



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶ : A61M 31/00, 3/02, 35/00, A61K 31/765, 9/00	A3	(11) International Publication Number: WO 99/53897 (43) International Publication Date: 28 October 1999 (28.10.99)
(21) International Application Number: PCT/CA99/00359 (22) International Filing Date: 21 April 1999 (21.04.99) (30) Priority Data: 2,235,427 21 April 1998 (21.04.98) CA 2,257,001 23 December 1998 (23.12.98) CA (71) Applicant (for all designated States except US): INFECTIO RECHERCHE INC. [CA/CA]; Suite 205, 2795 Laurier Boulevard, Sainte-Foy, Quebec G1V 4M7 (CA). (72) Inventors; and (75) Inventors/Applicants (for US only): BERGERON, Michel, G. [CA/CA]; 2069 Brûlard, Sillery, Quebec G1T 1G2 (CA). DESORMEAUX, André [CA/CA]; 7640 de Beauchastel, Neufchatel, Quebec G2C 1Y1 (CA). OMAR, Rabeea, F. [CA/CA]; 3035 de la Forest #24, Sainte-Foy, Quebec G1W 1L6 (CA). JUHASZ, Julianna [CA/CA]; 170 Gérard-Morisset, Quebec, Quebec G1S 4X3 (CA). (74) Agents: DUBUC, Jean, H. et al.; Goudreau Gage Dubuc & Martineau Walker, The Stock Exchange Tower, Suite 3400, 800 Place Victoria, P.O. Box 242, Montreal, Quebec H4Z 1E9 (CA).		(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i> (88) Date of publication of the international search report: 13 April 2000 (13.04.00)
(54) Title: TOPICAL FORMULATION COMPRISING POLOXAMERS AND FURTHER MICROBICIDES, AND AN APPLICATOR (57) Abstract This invention relates to formulations for the prevention of infection and/or abnormal conditions of mucosae and/or skin caused by any pathogen and/or any disease, and more particularly for the prevention of sexually transmitted infections specially HIV and HSV. This invention also relates to formulations for the treatment of infection and/or abnormal conditions of skin and/or mucosae and more particularly for the treatment of herpetic lesions. The formulations could be used as a prophylactic agent to prevent accidental infection of health care workers. The formulations could be used for the healing and/or treatment of burn wounds and prevention of further infection. This invention also relates to the development of a unique vaginal/ano-rectal applicator for the uniform delivery of any topical formulations to treat and/or prevent any infection and/or abnormal conditions of mucosa cavity caused by any pathogen and/or disease.		

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/CA 99/00359

A. CLASSIFICATION OF SUBJECT MATTER

IPC 6 A61M31/00 A61M3/02 A61M35/00 A61K31/765 A61K9/00

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)

IPC 6 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)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 97 42962 A (BERGERON MICHEL G ; TREMBLAY MICHEL (CA); DESORMEAUX ANDRE (CA)) 20 November 1997 (1997-11-20) cited in the application * see in particular claims 3-10,21-23; page 7; figures 8,9 *	4-6, 10-16
X	US 5 275 805 A (AFFLITTO JOHN ET AL) 4 January 1994 (1994-01-04) * see in particular claims 1,6,7,12,and example 1 *	4,6-8, 10,12,13
X	EP 0 386 960 A (AMERICAN CYANAMID CO) 12 September 1990 (1990-09-12) * see claims 1,14; examples 1 & 2; page 7 * -/-	4,6,10, 12,13

☒ Further documents are listed in the continuation of box C.

☒ 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
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- *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.
- *G* document member of the same patent family

Date of the actual completion of the international search

22 December 1999

Date of mailing of the international search report

23.02.00

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INTERNATIONAL SEARCH REPORT

International Application No
PCT/CA 99/00359

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
P,X	PIRET ET AL: "Sodium lauryl sulfate (SLS) increases the efficacy of foscarnet (PFA) incorporated into a gel in a murine model of herpes simplex type-1 cutaneous infection" ABSTRACTS OF THE INTERSCIENCE CONFERENCE ON ANTIMICROBIAL AGENTS AND CHEMOTHERAPY,XX,XX, vol. 38, page 317 XP002110485 * see the abstract H-8 *	4,6-9, 12-15
X	US 2 683 456 A (L.A.PIERSON) 13 July 1954 (1954-07-13) column 2, line 17 - line 29; figure 4	17-21
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Y	DE 35 13 645 A (KADE PHARMA FAB GMBH) 16 October 1986 (1986-10-16) page 8, line 7 -page 10, line 17; figure 2	22-36
A	US 5 843 043 A (MARKUS GEORGE) 1 December 1998 (1998-12-01) figures 1-10	17
A	US 5 219 448 A (HACKMANN LUDGER) 15 June 1993 (1993-06-15) column 4, line 8 - line 36; figure 4	17
A	EP 0 139 855 A (CHRISTENSEN PLANTORGAN WERK) 8 May 1985 (1985-05-08) figures 1-11	17
A	US 4 991 777 A (SATO HIROMICHI) 12 February 1991 (1991-02-12) figures 8,9	17

INTERNATIONAL SEARCH REPORT

International application No.
PCT/CA 99/00359

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☒ Claims Nos.: 1-3
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box I.2

Claims Nos.: 1-3

Present claims 1-3 relate to a product defined by reference to a desirable characteristic or property, namely "capable of interfering", and /or "capable of spreading..."

The claims cover all products having this characteristic or property, whereas the application provides support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT for only a very limited number of such products/compounds/methods/apparatus. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Independent of the above reasoning, the claims also lack clarity (Article 6 PCT). An attempt is made to define the product by reference to a result to be achieved. Again, this lack of clarity in the present case is such as to render a meaningful search over the whole of the claimed scope impossible. Consequently, the search has been carried out for those parts of the claims which appear to be clear, supported and disclosed, namely those parts relating to the products prepared in the examples.

The applicant's attention is drawn to the fact that claims, or parts of claims, relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure.

INVITATION TO PAY ADDITIONAL FEES

International application No.

PCT/CA 99/00359

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 4-16

Topical microbicidal formulations

2. Claims: 17-36

Applicator for delivering formulations into mucosal cavity

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/CA 99/00359

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 9742962 A	20-11-1997	AU 2629997 A	05-12-1997
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