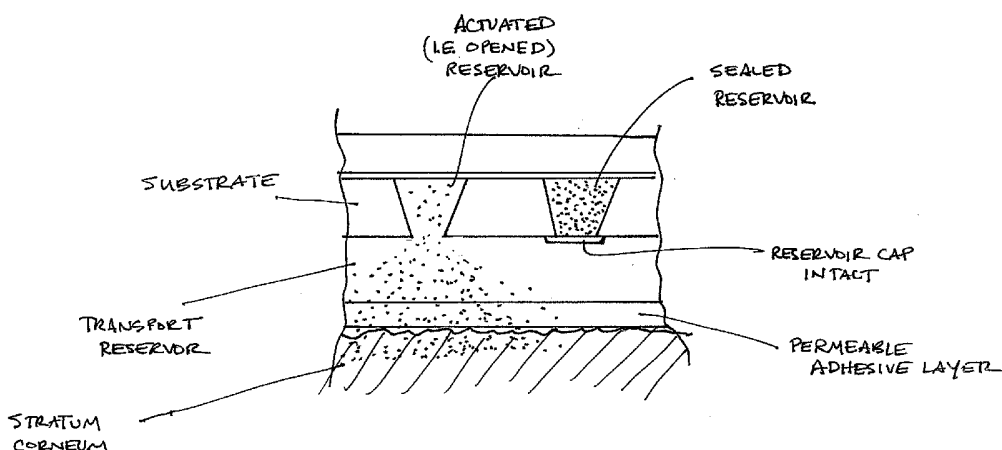
Published:

— with international search report

(88) Date of publication of the international search report:
4 May 2006

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MULTI-RESERVOIR DEVICE FOR TRANSDERMAL DRUG DELIVERY AND SENSING



(57) Abstract: Devices and methods are provide for transdermal administration of a pharmaceutical agent to a patient in need thereof. In one aspect, the device includes a substrate; a plurality of discrete reservoirs in the substrate; one or more pharmaceutical agents stored in the reservoirs; discrete reservoir caps which prevent the pharmaceutical agent from passing out from the reservoirs; control means for actuating release of the one or more pharmaceutical agents from one or more of the reservoirs by disintegrating or permeabilizing the reservoir caps; means for securing the device to the skin of the patient; and means for transporting to the skin the one or more pharmaceutical agents following release from the one or more of the reservoir.

WO 2006/015299 A3

INTERNATIONAL SEARCH REPORT

International Application No
US2005/027201

A. CLASSIFICATION OF SUBJECT MATTER A61K9/70 A61M37/00		
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) A61M A61K		
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 practical, search terms used) EPO-Internal, WPI Data, PAJ		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2004/106904 A1 (GONNELLI ROBERT R ET AL) 3 June 2004 (2004-06-03) paragraphs '0006!, '0019!, '0082!; figures	1-5,7,8, 10,12, 17,18, 20,23,24
Y	US 2004/121486 A1 (UHLAND SCOTT A ET AL) 24 June 2004 (2004-06-24) cited in the application claim 19; figures	1-5,7,8, 10,12, 17,18, 20,23,24
A	US 6 527 762 B1 (SANTINI, JR. JOHN T ET AL) 4 March 2003 (2003-03-04) cited in the application abstract; figures	1,20,24
-/--		
<input checked="" type="checkbox"/> Further documents are listed in the continuation of box C.		
<input checked="" type="checkbox"/> Patent family members are listed in annex.		
* Special categories of cited documents : *A* document defining the general state of the art which is not considered to be of particular relevance *E* earlier document but published on or after the international filing date *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) *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 *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 *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art. *&* document member of the same patent family		
Date of the actual completion of the international search 19 January 2006		Date of mailing of the international search report 26/01/2006
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016		Authorized officer Kousouretas, I

INTERNATIONAL SEARCH REPORT

International Application No

US2005/027201

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>US 2002/183721 A1 (SANTINI JOHN T ET AL) 5 December 2002 (2002-12-05) cited in the application abstract; figures</p> <p style="text-align: center;">-----</p>	1,20,24

INTERNATIONAL SEARCH REPORT

ional Application No
US2005/027201

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 2004106904 A1	03-06-2004	NONE	
US 2004121486 A1	24-06-2004	NONE	
US 6527762 B1	04-03-2003	US 2003105455 A1	05-06-2003
US 2002183721 A1	05-12-2002	US 2005143715 A1	30-06-2005