

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
27 June 2002 (27.06.2002)

PCT

(10) International Publication Number  
**WO 02/050001 A3**

- (51) International Patent Classification<sup>7</sup>: C07C 39/14, A61K 7/16
- (21) International Application Number: PCT/IB01/02273
- (22) International Filing Date:  
29 November 2001 (29.11.2001)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/256,787 20 December 2000 (20.12.2000) US
- (71) Applicant (for all designated States except US):  
**WARNER-LAMBERT COMPANY** [US/US]; 201 Tabor Road, Morris Planes, NJ 07950 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **HARPER, David, Scott** [US/US]; 178 Sycamore Terrace, Glen Rock, NJ 07452 (US). **COBURN, Robert, Allan** [US/US]; 35 Chestnut Hill Lane South, Williamsville, NY 14221 (US). **SOSHINSKY, Andre** [US/US]; 1 Walnut Street, Randolph, NJ 07869 (US). **GEORGIADES, Constantine, Argy** [US/US]; 6 Huron court, East Brunswick, NJ 08816 (US). **HUNTLEY, Marianne, Dudick** [US/US]; 4 Martha Drive, Morristown, NJ 07960 (US).
- (74) Agent: **LUMB, J., Trevor**; Pfizer Inc., 201 Tabor Road, Morris Plains, NJ 07950 (US).
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, 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, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, 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, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- Published:**  
— with international search report  
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments
- (88) Date of publication of the international search report:  
12 September 2002
- 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.*



**WO 02/050001 A3**

(54) Title: NON-HALOGENATED NAPHTHOL COMPOUNDS AND ANTIMICROBIAL COMPOSITIONS CONTAINING THE SAME

(57) Abstract: An antimicrobial compound, composition containing such compound, and method of use of the same for reducing the presence of microorganism on a substrate or in a fluid environment comprising an antimicrobial effective carrier and one or more essential antimicrobial compounds including non-halogenated naphthol compounds.

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 01/02273

**A. CLASSIFICATION OF SUBJECT MATTER**  
 IPC 7 C07C39/14 A61K7/16

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 7 A61K C07C

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, BEILSTEIN Data, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DATABASE WPI Section Ch, Week 198821 Derwent Publications Ltd., London, GB; Class B05, AN 1988-145118 XP002201195 & JP 63 088117 A (SHISEIDO CO LTD), 19 April 1988 (1988-04-19) abstract  ---  -/--	1

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
- \*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.
- \*Z\* document member of the same patent family

Date of the actual completion of the international search

7 June 2002

Date of mailing of the international search report

04/07/2002

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

Van Geyt, J

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 01/02273

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	H. P. SCHNEIDER ET AL: "The Oxidation of 3,6-Di-tert-butyl-2-naphthol.- X-Ray Analysis of 2,5,8,11-Tetra-tert-butyl-peri-xanthenoxan there" CHEMISCHE BERICHTE., vol. 117, 1984, pages 2660-2674, XP002201191 VERLAG CHEMIE GMBH. WEINHEIM., DE ISSN: 0009-2940 page 2661	7,9
X	W. COCKER ET AL: "The Constitution of phi-Santonin. Part III. Some Synthetical Experiments" JOURNAL OF THE CHEMICAL SOCIETY., 1947, pages 533-539, XP002201192 CHEMICAL SOCIETY. LETCHWORTH., GB ISSN: 0368-1769 page 537, paragraph 8	7
X	M. MÜLLY ET AL: "74. Über die "aus dem Ring"-Claisen-Umlagerung von Naphthalinderivaten" HELVETICA CHIMICA ACTA., vol. 58, no. 2, 1975, pages 610-640, XP002201193 VERLAG HELVETICA CHIMICA ACTA. BASEL., CH ISSN: 0018-019X page 636, paragraph 9	7
X	J. A. DODGE ET AL: "Competitive Dienone-Phenol Type Rearrangements for the Regioselective Preparation of 2,4-Disubstituted-Naphtols" TETRAHEDRON LETTERS., vol. 29, no. 38, 1988, pages 4827-4830, XP002201194 ELSEVIER SCIENCE PUBLISHERS, AMSTERDAM., NL ISSN: 0040-4039 table	7
X	T. R. KASTURI ET AL: "Reactions of Tetrahalogeno-o-benzoquinones: Part V - Synthesis of Alkyl Naphthols" INDIAN JOURNAL OF CHEMISTRY, vol. 14B, May 1976 (1976-05), pages 319-322, XP001077731 page 320, left-hand column	7

## INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 01/02273

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	O. KRUBER ET AL: "Über das 1.2-Benzodiphenyloxyd in Steinkohlenteer" CHEMISCHE BERICHTE., vol. 84, 1951, pages 831-833, XP002201565 VERLAG CHEMIE GMBH. WEINHEIM., DE ISSN: 0009-2940 page 833, paragraph 8 -----	7,8,12

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/IB 01/02273

## 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.: 7-11 (in part)  
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:

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.: 7-11 (in part)

The initial phase of the search revealed a very large number of documents relevant to the issue of novelty. So many documents were retrieved that it is impossible to determine which parts of the claim(s) may be said to define subject-matter for which protection might legitimately be sought (Article 6 PCT). For these reasons, a meaningful search over the whole breadth of the claim(s) is impossible. Consequently, the search has been restricted to the compounds listed on page 11 and in claim 12.

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.

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 01/02273

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 63088117	A	NONE	19-04-1988