



**Industria y Comercio**

SUPERINTENDENCIA

**P. C. T.**

Delegatura de Propiedad Industrial

División de Nuevas Creaciones

**03097209**

SOLICITUD

**PATENTE DE INVENCION**

21 EXPEDIENTE No. **03097209**

54 TÍTULO Soluciones tensoactivas de Alcanol  
amida Alcoxilada y compuestos Antimicrobianos.

51 CLASIFICACIÓN INTERNACIONAL <sup>35/ 31/ 7/ 31/ 31/</sup> ADIN 30/16, AGIK/SD, DRG/16  
<sup>611D 17/18</sup>

71 SOLICITANTE ICI Americas, INC.

DOMICILIO New Jersey, Estados Unidos.

74 APODERADO Dilia Maria Rodriguez D. Aleman

22 BOGOTÁ, D. C., Oct. 31 - 2003  
2020 99

FORMULARIO ÚNICO DE SOLICITUD DE PATENTE  
PCT  
ENTRADA EN FASE NACIONAL

|                                                                                                                                                           |                                                                                                                                                                                                                                                                   |                                                        |                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1) SOLICITUD DE:                                                                                                                                          |                                                                                                                                                                                                                                                                   |                                                        |                                                                                                                                                                                                |
| <input checked="" type="checkbox"/> Patente de invención                                                                                                  |                                                                                                                                                                                                                                                                   | <input type="checkbox"/> Patente de Modelo de Utilidad |                                                                                                                                                                                                |
| <input type="checkbox"/> Capítulo I.                                                                                                                      |                                                                                                                                                                                                                                                                   | <input type="checkbox"/> Capítulo II.                  |                                                                                                                                                                                                |
| 2) SOLICITANTE<br>(71)                                                                                                                                    | Nombre: ICI AMERICAS INC.<br>Dirección: 10 Flindere Avenue,<br>Bridgewater, New Jersey 08807,<br>Estados Unidos<br>Nacionalidad o domicilio: New<br>Jersey, Estados Unidos<br>Lugar de constitución: New Jersey,<br>Estados Unidos                                |                                                        | IDENTIFICACIÓN<br>C.C. <input type="checkbox"/> NIT: <input type="checkbox"/><br>C.E. <input type="checkbox"/> OTRO <input type="checkbox"/><br>Cual _____<br>NÚMERO _____                     |
|                                                                                                                                                           | Teléfono: _____ Fax: _____<br>E. Mail: _____                                                                                                                                                                                                                      |                                                        |                                                                                                                                                                                                |
| 3) REPRESENTANTE<br>O APODERADO                                                                                                                           | Nombre: DILIA MARIA RODRIGUEZ<br>D'ALEMAN<br>Dirección: Carrera 11 N°. 93-43 Of.<br>404 Santafé de Bogotá D.C.<br>Teléfono: 6350835 Fax: 6350824<br>E. Mail:<br>clarkemodet@clarkemodet.com.co                                                                    |                                                        | IDENTIFICACIÓN<br>C.C. <input checked="" type="checkbox"/> NIT: <input type="checkbox"/><br>C.E. <input type="checkbox"/> OTRO <input type="checkbox"/><br>NÚMERO: 41.654.882<br>TP: 20824 CSJ |
|                                                                                                                                                           |                                                                                                                                                                                                                                                                   |                                                        |                                                                                                                                                                                                |
| 4) INVENTOR (ES)<br>(72)                                                                                                                                  | Nombre: 1. GORMLEY, John, L. 2. REILLY, James, E.<br>Dirección: 1. 52 Hillside Avenue, Midland Park, NJ 07432,<br>Estados Unidos. 2. 38 Held Terrace, Wanaque, NJ 07465,<br>Estados Unidos<br>Nacionalidad o Domicilio: todos los anteriores -<br>Estadounidenses |                                                        |                                                                                                                                                                                                |
| 5) PCT (86)<br>Solicitud Internacional No. PCT/US02/17824 Fecha: Mayo 30, 2002<br>Publicación Internacional No. WO 02/098222 A1 Fecha: Diciembre 12, 2002 |                                                                                                                                                                                                                                                                   |                                                        |                                                                                                                                                                                                |
| 6) Título (54) <u>SOLUCIONES DE TENSOACTIVOS DE ALCANOL AMIDA<br/>ALCOXILADA Y COMPUESTOS ANTIMICROBIANOS</u>                                             |                                                                                                                                                                                                                                                                   |                                                        |                                                                                                                                                                                                |
| 7) Clasificación Internacional: A01N 25/30, 31/16, A61K 7/50, 31/085, 31/16, C11D<br>17/08                                                                |                                                                                                                                                                                                                                                                   |                                                        |                                                                                                                                                                                                |
| 8) PRIORIDAD                                                                                                                                              | 33) País de Origen                                                                                                                                                                                                                                                | (32) Fecha                                             | (31) Número de<br>Solicitud                                                                                                                                                                    |
|                                                                                                                                                           | ESTADOS UNIDOS                                                                                                                                                                                                                                                    | JUNIO 1, 2001                                          | 60/294,587                                                                                                                                                                                     |
| SI <input checked="" type="checkbox"/> NO <input type="checkbox"/>                                                                                        |                                                                                                                                                                                                                                                                   |                                                        |                                                                                                                                                                                                |
| 9) Comprobante de pago N°. 03-77,371 Fecha: OCTUBRE 23, 2003                                                                                              |                                                                                                                                                                                                                                                                   |                                                        |                                                                                                                                                                                                |
| Instrucciones para el diligenciamiento del presente formulario. Ver reverso de esta pagina                                                                |                                                                                                                                                                                                                                                                   |                                                        |                                                                                                                                                                                                |

P515

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SUPERINDUSTRIA Y COMERCIO

Indicacion : 63897289 00000000 Folios: 97  
Fecha (MM): 2003-10-31 16:45:29  
Tramite : 011 PC1-PATENT 379 FASE NNC1 411 PRESENTAC  
Dependencia: 2028 DIVISION DE NUEVAS CREACIONES

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 3 - 77,371  
FECHA : OCTUBRE 23 DE 2003

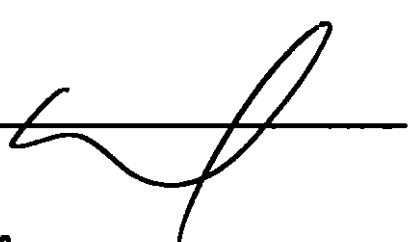
\*\*\*\*\* CONSIGNACION \*\*\*\*\*

| DEPOSITANTE               | TIPO PAGO    | BANCO         | CUENTA      | No. PAGO | FECHA PAGO | Vr. PAGO   |
|---------------------------|--------------|---------------|-------------|----------|------------|------------|
| CLARKE NOBET Y CD. COLOMB | CONSIGNACION | BANCO POPULAR | 090-00110-6 | 9711309  | 22/10/2003 | 2,439,000. |

\*\*\*\*\* CONCEPTO \*\*\*\*\*

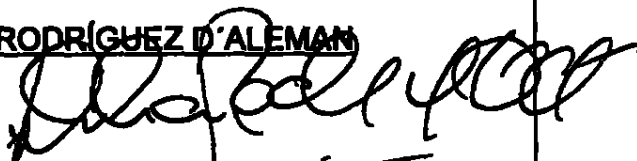
| CANT. HISTORICO           | CONCEPTO                            | TOTAL CONCEPTO |
|---------------------------|-------------------------------------|----------------|
| 1 50005-01-01 SOLICITUDES | 1 TRAMITES DE SOL. DE PATENTE DE IN | 400,000.00     |
|                           | TOTAL :                             | \$ 400,000.    |

SON: CUATROCIENTOS MIL PESOS

RESPONSABLE : 

RECIBO DE CAJA APLICADO AL ASUNTO No.

P515

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| <b>10)</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | <b>ANEXOS</b> |
| <div><input checked="" type="checkbox"/> Comprobante de pago de la tasa de presentación de la solicitud</div> <div><input type="checkbox"/> Comprobante de pago por reivindicación de prioridad</div> <div><input checked="" type="checkbox"/> Documento que acredite la existencia y representación legal cuando el solicitante sea persona Jurídica</div> <div><input checked="" type="checkbox"/> Poderes, si fuera el caso</div> <div><input type="checkbox"/> Documento de cesión del inventor al solicitante o a su causante</div> <div><input type="checkbox"/> Declaraciones</div> <div><input checked="" type="checkbox"/> Copia de la solicitud Internacional. (Resumen, descripción, reivindicación, Dibujo).</div> <div><input checked="" type="checkbox"/> Traducción de la solicitud Internacional al castellano. (Resumen, descripción, reivindicación, Dibujo)</div> <div><input checked="" type="checkbox"/> Copia del examen preliminar efectuado por la IPEA</div> <div><input type="checkbox"/> De ser el caso, copia del contrato de acceso</div> <div><input type="checkbox"/> De ser el caso, documento que acredite la licencia o autorización de uso de conocimientos tradicionales de las comunidades indígenas</div> <div><input type="checkbox"/> De ser el caso, certificado de depósito del material biológico</div> <div><input type="checkbox"/> Arte final 12 x 12 y 6 x 6 cm</div> <div><input type="checkbox"/> De ser el caso, información sobre otras solicitudes de patente o títulos obtenidos en el extranjero por el mismo titular o su causante, relacionados parcial o totalmente con la invención de esta solicitud.</div> <div><input checked="" type="checkbox"/> Otros:<div><div>1. publicación Internacional WO 02/088/222 A1</div><div>2. Reporte Internacional de búsqueda</div></div></div> |               |
| <b>11) FIGURA CARACTERISTICA:</b> <div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |               |
| <b>12) Solicitud concesión de la patente,</b> <div><div>NOMBRE: <u>DILIA RODRIGUEZ D'ALEMAN</u></div><div>FIRMA: </div><div>C.C. 41.654.882 de Bogota TP 20824 CSJ</div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |               |
| Instrucciones para el diligenciamiento del presente formulario. Ver reverso de esta pagina                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |               |

## Clarke, Modet &amp; Co. Colombia Ltda.

PROPIEDAD INDUSTRIAL y DERECHOS DE AUTOR

Apartado Aéreo 92397  
Santafé de Bogotá, Colombia

## PODER

Yo (nosotros), abajo firmante(s)

William J. Hutchinson

en mi (nuestro) carácter de representante(s) legales de

ICI Americas Inc.

una sociedad organizada y existente de acuerdo con las leyes de

New Jersey.

y en actual cumplimiento de su objeto social, con domicilio en

por el presente instrumento confiero (conferimos) poder especial a favor de DELIA MARIA RODRIGUEZ D'ALEMAN, con Cédula de Ciudadanía No. 41.454.882 de Bogotá, y tp. 20824 y CLAUDIA LUCIA CARO RAMIREZ, con Cédula de Ciudadanía No. 40.017.374 de Tunja, y tp. 36448, con domicilio en Santa Fé de Bogotá, Colombia, para que actuando en su orden en nombre del (de la) otorgante lo (la) representen ante cualquier entidad, autoridad y/o persona, especialmente ante las del orden Administrativo, Contencioso Administrativo, Judicial, Tribunales de Arbitramento y/o cualquier otro en lo referente a los siguientes asuntos:

- 1) Solicitar, tramitar, obtener y/o registrar cualquiera de las modalidades de Propiedad Industrial, tales como: patentes de invención, modelos de utilidad, diseños industriales, variedades vegetales, marcas, lemas, nombres y enseñas comerciales y denominaciones de origen; así como sus renovaciones, prórrogas, transferencias, cambios de nombre y/o domicilio, contratos y licencias.
- 2) Solicitar, tramitar, obtener y/o registrar derechos de autor, en cualquiera de sus presentaciones así como la protección de secretos industriales y know-how.
- 3) Solicitar, tramitar, obtener y/o registrar registros sanitarios, permisos y/o licencias de funcionamiento; así como sus renovaciones o prórrogas, transferencias, cambios de nombre y/o domicilio, contratos y licencias.
- 4) Ejercer acciones de oposición, observación, reclamos, reconsideración, reposición, apelación, cancelación administrativa o judicial, nulidad, protección al consumidor, concesión de licencias, protección de secretos industriales y demás acciones y recursos relacionados con derechos derivados de los asuntos antes indicados y en contra de la competencia desleal, acciones derivadas de la obtención o explotación de licencias, acciones de indemnización de perjuicios. También podrá(n) intervenir en juicios civiles, comerciales, penales, contencioso-administrativos, tutela y de policía; en acciones o juicios promovidos por el (la) mandante o en contra el (ella).
- 5) Registrar nombres de dominio ante la entidad competente.
- 6) En el ejercicio de este mandato los mandatarios arriba mencionados quedan facultados para: conciliar, cancelar, transigir, comprometer en árbitros, desistír, recibir y tomar posesión de la cosa objeto de litigio y renunciar o desistír a derechos concedidos o en curso de concesión, admitir los hechos del proceso.
- 7) Ratificar o no la agencia oficiosa.
- 8) Así mismo faculta (facultamos) a los mencionados apoderados para recibir notificaciones y designar apoderados judiciales o extrajudiciales, sustituir el presente poder y revocar las sustituciones que hicieren.

Dado y firmado en

a los

días de

de



Firma y signature

William U. Hutchinson, Vice President

## POWER OF ATTORNEY

I (we), the undersigned

William J. Hutchinson

legal representative(s) of

ICI Americas Inc.

an organization existing under the laws of

the State of New Jersey

and in present execution of its business activity, domiciled at

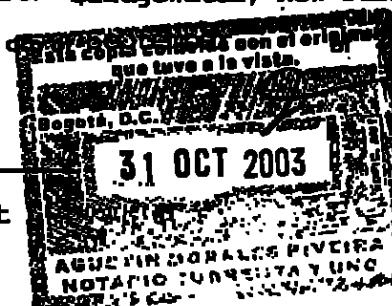
10 Findlerne Avenue, Bridgewater, New Jersey  
08807

do hereby grant POWER OF ATTORNEY to DELIA MARIA RODRIGUEZ D'ALEMAN, Identification card No. 41.454.882 of Bogotá, and tp. 20824 and CLAUDIA LUCIA CARO RAMIREZ, tp. 36448, Identification card No. 40.017.374, both residing in Santa Fé de Bogotá, Colombia, to act in the order of their appointment in behalf of grantor before any entity, authority and/or natural or juridical person, specially before those Administrative, Administrative-Contentious, Judicial, arbitration courts, and/or any other, in all matters concerning the following:

- 1) To apply, process, obtain and/or register any of the modalities of Industrial Property, such as: Patents of Invention, Utility Models, Designs, vegetal varieties, Marks, Slogans, Trade Names and emblems and appellations of Origin, as well as their renewals, extensions, assignments, changes of name and/or domicile, agreements and licenses.
- 2) To apply, process, obtain and/or register copyrights of any kind as well as protection of industrial secrets or know-how.
- 3) To apply, process, obtain and/or register sanitary registrations, operating authorizations and/or licenses, as well as their renewals or extensions, assignments, changes of name and/or domicile, agreements and licenses.
- 4) To bring actions of opposition, observations, claims, reconsideration, appeal or legal remedies, cancellations, nullity, protection to the consumer, granting of licenses, protection of trade secrets and other actions related with rights derived from the above-mentioned matters and against the unfair competition, actions resulting from the obtention or exploitation of licenses, recovering damages actions. They can also intervene or participate in Civil, Commercial, Criminal or Contentious-Administrative; that is, the actions for writ mandamus, police actions, in actions, lawsuits or litigations instituted by the grantor or against him.
- 5) To register domain names before the competent entity.
- 6) To the effect of this mandate the above-named proxy are empowered to: conciliate, cancel, settle, submit to arbitration, withdraw and to receive and take possession of the litigation related object and waive or renounce the rights granted or in process of granting, admit the facts of the case.
- 7) To ratify or not the officious agency.
- 8) I (we) hereby appoint the above mentioned attorneys with powers to receive notifications and to designate judicial and extrajudicial attorneys, substitute this Power of Attorney and to revoke such substitutions.

Granted and signed at Bridgewater, New Jersey

on this 19th



**CERTIFICADO NOTARIAL (Cuando el solicitante es SOCIEDAD)**

(Poderes otorgados en: El Salvador, Estados Unidos, Mexico y Venezuela)

A los \_\_\_\_\_ días del mes de \_\_\_\_\_  
de \_\_\_\_\_, el Notario que suscribe DA FE de  
que:

1. \_\_\_\_\_  
(nombre de la persona que firma el poder)

mayor de edad y domiciliado \_\_\_\_\_  
firmó de su puño  
y letra el documento que antecede.

2. Conoce al (a la) otorgante y que este (a) está  
legalmente capacitado para el otorgamiento.

3. El otorgante ha firmado el referido documento en  
su carácter de \_\_\_\_\_  
de la persona jurídica \_\_\_\_\_

4. La citada persona jurídica con sede en \_\_\_\_\_  
está  
legalmente constituida, que tiene actualmente  
existencia legal y que el acto para el cual se ha  
otorgado este poder está comprendido entre las que  
constituyen su objeto social.

5. El otorgante tiene efectivamente la representación  
que ostenta, que esta es legítima y que está  
facultado para otorgar este poder.

6. Las anteriores certificaciones de los puntos 3, 4 y 5, me  
constan porque he tenido a la vista los  
documentos auténticos.

\_\_\_\_\_  
Notario Público

NOTA: A continuación de lo anterior, el Consul de  
Colombia debe autenticar la firma del Notario Público.

**CERTIFICADO NOTARIAL (Cuando el solicitante es INDIVIDUO)**

A los \_\_\_\_\_ días del mes de \_\_\_\_\_  
de \_\_\_\_\_, el Notario que suscribe DA FE de  
que:

1. \_\_\_\_\_  
(nombre de la persona que firma el poder)

mayor de edad y domiciliado en \_\_\_\_\_  
firmó en su presencia  
el documento que antecede, conoce al otorgante  
y que este está legalmente capacitado para el  
otorgamiento.

\_\_\_\_\_  
Notario Público

NOTA: A continuación de lo anterior, el Consul de  
Colombia debe autenticar la firma del Notario Público.

Para todos los demás países el Señor Consul de  
Colombia o ante quien se otorgue, debe expedir una  
certificación dejando constancia 1) de la existencia  
legal de la sociedad, 2) de que esta ejerce actualmente  
su objeto social, y 3) de que la persona o personas que  
otorgan el poder están facultadas para hacerlo, dejando  
constancia así mismo de que tuvo a la vista las pruebas  
que acrediten tales circunstancias.

TRADUCCION OFICIAL No. \_\_\_\_\_  
JUAN PABLO PIEDRAHITA AGUILERA  
TRADUCCION E INTERPRETE OFICIAL  
C. ID. 10000045  
UNIVERSIDAD NACIONAL DE COLOMBIA

**NOTARIAL CERTIFICATE ( When the applicant is a CORPORATION)**

(Powers of attorney granted in: El Salvador, Mexico, U.S.A. and Venezuela)

This 19th day of September, 2002  
the undersigned Notary CERTIFIES that

1. William J. Hutchinson  
(name of the person who signs the power of attorney)

of legal age and domiciled  
in Princeton, New Jersey set  
his hand on the foregoing document.

2. The grantor is to him personally known and that  
he/she has legal capacity to execute the document.

3. The grantor has executed the foregoing document  
in his capacity of Vice President  
of the juridical person  
ICI Americas Inc.

4. The mentioned juridical person with place of  
business in Bridgewater, New Jersey  
is duly organized, has actual legal existence and that  
the purposes for which the power of attorney is granted  
are within the scope of its corporate purposes.

5. The grantor has in fact the referred quality and  
that his/her representation is legal and that he/she  
is empowered to grant this power of attorney.

6. I have based the above certifications 3, 4 and 5, on  
the authentic documents which were  
exhibited to me.

Barbara A. McHugh  
Notary Public

NOTA: Then the Colombian Consul must legalize the  
signature of the Notary Public.

**NOTARIAL CERTIFICATE ( When...the applicant is an INDIVIDUALS)**

On this \_\_\_\_\_ day of \_\_\_\_\_  
the undersigned Notary CERTIFIES that

1. \_\_\_\_\_  
(name of the person who signs the Power of Attorney)

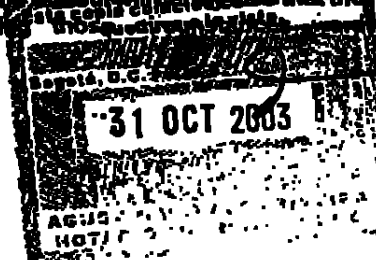
of legal age and domiciled at \_\_\_\_\_  
signed in his presence  
the foregoing document. the grantor is to him  
personally known and that he/she has legal capacity to  
execute the document.

\_\_\_\_\_  
Notary Public

NOTA: Then the Colombian Consul must legalize the  
signature of the Notary Public.

For all other countries the Colombian Consul or before  
who it is granted must issue a certification stating 1) the  
legal existence of the corporation, 2) that the corporate  
purposes are actually being accomplished, 3) that the  
person or persons who grant this Power of Attorney are  
empowered to do it. The \_\_\_\_\_  
documents evidencing those circumstances were  
exhibited to him.

02 / 305



TRADUCCIÓN OFICIAL No. 02/305 de un documento escrito en inglés, el cual para su identificación se sella con el sello del traductor al tiempo con la presente. Esta traducción ha sido preparada por Juan Pablo Piedrahita Aguilera, Traductor e Intérprete Oficial debidamente reconocido de conformidad con el Certificado de Idoneidad Profesional No. 0045 expedido por la Universidad Nacional de Colombia.

(Se traduce una Certificación Notarial y Apostilla No. A158741, escritos en inglés, adjuntos a un poder otorgado por ICI AMERICAS INC, escrito en inglés y español con fecha Septiembre 19, 2002)

(En español e Inglés Poder)

#### **CERTIFICADO NOTARIAL (Cuando el Solicitante es una Sociedad)**

(Poderes otorgados en El Salvador, México, Estados Unidos de América y Venezuela)

Expedido hoy 19 de Septiembre, 2002, el suscrito Notario CERTIFICA que:

- 1) William J. Hutchinson (nombre de la persona que firma el poder), mayor de edad y domiciliado en Princeton, New Jersey, suscribió el anterior documento.
- 2) El otorgante le es conocido personalmente y tiene facultad legal para firmar el documento.
- 3) El otorgante ha suscrito el anterior documento en su facultad de Vicepresidente



de la persona jurídica ICI Americas, Inc.

4) La mencionada persona jurídica con domicilio comercial en Bridgewater, New Jersey, está debidamente constituida, tiene actualmente existencia legal y el fin para el cual se otorga este poder se encuentra dentro de su objeto social.

5) El otorgante tiene en efecto la idoneidad referida y su representación es legal y está autorizado para otorgar este poder.

6) Fundamento las certificaciones 3), 4) y 5) en los documentos auténticos que para tal fin me fueron exhibidos.

(Firmado) BARBARA A. McHUGH

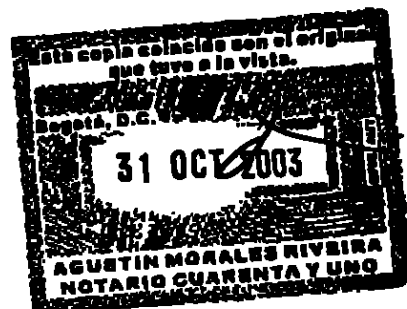
Notario Público

(Sello Notarial a Tinta: BARBARA A. McHUGH Notario Público de New Jersey, Mi Comisión Vence 10/25/04)

(Sello Notarial en Relieve)

Nota: a continuación el Consulado Colombiano debe legalizar la firma del Notario Público

Para todos los demás países el Señor Cónsul de Colombia o ante quien se otorgue, debe expedir una certificación dejando constancia de: 1) la existencia legal de la sociedad, 2) que cumple actualmente con su objeto social, y 3) que la persona o personas que otorgan este poder están facultadas para hacerlo. El Cónsul también certificará que los tuvo a la



02 / 30  
TRADUCCION OFICIAL No.   
JUAN PABLO PIEDRAHITA AGUILERA  
TRADUCTOR E INTERPRETE OFICIAL  
C. IDONEIDAD 045  
UNIVERSIDAD NACIONAL DE COLOMBIA

8

vista los documentos que prueban y acreditan tales circunstancias.

-----  
APOSTILLA

(Convenio de la Haya de Octubre 5 de 1961)

1. País: ESTADOS UNIDOS DE AMÉRICA
2. Este documento público ha sido firmado por BARBARA A MCHUGH
3. Actuando en calidad de NOTARIO PÚBLICO DE NEW JERSEY
4. Lleva el sello/estampilla del BARBARA A MCHUGH, NOTARIO

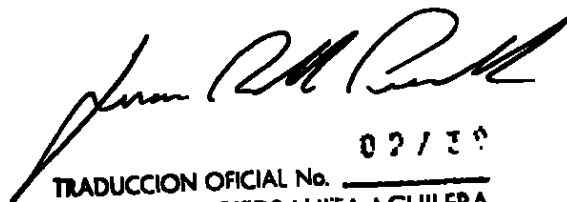
CERTIFICADO

5. En Trenton, New Jersey
6. Hoy 24 de Septiembre, 2002
7. Por el John E. McCormac, CPA, TESORERO de NEW JERSEY
8. No. A158741
9. Sello (Sello de Oblea)

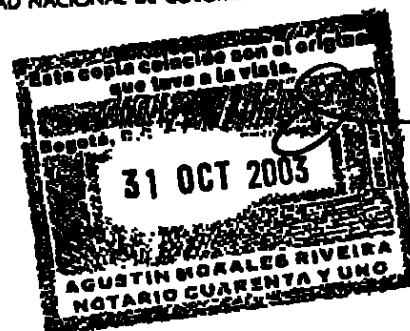
Firma (Firmado)

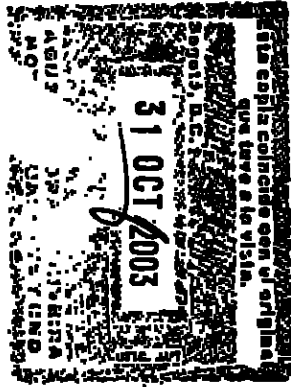
-----  
ES TRADUCCIÓN FIEL Y COMPLETA de la cual se deja copia en los archivos de esta oficina para su confrontación y a la cual me remito.

Bogotá, Octubre 15 de 2002



02/30  
TRADUCCION OFICIAL No. \_\_\_\_\_  
JUAN PABLO PIEDRAHITA AGUILERA  
TRADUCTOR E INTERPRETE OFICIAL  
C. IDONEIDAD 045  
UNIVERSIDAD NACIONAL DE COLOMBIA





MINISTERIO DE RELACIONES  
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APOSTILLE

(CONVENTION DE LA HAYE DU 5 OCTOBRE 1961)

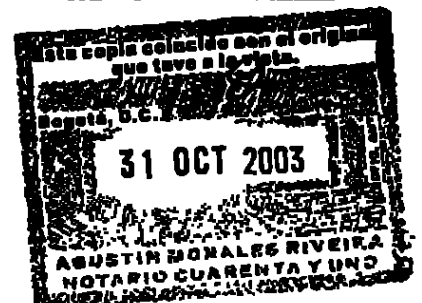
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**SOLUTIONS OF ALKOXYLATED ALKANOL AMIDE SURFACTANTS  
AND ANTIMICROBIAL COMPOUNDS**

**Technical Field**

5           The present invention relates to solutions of alkoxyated alkanolamide surfactants and antimicrobial compounds and to the method of making and using the same. More particularly, the antimicrobial containing solutions of the present invention are liquid at ambient temperatures.

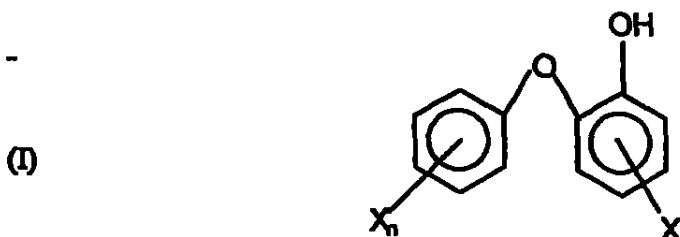
**Background of the Invention**

10           Antimicrobial compounds, particularly halogenated compounds, are typically solids that are processed into powders. Formulators are often attempting to employ such compounds into personal care and detergent products. However, the low water-solubility of these antimicrobial compounds makes working with these compounds challenging. In order to increase solubilization of antimicrobial  
15           compounds it has often been necessary to mix these into product formulations in a procedure that, often has required heating the formulation and/or prolonged mixing times. Both of these requirements are undesirable.

          Triclosan, 2,4,4'-trichloro-2'-hydroxy-diphenyl ether, is a fairly popular antimicrobial compound. It is available in a solution with propylene glycol as the  
20           solubilizer. Although this offers the advantage of providing an antimicrobial in a solution, it still presents shortcomings in that the solution may have lower than desired compatibility with typical liquid formulations where the triclosan can precipitate out if it is added rapidly without sufficient stirring (*i.e.*, special precautions must be adhered to when mixing this solution into product  
25           formulations). Furthermore, the solubilizer propylene glycol has several disadvantages that carry over to its use in antimicrobial preparations. These include viscosity reduction in cleansing systems and purported toxicological activity, such that it has been regulated out of cosmetic products in some countries.

Disclosure of the Invention

It is an object of the present invention to use surfactants, alkoxylated alkanolamide compositions, to solubilize antimicrobial compounds and form a solution that can be readily blended into cosmetics, therapeutics and disinfectant products (including, for example, cleansers, hard surface cleaners, cleansing foams, shampoos, body washes, and solid detergents such as powders and bar soaps). In particular, the present invention is directed to visually clear and substantially colorless solutions comprising natural antimicrobial compounds, in particular, and halogenated antimicrobial compounds including halogenated hydroxy-diphenyl ethers such as those represented by Formula I:



wherein

$n$  is 1 or 2; and

$X$  independently represents a chlorine atom, a bromine atom, or a hydrogen atom, and preferably at least one  $X$  represents a chlorine atom, and more preferably at least two  $X$ 's represent chlorine atoms, and most preferably the antimicrobial compound is triclosan, (2,4,4'-trichloro-2'-hydroxydiphenyl ether).

It is an additional object of this invention to provide a composition in which the antimicrobial compound dissolves in the surfactant under cold-mixing conditions, that is at a temperature of about 15°C to about 30°C preferably at an ambient environment of about 18°C to about 25°C.

It is yet another object of the present invention to provide antimicrobial containing solutions comprising alkoxylated alkanolamide surfactant compositions and antimicrobial compounds, having a melting point of 20°C or lower.

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It is a further object of the present invention to provide methods of preparing antimicrobial containing solutions (including premixtures and cosmetic, therapeutic, and disinfectant products) by first mixing the antimicrobial compound with an alkoxylated alkanolamide.

5 It is still a further object of the present invention to provide a therapeutic and a method for treatment of Herpes Simplex.

It is yet a further object of the present invention to provide an alkoxylated alkanolamide surfactant composition that provides comparable foam stabilization and viscosity building properties as a surfactant composition comprising a  
10 comparable amount of a corresponding alkanolamide (i.e., non-alkoxylated alkanolamide). A further object of this invention is for this alkoxylated alkanolamide surfactant composition to readily dissolve antimicrobial compounds and thus present the antimicrobial compound in a liquid form so that it is easy to handle and readily processible into liquid system, preferably aqueous systems.

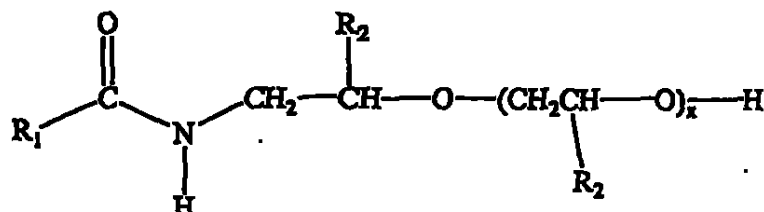
15 These and other objects will become apparent from the description to follow.

#### Description of the Embodiments

For purposes of this application, it will be understood that although a  
20 particular surfactant compound is named, it refers to a mixture that may comprise additional components such as by-products, unreacted components, and/or catalysts and the like resulting from the formation of the particular surfactant.

The present invention includes forming solutions comprising at least one alkoxylated alkanolamide surfactant composition with at least one antimicrobial  
25 compound. A wide variety of alkoxylated alkanolamide surfactants are suitable for forming these solutions. Preferably, the alkoxylated monoalkanolamide surfactant includes those represented by Formula II:

II



wherein:

5  $\text{R}_1$  represents a hydrocarbyl radical, preferably an optionally substituted or unsubstituted, branched or straight chain, saturated or unsaturated  $\text{C}_3\text{--C}_{21}$  hydrocarbyl radical, and more preferably a branched or unbranched  $\text{C}_3\text{--C}_{21}$  alkyl radical or a mixture thereof;

10  $\text{R}_2$  independently represents a hydrogen atom, a  $\text{C}_1\text{--C}_6$  hydrocarbyl radical or a mixture thereof, and preferably a hydrogen atom,  $\text{C}_1\text{--C}_2$  alkyl or a mixture thereof and more preferably wherein in at least one  $\text{R}_2$  is not hydrogen; and

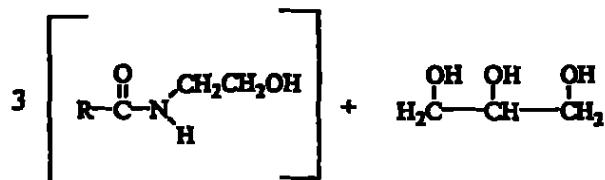
15  $x$  is an average value of greater than 0.2, and preferably a number representing the number of moles sufficient to provide a surfactant having a melting point of  $20^\circ\text{C}$  or lower.

Suitable alkoxylated alkanolamide surfactants include those discussed in U.S. Patent Applications 09/038,736, filed March 11, 1998 (abandoned),  
 20 continuation-in part thereof 09/334,812, filed June 17, 1999, and continuation thereof 09/793,042 filed February 26, 2001, the entire disclosures of these are hereby incorporated by reference and Japanese Patent Publication Hei 8-337560 (Kawaken Fine Chemicals Co. Examples of preferred alkoxylated alkanolamide compounds include polyoxypropylene-, polyoxybutylene-, fatty ethanolamides  
 25 wherein the fatty ethanolamide moiety is derived preferably from lauric monoethanolamide, capric monoethanolamide, capryl monoethanolamide,

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caprylic/capric monoethanolamide, decanoic monoethanolamide, myristic monoethanolamide, palmitic monoethanolamide, stearic monoethanolamide, isostearic monoethanolamide, isostearic monoisopropanolamide, oleic monoethanolamide, linoleic monoethanolamide, octyldecanoic  
 5 monoethanolamide, 2-heptylundecanoic monoethanolamide, coconut oil fatty monoethanolamide, beef tallow fatty monoethanolamide, soy oil fatty monoethanolamide and palm kernel oil fatty monoethanolamide. Of these capryl, stearic, isostearic, soy oil, and coconut oil fatty monoethanolamides are particularly preferred.

10 Additional suitable alkoxylated alkanolamides include alkoxylated monoethanolamide composition mixtures derived from triglyceride fats and oils having the Formula:



wherein R is the same as R<sub>1</sub> described in Formula II, above. Preferred  
 15 triglycerides from which the monoethanolamide composition mixtures may be prepared include glyceride esters of acids such as octanoic acid, decanoic acid, lauric acid, myristic acid, palmitic acid, stearic acid, oleic acid, linoleic acid, linolenic acid, or mixtures thereof as are found in coconut oil, palm oil, sunflower oil, soybean oil, rapeseed oil, castor oil, fish oil, tallow fat, milk fat, lard and other  
 20 natural sources or may be of synthetic origin. As is known, the solid monoethanolamide composition mixtures suitable for use in the preparation of alkoxylated ethanolamides of the present invention, derived from triglycerides, contain mixtures which are predominantly monoethanolamide derivatives of monoethanolamine, e.g., 3 moles, and small amounts of glycerin, e.g., 1 mole.  
 25 Such monoethanolamide composition mixtures are typically used as prepared without the need for separation of the glycerin component from the monoethanolamide composition.

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Other components that may be present as part of the alkoxyated alkanolamide surfactant component include alkoxyated glycerin, glycerin and non-alkoxyated monoalkanolamide the total amount of which generally ranges from 10% to about 55% by weight. The relative concentration of such additional components depends on the degree of alkoxylation of the reaction mixture and the monoalkanolamide composition mixture from which the modified monoalkanolamide composition mixture of the invention is prepared.

The alkoxyated alkanolamide of the present invention are liquids at ambient temperature (25°C), and preferably have a melting point temperature lower than 20°C. Preferred alkoxyated ethanolamides include those having a melting point lower than 20°C and exhibit comparable foam stabilization and viscosity building properties to that of the corresponding monoethanolamides from which it is derived.

In general, the alkoxyated alkanolamide of the present invention may be formed from any suitable method known including reacting the corresponding alkanolamide with a suitable amount of alkylene oxide or mixture of alkylene oxides (including preferably ethylene oxide, propylene oxide, butylene oxide or mixtures thereof) in the presence of a suitable catalyst (such as potassium hydroxide, sodium alcoholate and the like). The degree of alkoxylation of the alkanolamide being treated is important but may be varied depending upon the molecular weight (MW) of the alkanolamide and the degree of unsaturation in the fatty alkyl amide moiety. Generally, the alkoxyated alkanolamide is formed by adding at least 0.2 to about 8 moles, preferably from 1 to 4 moles, of ethylene oxide, propylene oxide, butylene oxide or mixtures thereof, per mole of the monoalkanolamide component. Minimum quantities of propylene oxide needed to liquefy some exemplary monoethanolamides at 15°C are presented in Table 1, Column 3.

**Table 1**

| Type of Mono-ethanolamide | Moles of Propoxy-ation | Min. wt % Propylene Oxide | Amide MW - 0.5 (Iodine Value) |
|---------------------------|------------------------|---------------------------|-------------------------------|
| Caprylic/ Capric          | 1                      | 22.82                     | 202                           |
| Coconut                   | 2                      | 31.73                     | 245.5                         |
| Soy                       | 3                      | 35.12                     | 257                           |
| Lard Oil                  | 4                      | 43                        | 291                           |
| Stearic                   | 8                      | 58.7                      | 327                           |

Table 2 presents the pour point behavior (°C) of Caprylic/Capric monoethanolamide with one mole of propoxylation when the indicated amounts of glycerin or glycerin propoxylate is present.

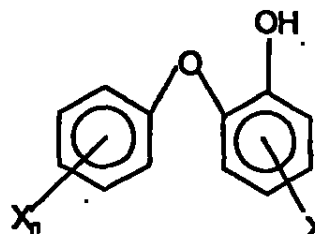
**Table 2**

|                                        | 0%   | 5%   | 10%  | 10%  |
|----------------------------------------|------|------|------|------|
| Glycerin                               | 22.3 | 20.1 | 18.2 | 17.9 |
| Glycerin with 1 mole of propoxylation  | 22.3 | 20.7 | 19.4 | 17.9 |
| Glycerin with 2 moles of propoxylation | 22.3 | 21.5 | 19.9 | 19.4 |
| Glycerin with 3 moles of propoxylation | 22.3 | 22.3 | 20.0 | 18.8 |

The alkoxyated alkanolamide surfactant of the present invention generally will contain at least about 60%, preferably about 70%, more preferably about 85% by weight, of the named alkoxyated alkanolamide.

Suitable antimicrobial compounds for forming the solutions of the present invention include natural antimicrobial compounds, in particular, tea tree oil and halogenated hydroxy-diphenyl ethers. More specifically these compounds include halogenated hydroxy-diphenyl ethers represented by Formula I

(I)



wherein

$n$  is 1 or 2; and

$X$  independently represents a chlorine atom, a bromine atom, or a hydrogen atom, and preferably at least one  $X$  represents a chlorine atom, and more preferably at least two  $X$ 's represent chlorine atoms, and most preferably the antimicrobial compound is triclosan, (2,4,4'-trichloro-2'-hydroxydiphenyl ether).

Halogenated hydroxy-diphenyl ethers are common antimicrobial compounds used in disinfectant cleansing products. They are typically solids at room temperature and require a solvent, heat and/or long mixing times to be brought into an aqueous solution. The alkoxyated alkanolamides discussed herein are able to dissolve the halogenated compounds rapidly, without heat and with only modest stirring (shear).

To prepare the solutions of the present invention, the alkoxyated alkanolamide surfactant will be present in an amount of at least 20 wt.%, preferably at least 50 wt.%. Preferred solutions of the present invention include those where the antimicrobial compounds are mixed with the alkoxyated alkanolamide surfactant in ratios between 5:95-50:50 by weight, and more preferably a ratio between 20:80-33:66 by weight and then mixed by any suitable means by cold-mixing at about 15°C to about 30°C, preferably at ambient temperature (about 18°C to about 25°C).

Thus, one of the advantages of the solutions of the present invention is that the solution does minimize or eliminate the need for heating the antimicrobial compound to prepare the solution. Similarly, any heat required to add the solution to a cosmetic or disinfectant cleaning product is minimized or eliminated. This

**Examples 1-12 and Comparative Examples A and B**

A series of premixture compositions (or solutions) were prepared and tested for solubility. The premixture compositions were prepared by mixing a surfactant with an antimicrobial compound, triclosan, in the amounts and types set forth in Table 3 below. These surfactants were placed in a 250 ml beaker containing a magnetic stirrer. The triclosan was placed uniformly on top of the surfactant. The mixture was stirred at the lowest setting that created a mild vortex. Each of premixes 1-12 is visually clear and substantially colorless. As set forth in Table 3A, Premixes 1-8 were essentially colorless with GSV's below 5 and generally below 3. Premixes 9-12 revealed light tint with GSV's somewhat below 8.

- avoids any concerns related to exposing the antimicrobial compound to elevated temperatures. A characteristic of the present invention is that the solution is visually clear and substantially colorless, being at most only slightly tinted and shelf-life stable, for at least 3 months and more preferably at least 6 months and
- 5 thermally stable, remaining stable at elevated temperatures including 45°C and higher, and preferably 60°C and higher. Preferred solutions of the present invention include those that are visually clear and essentially colorless and preferably remain colorless over time and upon exposure to elevated temperatures or after returning to ambient temperatures after sub-ambient exposure:
- 10 Solubilization is sufficient even if the *clear colorless* solutions have a slight *tint*, such as very pale or straw yellow. For instance, the *clear solution* may have a colour value of about 1 to 3 on the Gardner Colour Value (GSV) scale or it may have a somewhat higher GSV up to 8. Colors with GSV values ranging up to 8 are considered to be light and tints with such values are acceptable in accordance
- 15 with this invention, with GSV of below 5, and especially below 3, being preferred.

- The solution or premixture of the present invention ideally can be readily added to cosmetics and disinfectant cleansing products, including personal care products, household products, industrial cleaners, health care facility cleaners,
- 20 pharmaceutical production facility cleaners, manufacturing facility cleaners, automotive care products, pet care products, therapeutic products and similar protecting and cleaning products in an overall composition between 0.1-10 wt.%, preferably 0.1-5 wt.% of the premixture, relative to the total weight of the product including the premixture. Preferably, solution is understood to be a solution
- 25 wherein at least 98 weight % and preferably at least 99.5 weight %, relative to the starting amount of antimicrobial compound in solution, after 2 months and preferably after 3 months of storage at temperatures greater than 45°C (without agitation).

**Examples**

The following terms are used in the Examples:

**AOS**-Alpha-olefin sulfonate (40% by weight active aqueous solution);

**DI Water** - deionized water;

5      **Irgasan® PG60**- a liquid which contains 60% triclosan in propylene glycol commercially available from Ciba;

**Monoamid® 705** - coconut oil diethanolamide commercially available from Uniqema, a business unit of ICI Americas Inc.;

10      **Monateric® CAB** - cocamidopropyl betaine (35% solids aqueous solution) commercially available from Uniqema a business unit of ICI Americas Inc.;

**Promidium® CC** - a propoxylated caprylic/capric monoalkanolamide commercially available from Uniqema, a business unit of ICI Americas Inc.;

15      **Promidium® CO** - a propoxylated coconut oil monoalkanolamide commercially available from Uniqema, a business unit of ICI Americas Inc.;

**Promidium® SY** - a propoxylated soy oil monoalkanolamide commercially available from Uniqema, a business unit of ICI Americas Inc.;

**(SLES)**- Sodium Lauryl (ethoxy-2) sulphate (28% by weight active aqueous solution);

20      **Triclosan** - 2,4,4'-trichloro-2'-hydroxy-diphenyl ether commercially available from Sino Lion as Oletron®;

**Time for solution to clear** - refers to the time (in hours) for the bulk solution to become clear even though there is a significant amount of agglomerated triclosan precipitate dispersed throughout the formulation; and

25      **Dissolution time** - refers to the time (in hours) required for the solution to become clear and free of triclosan precipitates.

**Wt** is an abbreviation for weight.

**Expt** is an abbreviation for Example.

Table 3  
Surfactant-Triclosan Premixture Compositions

| Example | Promidium<br>CO<br>(wt %) | Promidium<br>CC<br>(wt %) | Promidium<br>SY<br>(wt %) | Monamid<br>705<br>(wt %) | Triclosan<br>(wt %) | Weight<br>Ratio* | Dissolution<br>Time |
|---------|---------------------------|---------------------------|---------------------------|--------------------------|---------------------|------------------|---------------------|
| 1       | 100                       |                           |                           |                          | 100                 | 50:50            | 3                   |
| 2       | 134                       |                           |                           |                          | 66                  | 66:33            | <1                  |
| 3       | 160                       |                           |                           |                          | 40                  | 80:20            | <1                  |
| 4       | 190                       |                           |                           |                          | 10                  | 95:5             | <1                  |
| 5       |                           | 100                       |                           |                          | 100                 | 50:50            | 3                   |
| 6       |                           | 134                       |                           |                          | 66                  | 66:33            | <1                  |
| 7       |                           | 160                       |                           |                          | 40                  | 80:20            | <1                  |
| 8       |                           | 190                       |                           |                          | 10                  | 95:5             | <1                  |
| 9       |                           |                           | 100                       |                          | 100                 | 50:50            | 3                   |
| 10      |                           |                           | 134                       |                          | 66                  | 66:33            | <1                  |
| 11      |                           |                           | 160                       |                          | 40                  | 80:20            | <1                  |
| 12      |                           |                           | 190                       |                          | 10                  | 95:5             | <1                  |
| Comp. A |                           |                           |                           | 100                      | 100                 | 50:50            | not soluble         |
| Comp. B |                           |                           |                           | 160                      | 40                  | 80:20            | 1.5                 |

Table Note: \*Weight ratio of surfactant to triclosan.  
\*\* Comp. indicates a Comparative Example.

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Table 3A  
Surfactant-Triclosan Premixture Compositions  
Gardner Colour Value (GSV)

| Expt.        | Promidium CO<br>(wt %) | Promidium CC<br>(wt %) | Promidium SY<br>(wt %) | Monamid 705<br>(wt %) | Triclosan<br>(wt %) | Wt Ratio* | GSV |
|--------------|------------------------|------------------------|------------------------|-----------------------|---------------------|-----------|-----|
| 1            | 100                    |                        |                        |                       | 100                 | 50:50     | 4.7 |
| 2            | 134                    |                        |                        |                       | 66                  | 66.5:33.5 | 4.1 |
| 3            | 160                    |                        |                        |                       | 40                  | 80:20     | 2.3 |
| 4            | 190                    |                        |                        |                       | 10                  | 95:5      | 1.3 |
| 5            |                        | 100                    |                        |                       | 100                 | 50:50     | 3.2 |
| 6            |                        | 134                    |                        |                       | 66                  | 66.5:33.5 | 2.6 |
| 7            |                        | 160                    |                        |                       | 40                  | 80:20     | 1.8 |
| 8            |                        | 190                    |                        |                       | 10                  | 95:5      | 0.3 |
| 9            |                        |                        | 100                    |                       | 100                 | 50:50     | 7.9 |
| 10           |                        |                        | 134                    |                       | 66                  | 66.5:33.5 | ND  |
| 11           |                        |                        | 160                    |                       | 40                  | 80:20     | 7.5 |
| 12           |                        |                        | 190                    |                       | 10                  | 90:10     | 7.3 |
| Comp.A<br>** |                        |                        |                        | 100                   | 100                 | 50:50     | NS  |
| Comp.B*<br>* |                        |                        |                        | 160                   | 40                  | 80:20     | 2.8 |

Table Note: \*Weight ratio of surfactant to triclosan  
\*\*Comp. indicates a Comparative Example  
ND is Not Determined  
NS is Not Soluble

B

Similarly, the visually clear premixes of Promidium® compounds and tea tree oil are observed to be substantially colorless. For example, a premix of 150 parts of Promidium CO and 50 parts of tea tree oil reveals a GSV of 3.1.

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Storage Stability

Promidium® CO/triclosan mixtures were tested for stability. The results were obtained using High Pressure Liquid Chromatography (HPLC) with the compositions reported in Examples 1-4 above are listed in Table 4.

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Table 4  
Storage Stability for Examples 1-4

| Pre-mixture Example | Wt Ratio of Promidium® CO:Triclosan | Room Temperature HPLC Triclosan Assay (wt %) |       |       | 45°C HPLC Triclosan Assay (wt %) |       | 60°C HPLC Triclosan Assay (wt %) |       |       |
|---------------------|-------------------------------------|----------------------------------------------|-------|-------|----------------------------------|-------|----------------------------------|-------|-------|
|                     |                                     | 1 Mo.                                        | 3 Mo. | 6 Mo. | 1 Mo.                            | 3 Mo. | 1 day                            | 2 wks | 4 wks |
| 1                   | 50:50                               | 48.4                                         | 50.6  | 51.5  | 50.2                             | 50.3  | 48.9                             | 49.1  | 49.3  |
| 2                   | 66:33                               | 34.1                                         | 33.3  | 34.3  | 35.3                             | 32.9  | 33.9                             | 34.6  | 34.2  |
| 3                   | 80:20                               | 21.3                                         | 20.3  | 20.6  | 19.8                             | 20    | 17.2                             | 21.5  | 19.5  |
| 4                   | 95:5                                | N/A                                          | 4.75  | N/A   | N/A                              | 4.6   | 5.1                              | N/A   | 5.1   |

Examples 13-22 and Comparative Examples C-1

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A series of liquid cleaners were prepared using the above surfactant/triclosan premixtures along with components set forth in Tables 5A-5C below. Two series of experiments were run at either 50-revolutions per minute (low shear experiment) or 200-revolutions per minute (moderate shear experiment) using a 4 blade paddle mixer.

24

**Table 5-A**  
**Mixing triclosan into cleaning solutions (under low shear (50 RPM))**

| Example                       | 13   | Comp. C | Comp. D | 14   | 15   | Comp. E | Comp. F |
|-------------------------------|------|---------|---------|------|------|---------|---------|
| Ingredients (wt %)            |      |         |         |      |      |         |         |
| DI Water                      | 53.7 | 53.7    | 53.6    | 68.5 | 67.6 | 68.4    | 67.5    |
| SLES                          | 42.3 | 42.3    | 42.3    |      |      |         |         |
| AOS                           |      |         |         | 27.5 | 21.3 | 27.5    | 21.3    |
| Monatonic® CAB                |      |         |         |      | 7.1  |         | 7.1     |
| Premixture Ex 4               | 4.0  |         |         | 4.0  | 4.0  |         |         |
| Promidium® CO                 |      | 3.8     | 3.8     |      |      | 3.8     | 3.8     |
| Irgasan PG60                  |      |         | 0.3     |      |      | 0.3     | 0.3     |
| Triclosan                     |      | 0.2     |         |      |      |         |         |
| Calculated % Active Triclosan | 0.2  | 0.2     | 0.2     | 0.2  | 0.2  | 0.2     | 0.2     |
| Dissolution Time              | <0.5 | >5      | >5      | <0.5 | <0.5 | >5      | >5      |

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Table 5-B

Mixing triclosan into cleaning solutions (under normal shear (200 RPM) at 20°C)

| Example                       | 16   | 17   | 18   | 19   | 20   | 21   | Comp. Ex. G |
|-------------------------------|------|------|------|------|------|------|-------------|
| Ingredients (weight %)        |      |      |      |      |      |      |             |
| DI Water                      | 53.7 | 53.7 | 53.7 | 53.7 | 53.7 | 53.7 | 53.7        |
| SLES                          | 42.3 | 42.3 | 42.3 | 42.3 | 42.3 | 42.3 | 42.3        |
| Premix. Ex. 4                 | 1.0  |      |      |      |      |      |             |
| Premix. Ex. 8                 |      | 1.0  |      |      |      |      |             |
| Premix Ex. 12                 |      |      | 1.0  |      |      |      |             |
| Premix Ex. 2                  |      |      |      | 1.0  |      |      |             |
| Premix Ex. 6                  |      |      |      |      | 1.0  |      |             |
| Premix Ex. 10                 |      |      |      |      |      | 1.0  |             |
| Irgasan PG-60                 |      |      |      |      |      |      | 0.8         |
| Promidium® CO                 | 3.0  |      |      | 3.0  |      |      | 3.2         |
| Promidium® CC                 |      | 3.0  |      |      | 3.0  |      |             |
| Promidium® SY                 |      |      | 3.0  |      |      | 3.0  |             |
| Calculated % Active triclosan | 0.2  | 0.2  | 0.2  | 0.5  | 0.5  | 0.5  | 0.5         |
| Time for Solution to Clear    | 0.25 | 0.1  | 0.25 | 0.25 | 0.1  | 0.25 | 0.3         |
| Dissolution Time              | 0.6  | 0.1  | 0.6  | 0.9  | 1.0  | 0.75 | >5.0        |

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**Table 5-C**

**Mixing triclosan into cleaning solutions**  
**(under moderate shear (200 rpm) at 20°C)**

5

| Ingredients<br>(Weight %)        | Example 22 | Comp. Ex. H | Comp. Ex. I |
|----------------------------------|------------|-------------|-------------|
| DI Water                         | 67.6       | 67.6        | 67.6        |
| AOS                              | 21.3       | 21.3        | 21.3        |
| Monatonic® CAB                   | 7.1        | 7.1         | 7.1         |
| Premix. Ex. 4                    | 1.0        |             |             |
| Triclosan                        |            | 0.2         |             |
| Irgasan® PG60                    |            |             | 0.33        |
| Promidium® CO                    | 3.0        | 4.0         | 4.0         |
| Calculated %<br>active Triclosan | 0.2        | 0.2         | 0.2         |
| Time for Solution<br>to Clear    | 0.25       | 6           | 3           |
| Dissolution Time                 | 0.5        | 8           | 5           |

**Examples 23-26**

Premixture 4 (Promidium® CO to triclosan in a weight ratio of 95:5) is added in a soap plodder to a hard texture soap base, Natsoap 3020 (commercially available from Acme Hardesty) under ambient conditions. The mixtures were passed twice through a multi-orifice (1/8" OD) die and passed once through a 1.5" compression ring. The premixture was easily incorporated into the soap plodding process such that an acceptable soap base was achieved after two processing cycles, reference Table 6.

10

**Table 6**

**Soap with surfactant-triclosan premixtures**

| Examples                | 23    | 24    | 25    | 26    |
|-------------------------|-------|-------|-------|-------|
| Ingredients             | wt. % | wt. % | wt. % | wt. % |
| Natsoap 3020            | 92.5  | 90.0  | 90.0  | 85.0  |
| DI water                | 5.0   | 5.0   | 0     | 5.0   |
| Glycerin                | 0     | 0     | 5.0   | 5.0   |
| Premixture<br>Example 4 | 2.5   | 5.0   | 5.0   | 5.0   |

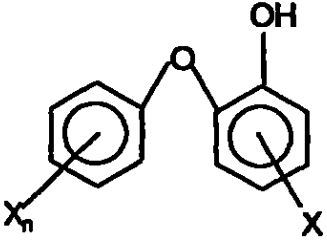
It will be evident from the above that there are other embodiments and methods, which while not expressly described above, are clearly within the scope and spirit of the invention. The description above is therefore intended to be exemplary only and the scope of this invention is to be limited solely by the  
5 appended claims.

See  
Replacement  
Pages

Claims

## WHAT IS CLAIMED IS:

1. A visually clear and substantially colorless solution comprising:
  - a) an antimicrobial compound selected from the group consisting of tea tree oil and a halogenated hydroxy-diphenyl ether and
  - b) at least 20 weight percent, relative to the total weight of the solution, of at least one alkoxyated alkanolamide surfactant said solution having a Gardner Colour Value (GSV) below 8.
2. The solution according to claim 1, wherein the antimicrobial compound is selected from tea tree oil or a halogenated hydroxy-diphenyl ether compound represented by Formula I:
 



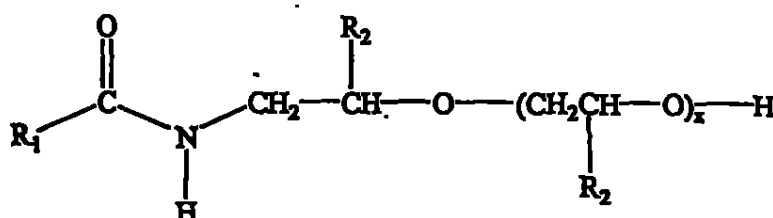
(I)

wherein:

n is 1 or 2; and

X independently represents a chlorine atom, a bromine atom, or a hydrogen atom.
3. The solution according to claim 2, wherein the GSV is below 3.
4. The solution according to claim 2, wherein said antimicrobial compound is said compound represented by Formula I and said at least one surfactant includes a surfactant represented by formula II:

(II)



wherein:

5  $\text{R}_1$  represents a hydrocarbyl radical;

$\text{R}_2$  independently represents a hydrogen atom, a  $\text{C}_1 - \text{C}_6$  hydrocarbyl radical or a mixture thereof; and

$x$  is an average value of greater than 0.2.

5. The solution of claim 2, wherein the solution is a liquid at about  
10  $18^\circ - 25^\circ \text{C}$ .

6. The solution of claim 4, wherein the at least one surfactant is present in an amount of at least 50 weight percent, relative to the total weight of the solution.

7. The solution of claim 4, wherein the at least one surfactant  
15 includes an alkoxylated capryl monoalkanolamide, alkoxylated coconut monoalkanolamide, alkoxylated soy oil monoalkanolamide, alkoxylated isostearic monoalkanolamide, alkoxylated stearic monoalkanolamide or mixtures thereof.

8. The solution of claim 6, wherein the ratio of the antimicrobial compound to the at least one surfactant is between 5:95 and 50:50 by weight.

20 9. The solution of claim 8 wherein the ratio of the antimicrobial compound to the at least one surfactant is between 20:80 and 33:66 by weight.

10. The solution of claim 4, wherein the antimicrobial compound is triclosan.

11. The solution of claim 6, wherein  $\text{R}_1$  is a branched or unbranched  
25  $\text{C}_3 - \text{C}_{21}$  alkyl radical or a mixture thereof;  $\text{R}_2$  independently represents hydrogen atom, or  $\text{C}_1 - \text{C}_2$  alkyl or a mixture thereof; and  $x$  independently represents a value of from 1 to 4.

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12. The solution of claim 7, wherein the at least one surfactant includes a propoxylated coconut monoethanolamide and said antimicrobial compound is triclosan.
- 5 13. The solution of claim 7, wherein the at least one surfactant includes a propoxylated isostearic monoethanolamide and said antimicrobial compound is triclosan.
14. The composition of claim 6, wherein said composition is a therapeutic, cosmetic, personal care or household cleanser.
- 10 15. A method for preparing a visually clear and substantially colorless premixture solution, comprising stirring an antimicrobial compound into an alkoxylated alkanolamide surfactant in the absence of heat.
16. A method of preparing a disinfectant composition, comprising admixing the premixture of claim 15 in the absence of heat.
- 15 17. The composition of claim 14, wherein said composition is a therapeutic for the treatment of Herpes Simplex.

**SOLUCIONES DE TENSOACTIVOS DE ALCANOL AMIDA ALCOXILADA Y**  
**COMPUESTOS ANTIMICROBIANOS**

**Campo Técnico**

La presente invención se relaciona con soluciones de tensoactivos de alcohol amida alcoxilada y compuestos antimicrobianos y con el método para hacer y utilizar lo mismos. Más particularmente, las soluciones que contienen antimicrobianos de la presente invención son líquidas a temperatura ambiente.

**Antecedentes de la Invención**

Los compuestos antimicrobianos como particularmente los compuestos halogenados, son típicamente sólidos que son procesados en polvos. Las formulaciones intentan a menudo emplear tales compuestos en el cuidado personal y en productos detergentes. Sin embargo, la baja solubilidad en el agua de estos compuestos antimicrobianos hace que el trabajo con estos compuestos sea un reto. Con el fin de incrementar la solubilización de los compuestos antimicrobianos a menudo ha sido necesario mezclar estos en formulaciones de producto en un

27  
32

procedimiento que, a menudo ha requerido calentar la formulación y/o tiempos de mezclas prolongados. Ambos requisitos son indeseables.

El triclosan, 2,4,4'-tricloro-2'-hidroxi-difenil eter, es un compuesto antimicrobiano muy popular. Esta disponible en una solución con propilenglicol como el solubilizador. Aunque este ofrece la ventaja de suministrar un antimicrobiano en solución, este aún presenta inconvenientes por que la solución puede tener una compatibilidad inferior a las deseadas con las formulaciones líquidas típicas donde el triclosan se puede precipitar si este se agrega rápidamente sin suficiente agitación (es decir se deben tomar precauciones especiales cuando se mezcla a la solución en las formulaciones de producto). Adicionalmente, el propilenglicol solubilizador tiene varias desventajas que son trasladadas a su uso en preparaciones antimicrobianas. Estas incluyen reducción de la viscosidad en sistemas de limpieza y actividad toxicológica significativa, tal que esta ha sido regulada en los productos cosméticos en algunos países.

Estos y otros objetos serán evidentes de la descripción que sigue.

### Descripción de las Modalidades

Para los propósitos de esta solicitud, se entenderá que aunque un compuesto tensoactivo particular se nombre, este se refiere a una mezcla que puede comprender componentes adicionales tales como subproductos, compuestos no reaccionados, y/o catalizadores y similares que den como resultados la formación de un tensoactivo particular.

La presente invención incluye soluciones formadoras que comprenden al menos una composición tensoactiva de alcanolamida alcoxlada con al menos un compuesto antimicrobiano. Una amplia variedad de tensoactivos de alcanolamida alcoxlada son adecuados para la formación de estas soluciones. Preferiblemente, el tensoactivo de alcanolamida alcoxlada incluye aquellos representados por la fórmula II.

n es 1 o 2; y

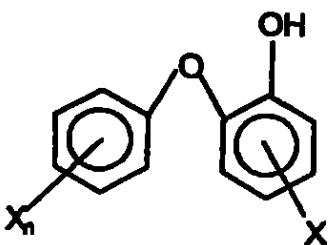
X representa Independientemente un átomo de cloro, un átomo de bromo, o un átomo de hidrogeno, y preferiblemente al menos un X representa un átomo de cloro, y más preferiblemente al menos dos X representa átomos de cloro, y mas preferiblemente en compuesto antimicrobiano triclosan, (2,4,4'-tricloro-2'-hidroxidifenil éter).

Es un objeto adicional de esta invención suministrar la composición en la cual el compuesto antimicrobiano se disuelva en el tensoactivo bajo condiciones de mezcla en frío, esto es a temperatura de aproximadamente 15° C a aproximadamente 30° C preferiblemente en un ambiente de aproximadamente 18° C a aproximadamente 25° C.

Es otro objeto de la presente Invención suministrar unas soluciones que contengan antimicrobianos que comprendan composiciones tensoactivas de alcanolamida alcoxiada y compuestos antimicrobianos, que tengan un punto de fusión de 20° C o menos.

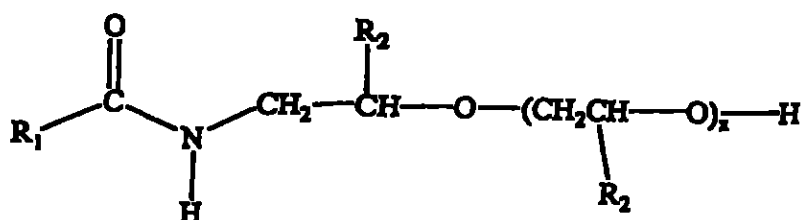
### Descripción de la Invención

Es objeto de la presente Invención utilizar tensoactivos, composiciones de alcanolamida alcoxilada, para solubilizar compuestos antimicrobianos y formar una solución que puedan ser fácilmente mezclada en productos cosméticos, terapéuticos y desinfectantes (Incluyendo, por ejemplo, limpiadores de superficies duras, espumas limpiadoras, champús, enjuagues de cuerpo, y detergentes sólidos tales como polvos y jabones en barra), en particular, la presente Invención está dirigida a soluciones visualmente claras y sustancialmente Incoloras que comprenden compuestos antimicrobianos naturales en particular y compuestos antimicrobianos halogenados incluyendo hidroxidifenil éteres halogenados tal como aquellos representados por la formula I.



(I)

En donde



(II)

En donde

$\text{R}^1$  representa un radical hidrocarbilo, preferiblemente un radical hidrocarbilo  $\text{C}_3\text{-C}_{21}$  saturado o insaturado ramificado o de cadena recta opcionalmente sustituido o no sustituido, y más preferiblemente un radical alquilo  $\text{C}_3 - \text{C}_{21}$  ramificado o no ramificado o una mezcla de esto;

$\text{R}^2$  representa Independientemente un átomo de hidrogeno, un radical hidrocarbilo  $\text{C}_1\text{-C}_6$  o una mezcla de estos, y preferiblemente una átomo de hidrogeno, alquilo  $\text{C}_1 - \text{C}_2$  o una mezcla de estos y mas preferiblemente en donde al menos un  $\text{R}_2$  no es hidrogeno; y

$x$  es un valor promedio de más de 0,2, y preferiblemente un numero que representa el numero de moles suficientes para suministrar un tensoactivo que tenga un punto de fusión de  $20^\circ \text{C}$  o menos.

Es un objeto adicional de la presente Invención suministrar métodos para preparar soluciones que contengan antimicrobianos (Incluyendo productos de premezclas y cosméticos, terapéuticos y desinfectantes) al mezclar primero el compuesto antimicrobiano con una alcanolamida alcoxlada.

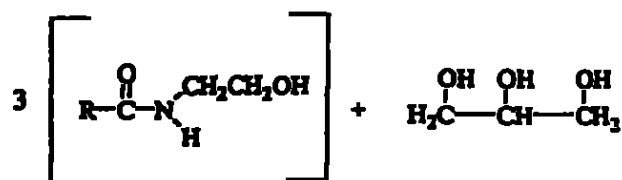
Es aún un objeto adicional de la presente Invención proporcionar un método terapéutico y de tratamiento de Herpes Simple.

Es aún un objeto adicional de la presente Invención suministrar una composición tensoactiva de alcanolamida alcoxlada que suministre estabilización de espuma comparable y propiedades que construyan la viscosidad como una composición tensoactiva que comprende una cantidad comparable de alcanolamida correspondiente (es decir alcanolamida no alcoxlada). Un objeto adicional de esta invención es que esta composición tensoactiva de alcanolamida alcoxlada se disuelva fácilmente sus compuestos antimicrobianos y presente así el compuesto antimicrobiano de una forma ligera de tal forma que sea fácil manejar la y fácilmente procesada en un sistema líquido preferiblemente sistemas acuosos.

Los tensoactivos de alconolamida alcoxlada adecuada incluyen aquellos discutidos en la solicitudes de patentes Estadounidense 09/038,736, presentada en marzo 11, 1998 (abandonada), en parte de esta 09/334,812, presentada en junio 17, 1999, y continuaci3n en parte de esta 09/793,042 presentada en febrero 26, 2001, cuya descripci3n completa se incorpora aqu3 como referencia y la publicaci3n de la patente japonesa de Hei 8-337560 (Kawaken Fine Chemicals Co. Ejemplos de los compuestos de alconolamida alcoxlada preferidos incluyen polloxipropileno-polioxibutileno-, etanolamidas grasa en donde la porci3n de etanolamida grasa se deriva preferiblemente de monoetanolamida laurica, monoetanolamida caprica, monoetanolamida de caprilo, monoetanolamida caprillica/caprica, monoetanolamida decanolca, monoetanolamida miristica, monoetanolamida palmitica, monoetanolamida este3rica, monoetanolamida isostearica, monoisopropanolamida isostearica, monoetanolamida oleica, monoetanolamida linoleica, monoetanolamida octildecanolca, monoetanolamida 2-heptilundecanolca, monoetanolamida grasa de aceite de coco, monoetanolamida grasa de cebo de vaca, monoetanolamida grasa de aceite de soja y monoetanolamida grasa de aceite de almendra de palma. De estos las

monoetanolamidas grasas de caprilo, esteárica, isostearica, de aceite de soja, y grasa de aceite de coco son particularmente preferidas.

Las alcanolamidas alcoxladas adecuadas adicionales incluyen mezclas y composiciones de monoetanolamida alcoxlada derivadas de grasas y aceites de triglicéridos que tiene la fórmula:



En donde R es igual que R<sub>1</sub> descrita en la fórmula II, anterior. Los triglicéridos preferidos de los cuales las mezclas de composición de monoetanolamida se pueden preparar incluyen esteres gliceridos de ácidos tales como el ácido octanoico, ácido decanoico, ácido laurico, ácido mirístico, ácido palmitico, ácido esteárico, ácido oleico, ácido linoleico, ácido linolenico, o mezclas de estos como se encuentran en el aceite de coco, aceite de palma, aceite de girasol, aceite de soja, aceite de concha, aceite de castor, aceite de pescado, grasa de cebo, grasa de leche, manteca de cerdo y otras fuente naturales o pueden ser de origen sintéticos. Como son conocidas, las mezclas de composiciones de

monoetanolamida sólidas adecuadas para el uso de la preparación de etanolamida alcoxladas de la presente invención, derivadas de triglicéridos, contienen mezclas que son predominantemente derivados de monoetanolamida de monoetanolamina, por ejemplo 3 moles, pequeñas cantidades de glicerinas, por ejemplo 1 mol. Tales mezclas de composiciones de monoetanolamida son típicamente utilizadas como preparadas sin la necesidad de separación del componente de glicerina de la composición de monoetanolamida.

Otros componentes que pueden estar presentes como parte del componente tensoactivo de alcanolamida alcoxlada Incluyen glicerina alcoxlada, glicerina y monoalcanolamida no alcoxinada cuya cantidad total generalmente varía desde 10% a aproximadamente 55% en peso. La concentración relativa de tales componentes adicionales dependen del grado de alcoxilación de la mezcla de reacción y la mezcla de composición de monoalcanolamida de la cual la mezcla de composición monoalcanolamida modificada de la presente invención se prepara.

La monoalcanolamida alcoxlada de la presente Invención son líquidos a temperatura ambiente (25° C), y preferiblemente tienen una temperatura de punto de fusión inferior a 20° C. las etanolamidas alcoxladas preferidas incluyen aquellas que tienen un punto de fusión inferior a 20° C y exhiben una estabilización de suma comparable y una viscosidad que construye las propiedades de aquellas que corresponden a monoetanolamidas de las cuales estas se derivan.

En general, la alcanolamida alcoxlada de la presente Invención se puede formar de cualquier método conocido incluyendo hacer reaccionar la correspondiente alcanolamida con una cantidad adecuada de óxido de alquileo o mezcla de óxido de alquileo (incluyendo preferiblemente óxido de etileno, óxido de propileno, óxido de butileno o mezclas de estos) en la presencia de un catalizador adecuado (tal como hidróxido de potasio, alcoholato de sodio y similar). El grado de alcoxlación de la alcanolamida que esta siendo tratada es importante pero se puede variar dependiendo del peso molecular (PM) de la alcanolamida y el grado de insaturación en la porción amida alquilo grasa. Generalmente, la alcanolamida alcoxlada se forma al agregar al menos 0,2 a aproximadamente 8 moles,

preferiblemente de 1 a 4 moles, de oxido de etileno, oxido de propileno, oxido de butileno o mezcla de estos, por mol de componente de monoalcanolamida. Las cantidades mínimas de oxido de propileno necesarias para licuificar algunas monoetanolamidas de ejemplo a 15° C están presentes en la tabla I, Columna 3.

Tabla 1

| Tipo de monoetanolamida | Moles de Propoxilacion | Peso mínimo % de oxido de propileno | PM de Amida - 0,5 (valor de yodo) |
|-------------------------|------------------------|-------------------------------------|-----------------------------------|
| Caprilico/Capricho      | 1                      | 22,82                               | 202                               |
| Coco                    | 2                      | 31,73                               | 245,5                             |
| Soja                    | 3                      | 35,12                               | 257                               |
| Aceite de cerdo         | 4                      | 43                                  | 291                               |
| Esteárico               | 8                      | 58,7                                | 327                               |

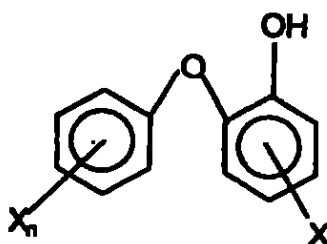
La Tabla 2 representa el comportamiento del punto de vertimiento (° C) de monoetanolamida caprilica/caprica con una mol de propoxilación cuando las cantidades indicadas de glicerina y propoxilato de glicerina están presentes.

**Tabla 2**

|                                                       | 0%          | 5%          | 10%         | 10%         |
|-------------------------------------------------------|-------------|-------------|-------------|-------------|
| <b>Glicerina</b>                                      | <b>22,3</b> | <b>20,1</b> | <b>18,2</b> | <b>17,9</b> |
| <b>Glicerina con 1<br/>mol de<br/>propoxilación</b>   | <b>22,3</b> | <b>20,7</b> | <b>19,4</b> | <b>17,9</b> |
| <b>Glicerina con 2<br/>moles de<br/>propoxilación</b> | <b>22,3</b> | <b>21,5</b> | <b>19,9</b> | <b>19,4</b> |
| <b>Glicerina con 3<br/>moles de<br/>propoxilación</b> | <b>22,3</b> | <b>22,3</b> | <b>20,0</b> | <b>18,8</b> |

El tensoactivo de alcanolamida alcoxilada de la presente invención generalmente contendrá al menos 60%, preferiblemente aproximadamente 70%, más preferiblemente aproximadamente 85%, de la alcanolamida alcoxilada nombrada.

Los compuestos antimicrobianos adecuados para formar las soluciones de la presente invención incluyen compuestos antimicrobianos naturales, en particular, aceite de árbol de te y éteres hidroxidifenilo halogenados. Más específicamente estos compuestos incluyen éteres de hidroxidifenilo halogenados representados por la fórmula I.



(I)

En donde

$n$  es 1 o 2; y

$X$  independientemente representa un átomo de cloro, un átomo de bromo, o un átomo de hidrógeno, y preferiblemente al menos un  $X$  representa un átomo de cloro y más preferiblemente al menos dos  $X$  representan átomos de cloro y más preferiblemente el compuesto antimicrobiano es ciclosan, (2,4,4'-tricloro-2'-hidroxidifeniléter).

Los éteres hidroxidifenilo halogenados son compuestos antimicrobianos comunes utilizados en productos de limpieza desinfectante. Ellos son típicamente sólidos a temperatura ambiente y requieren un solvente, calor y/o largos tiempos de mezcla para ser llevados a una solución acuosa. Las alcalonamidas alcoxladas discutidas aquí son capaces de disolver los compuestos halogenados rápidamente, sin calor y con solo agitación modesta (corte).

Para preparar las soluciones de la presente Invención, el tensoactivo de alcalonamida alcoxlada estará presente en una cantidad de al menos 20% en peso preferiblemente al menos 50% en peso. Las soluciones preferidas de la presente Invención incluyen aquellas donde los compuestos antimicrobianos son mezclados con el tensoactivo de alcalonamida alcoxlada en proporciones de entre 5:95 - 50:50 en peso, y más preferiblemente una proporción entre 20:80 - 33:66 en peso y luego mezclados mediante cualquier medio adecuado al mezclar en frío a aproximadamente 15° C a aproximadamente 30° C, preferiblemente a temperatura ambiente (aproximadamente 18° C a aproximadamente 25° C).

Así, una de las ventajas de las soluciones de la presente invención es que la solución minimiza o elimina la necesidad de calentar el compuesto antimicrobiano para preparar la solución. Similarmente, cualquier calor requerido para agregar la solución a un producto de limpieza cosmético o desinfectante se minimiza o elimina. Esto evita cualquier preocupación relacionada con la exposición del compuesto antimicrobiano a elevadas temperaturas. Una característica de la presente invención es que la solución es visualmente clara y sustancialmente incolora, siendo a lo más solo ligeramente teñida y de vida media estable, durante al menos tres meses y más preferiblemente al menos seis meses y técnicamente estable, permaneciendo estable a temperaturas elevadas incluyendo 45° C y mayores, y preferiblemente 60° C y mayores. Las soluciones preferidas de la presente invención incluyen aquellas que son visualmente claras y esencialmente incoloras y preferiblemente permanecen incoloras durante el tiempo y expuestas a elevadas temperaturas o después de regresar a temperaturas ambiente y después de exponerse a sub-ambiente. La solubilización es suficiente aún si las soluciones incoloras claras tienen un ligero tinte tal como amarillo muy pálido o pajizo. La solución clara puede tener un valor de color de

aproximadamente 1 a 3 sobre la escala de valor de color Gardner (GSV) o puede tener un GSV un poco mayor de hasta 8. los colores con los valores GSV que varían por hasta 8 son considerados claros y los clientes con tales valores son aceptados de acuerdo con la invención, con el GSV por debajo de 5, y especialmente por debajo de 3, son de los preferidos.

La solución o premezcla de la presente invención idealmente puede ser fácilmente agregada a cosméticos y productos de limpieza desinfectantes que incluyen productos de cuidado personal, productos del hogar, limpiadores industriales, limpiadores de instalaciones dedicadas al cuidado de la salud, limpiadores de instalaciones de producción de farmacéuticos, limpiadores de instalaciones de manufactura, productos de cuidado de automotores, productos de cuidado de animales domésticos, productos terapéuticos y productos similares de protección y limpieza en una composición total entre 0,1 – 10% en peso, preferiblemente 0,1 – 5% en peso de la premezcla, con relación al peso total del producto incluyendo la premezcla. Preferiblemente, la solución se debe entender por ser una solución en donde al menos 98% en peso y preferiblemente al menos 99,5% en peso con relación a la cantidad de partida del

compuesto antimicrobiano en la solución, después de dos meses y preferiblemente después de tres meses de almacenamiento a temperaturas mayores de 45° C (sin agitación).

### Ejemplos

Los siguientes términos son utilizados en los ejemplos:

**AOS** – Alfa – olefin sulfonato (40% en peso de solución acuosa activa);

**Agua DI** – agua desionizada;

**Irgasan® PG60** – un líquido que contiene 60% de triclosan en proplenglicol comercialmente disponible de Ciba;

**Monoamid® 705** – dietanolamida de aceite de coco comercialmente disponible de Uniquema, una unidad comercial de ICI Ameritas Inc.;

**Monoateric® CAB** – cocamidopropil betaína (solución acuosa con 35% de sólidos) comercialmente disponible de Uniquema, una unidad comercial de ICI Ameritas Inc.;

**Promidium® CC** – una monoalcalonamida caprílica/cáprica propoxilada comercialmente disponible de Uniquema, una unidad comercial de ICI Ameritas Inc.;

**Promidium® CO** – una monoalcalonamida de aceite de coco propoxilada comercialmente disponible de Uniquema, una unidad comercial de ICI Ameritas Inc.;

**Promidium® SY** – una monoalcalonamida de aceite de soja propoxilada comercialmente disponible de Uniquema, una unidad comercial de ICI Ameritas Inc.;

**(SLES)** – sulfato etoxi-2 de laurilsodio (28% en peso de solución acuosa activa);

**Triclosan** – 2,4,4'-tricloro-2'-hidroxi-difeniléter comercialmente disponible de Sino Lion como Oletron®;

50 25

***Tiempo para clarificación de la solución*** – se refiere al tiempo (en horas) para que la solución en masa se haga clara aunque existe una cantidad significativa de precipitados de Triclosan aglomerado dispersado a través de la formulación; y

***Tiempo de Disolución*** – se refiere al tiempo (en horas) requerido para que la solución se haga clara y libre de precipitados de Tricloxan.

***Wt*** es una abreviatura por peso.

***Expi*** es una abreviatura para ejemplo.

#### **Ejemplos 1 – 12 y ejemplos comparativos A y B**

Una serie de composiciones de premezcla (o soluciones) fueron preparadas para solubilidad. Las composiciones de premezcla fueron preparadas al mezclar un tensoactivo con un compuesto antimicrobiano, Triclosan, en las cantidades y tipos establecidos en la tabla 3 adelante. Estos tensoactivos fueron ubicados en un beaker de 250 ml que contiene un agitador magnético. El

Triclosan fue ubicado uniformemente sobre la parte superior del tensoactivo. La mezcla fue agitada en la opción más baja que creó un vértice medio. Cada una de las premezclas 1 – 12 son visualmente claras y sustancialmente incoloras. Como se estableció en la tabla 3A, las premezclas 1 – 8 eran esencialmente incoloras con GSV por debajo de 5 y generalmente de por debajo de 3. las premezclas 9 – 12 revelaron un tinte claro con un GSV algo por debajo de 8.

Tabla 3

Composiciones de Premezcla de Tensoactivo – Triclosan

| Ejemplo | Promidium<br>CO (% peso) | Promidium<br>CO (% peso) | Promidium<br>CO (% peso) | Monamid<br>(% peso) | Triclosan (%<br>peso) | Índice en<br>peso* | tiempo de<br>disolución |
|---------|--------------------------|--------------------------|--------------------------|---------------------|-----------------------|--------------------|-------------------------|
| 1       | 100                      |                          |                          |                     | 100                   | 50:50              | 3                       |
| 2       | 134                      |                          |                          |                     | 66                    | 66:33              | <1                      |
| 3       | 160                      |                          |                          |                     | 40                    | 80:20              | <1                      |
| 4       | 190                      |                          |                          |                     | 10                    | 95:5               | <1                      |
| 5       |                          | 100                      |                          |                     | 100                   | 50:50              | 3                       |
| 6       |                          | 134                      |                          |                     | 66                    | 66:33              | <1                      |
| 7       |                          | 160                      |                          |                     | 40                    | 80:20              | <1                      |
| 8       |                          | 190                      |                          |                     | 10                    | 95:5               | <1                      |

|            |  |  |     |     |     |       |            |
|------------|--|--|-----|-----|-----|-------|------------|
| 9          |  |  | 100 |     | 100 | 50:50 | 3          |
| 10         |  |  | 134 |     | 66  | 66:33 | <1         |
| 11         |  |  | 160 |     | 40  | 80:20 | <1         |
| 12         |  |  | 190 |     | 10  | 95:5  | <1         |
| Comp. ** A |  |  |     | 100 | 100 | 50:50 | No soluble |
| Comp. ** B |  |  |     | 160 | 40  | 80:20 | 1.5        |

Nota de Tabla: \* Índice en peso de tensoactivo a Triclosan.

\*\* Comp. Indica un Ejemplo Comparativo.

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**Tabla 3A**  
**Composiciones de Premezcla de Tensoactivo – Triclosan**  
**Valor de Color Gardner (GSV)**

| Ejemplo | Promidium<br>CO (% peso) | Promidium<br>CO (% peso) | Promidium<br>CO (% peso) | Monamid<br>(% peso) | Triclosan (%<br>peso) | Índice en<br>peso* | tiempo de<br>disolución |
|---------|--------------------------|--------------------------|--------------------------|---------------------|-----------------------|--------------------|-------------------------|
| 1       | 100                      |                          |                          |                     | 100                   | 50:50              | 4,7                     |
| 2       | 134                      |                          |                          |                     | 66                    | 66,5:33,5          | 4,1                     |
| 3       | 160                      |                          |                          |                     | 40                    | 80:20              | 2,3                     |
| 4       | 190                      |                          |                          |                     | 10                    | 95:5               | 1,3                     |
| 5       |                          | 100                      |                          |                     | 100                   | 50:50              | 3,2                     |
| 6       |                          | 134                      |                          |                     | 66                    | 66,5:33,5          | 2,6                     |
| 7       |                          | 160                      |                          |                     | 40                    | 80:20              | 1,8                     |
| 8       |                          | 190                      |                          |                     | 10                    | 95:5               | 0,3                     |

55

|            |  |  |     |     |     |           |     |
|------------|--|--|-----|-----|-----|-----------|-----|
| 9          |  |  | 100 |     | 100 | 50:50     | 7,9 |
| 10         |  |  | 134 |     | 66  | 66,5:33,5 | ND  |
| 11         |  |  | 160 |     | 40  | 80:20     | 7,5 |
| 12         |  |  | 190 |     | 10  | 90:10     | 7,3 |
| Comp. ** A |  |  |     | 100 | 100 | 50:50     | NS  |
| Comp. ** B |  |  |     | 160 | 40  | 80:20     | 2,8 |

Nota de Tabla:    \* Índice en peso de tensoactivo a Triclosan.

                      \*\* Comp. Indica un Ejemplo Comparativo.

                      ND es No Determinado

                      NS es No Soluble

✓

13. La solución de la reivindicación 7, en donde el al menos un tensoactivo incluye una monoetanolamida Isoesteárica propoxilada y dicho compuesto antimicrobiano es Triclosan.
14. La composición de la reivindicación 6, en donde dicha composición es para el cuidado terapéutico, cosmético, personal o un limpiador de hogar.
15. Un método para preparar una solución de premezcla visualmente clara y sustancialmente incolora que comprende agitar un compuesto antimicrobiano en un tensoactivo de alcanolamida etoxilado en la ausencia de calor.
16. Un método para preparar una composición desinfectante, que comprende mezclar la premezcla de la reivindicación 15 en la ausencia de calor.

## **REPORTE DE BÚSQUEDA INTERNACIONAL**

Solicitud Internacional No.

PCT/US 02/17824

### **A. Clasificación de la materia de asunto**

IPC 7 A01N25/30 A01N31/16 A61K7/50 A61K31/085 A61K31/085  
A61K31/16 C11D17/08

De acuerdo a la Clasificación de Patentes Internacional (IPC) o a  
ambos, clasificación nacional e IPC

### **B. CAMPOS BUSCADOS**

Documentación mínima buscada (sistema de clasificación seguido  
por símbolos de clasificación)

ICP 7      A01N      A61K      C11D

La documentación mínima buscada no es otra que la  
documentación mínima para que el alcance de tales documentos  
se incluya en los campos buscados

17. La composición de la reivindicación 14, en donde dicha composición es un terapéutico para el tratamiento de Herpes Simplex.

La base de datos electrónica consultada durante la búsqueda Internacional (nombre de la base de datos y, donde la búsqueda práctica de los términos de búsqueda se utiliza)

EPO-Internal, WPI Data, PAJ, BIOSIS, Chem AABS Data

### C. DOCUMENTOS CONSIDERADOS A SER IMPORTANTES

| Categoría * | Citación del documento, indicación, donde es apropiado, de los trámites importantes                                                                                                                                      | Importancia de la reivindicación No. |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
| A           | US 5 407 668 A (KELLNER DAVID M)<br><br>18 Abril 1995 (1995-04-18)<br><br>Columna 4, línea 3, - línea 19;<br><br>Reivindicación 1 ejemplo 1                                                                              | 1-17                                 |
| A           | BASE DE DATOS<br><br>Derwent Publications Ltd., Londres, GB;<br><br>AN 1997-103672<br><br>XP002212523<br><br>"Mixture of polioxipropylene fatty acid<br>alcohol amide compound-used as<br>thickener, foaming stabilizer, | 1-17                                 |

emulsifier, solubilising agent,

---

cosmetic material or washing compositions"

&JP 08 337560 A (KAWAKEN FINE CHEM CO LTD),

24 Diciembre 1996 (1996-12-24)

citado en el resumen de la solicitud

---

☐ Documentos adicionales se listan a continuación de la casilla C.

☒ Los miembros de las familias de patentes se listan en el anexo.

° categorías especiales de documentos citados:

"A" documentos que definen el estado general de la técnica que no se considera de particular importancia

"E" documentos anticipados pero publicados o después de la fecha de presentación Internacional

"L" documentos que pueden arrojar dudas sobre la prioridad de la(s) reivindicación(es) o que se citen para establecer la fecha de publicación de otra citación u otra razón especial (como se especifique)

"O" documento que se refiere a una descripción oral, uso, exhibición u otros medios

ef

61

"P" Documento publicado antes de la fecha de presentación Internacional pero después que la fecha de prioridad reivindicada

"T" documento posterior publicado después de la fecha de presentación Internacional o fecha de prioridad y no en conflicto con la solicitud pero citado para entender el principio o teoría resaltada en la invención

"X" documento de particular importancia; la invención reivindicada no puede ser considerada novedosa o no puede ser considerada que implica un nivel inventivo cuando los documentos se toman solos

"Y" documento de particular importancia; la invención reivindicada no puede ser considerada que implica un nivel inventivo cuando el documento se combina con uno u otros más de tales documentos, tales como combinación que son obvias para un experto en la técnica

"&" documento medio de la misma familia de patente

Fecha de actual de terminación de la búsqueda internacional

5 Septiembre 2002

**fecha de correspondencia del reporte de búsqueda internacional**

**19/09/2002**

**Nombre y dirección de correspondencia del ISA**

**European Patent Office, P.B. 5818 Patentlaan 2  
NL-2280 HV Rijswijk  
Teléfono. (+ 31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+ 31-70)340-3016**

**Oficial autorizado**

**Nopper-Jaunky, A**

**REPORTE DE BÚSQUEDA INTERNACIONAL**

**Solicitud Internacional No.**

**PCT/US 02/17824**

| <b>Documento de patente<br/>citado en el Reporte</b> | <b>Fecha de publicación</b> | <b>Miembro(s)<br/>familia<br/>patente(s)</b> | <b>de<br/>de</b> | <b>Fecha<br/>de<br/>Publicación</b> | <b>de</b> |
|------------------------------------------------------|-----------------------------|----------------------------------------------|------------------|-------------------------------------|-----------|
| <b>US 5407668 A</b>                                  | <b>18-04-1995</b>           | <b>NINGUNO</b>                               |                  |                                     |           |
| <b>JP 8337560 A</b>                                  | <b>24-12-1996</b>           | <b>NINGUNO</b>                               |                  |                                     |           |

**RESPUESTA AL PRIMER CONCEPTO ESCRITO IPEA/PCT DE ACUERDO**  
**CON LA REGLA 66**

|                                      |                   |
|--------------------------------------|-------------------|
| Solicitud Internacional número:      | PCT/US02/17824    |
| Fecha de presentación Internacional: | 30 Mayo 2002      |
| Fecha de prioridad:                  | 01 Junio 2001     |
| Referencia del solicitante:          | 50968/WO/1        |
| Solicitante:                         | ICI AMERICAS INC. |

Por medio de la presente certifico que esta correspondencia estásiendo depositada con el Servicio Postal de losEstados Unidos como correo Expreso, etiqueta No. EL569399847US, pago postal en un sobre dirigido a: Mail Stop PCT, Attn: IPEA/US, Commisioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 en:

Fecha: 9/26/03

Firma: (aparece firma)

Barbara McHugh

Mail Stop PCT

Attn: IPEA/US

Commisioner for Patents

13

P.O. Box 1450

Alexandria, VA 22313-1450

Querido señor:

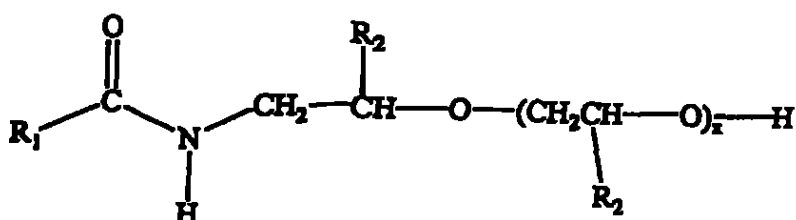
Por medio de la presente el solicitante presenta su respuesta escrita al primer Concepto Escrito IPEA enviado por correo en Agosto 29, 2003. En apoyo de la respuesta del solicitante, también por medio de la presente presenta de acuerdo con la Regla 66.3, y de acuerdo con los requerimientos de las Reglas 66.8 y 66.9, correcciones a las reivindicaciones presentadas. Se Incluye aquí una hoja de reemplazo limpia por cada hoja de las reivindicaciones corregidas.

El solicitante aquí corrige las reivindicaciones 1, 4 y 11 para reivindicar más particularmente su Invención.(hojas originales páginas 19 – 21). Las correcciones específicas son como sigue para cada una de estas reivindicaciones, con el texto subrayado indicando la corrección y texto tachado indicado texto borrado:

Reivindicación 1 (como se corrigió y reemplaza la reivindicación 1 presentada):

1. Una solución visualmente clara y sustancialmente incolora comprende:
  - a) Un compuesto antimicrobiano seleccionado del grupo que consiste de aceite de árbol de té y un hidroxidifeniléter halogenado y
  - b) Al menos 20% en peso, con relación al peso total de la solución, de al menos un tensoactivo de alcanolamina alcoxilado representado por la fórmula II:

(II)



En donde:

R<sub>1</sub> representa un radical hidrocarbilo;

R<sub>2</sub> representa independientemente un átomo de hidrógeno, un alquilo C<sub>1</sub>-C<sub>2</sub> o una mezcla de estos, en donde al menos un R<sub>2</sub> no es hidrógeno; y

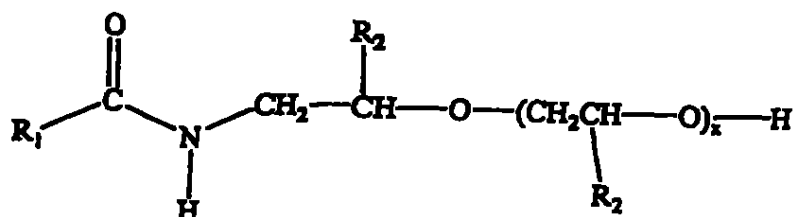
X es un valor promedio mayor de 0,2.

dicha solución tiene un Valor de Color Gardner (GSV) por debajo de 8.

Reivindicación 4 (como se corrigió y reemplaza la reivindicación 4 presentada):

4. La solución de acuerdo a la reivindicación 2, en donde dicho compuesto antimicrobiano es dicho compuesto representado por la fórmula I y dicho al menos un tensoactivo incluye un tensoactivo representado por la fórmula II:

(II)



En donde:

R<sub>1</sub> representa un radical hidrocarbilo;

$R_2$  representa independientemente un átomo de hidrógeno, un radical hidrocarbilo  $C_4-C_6$ , alquilo  $C_1-C_2$  o una mezcla de estos, en donde el primer  $R_2$  es hidrógeno y el segundo  $R_2$  es alquilo  $C_1-C_2$ ; y

X es un valor promedio mayor de 0,2.

Reivindicación 11 (como se corrigió y reemplaza la reivindicación 11 presentada):

11. La solución de la reivindicación 6, en donde  $R_1$  es un radical alquilo  $C_3-C_{21}$ , ramificado o no ramificado o una mezcla de estos;  ~~$R_2$  representa independientemente un átomo de hidrógeno, o alquilo  $C_4-C_6$  o una mezcla de estos;~~ y X representa independientemente un valor de entre 1 a 4.

El soporte de la corrección de la reivindicación 1 se puede encontrar en el resumen de la invención del solicitante así como también dentro de la Especificación del Solicitante, página 3 línea 25 a página 4 línea 16, específicamente página 4 líneas 10 y 11, que describen una fórmula para el tensoactivo de monoalcalonamida alcoxlado en donde  $R_2$  puede representar un hidrógeno o alquilo  $C_1-C_2$  y que al menos un  $R_2$  no es hidrógeno. La reivindicación 1

presentada originalmente no establece una fórmula para el al menos un tensoactivo de monoalcalonamida alcoxlado.

El soporte de la corrección de la reivindicación 4 se puede encontrar en la página 4 líneas 18-25 de la Especificación del solicitante, que lista alcanolamidas alcoxladas adecuadas como incorporadas dentro de la referencia solicitud de Patente US 09/793,042, ahora Patente US 6,531,443 y adicionalmente más específicamente mediante las líneas 23-24 de la página 4 de la presente solicitud que cita "ejemplos de compuestos alcanolamida alcoxlado preferidos incluye polioxipropileno-, polloxibutileno-, etanolamidas grasas" en donde por definición del primer  $R_2$ , es hidrógeno y el segundo  $R_2$  es un alquilo  $C_1-C_2$ . La reivindicación 4 presentada originalmente define  $R_2$  como representa independientemente un átomo de hidrógeno, un radical hidrocarbilo  $C_1-C_6$  o una mezcla de estos.

La reivindicación 11 se corrige para borrar ahora la referencia repetitiva a  $R_2$ , como la Reivindicación 11 es dependiente sobre la anterior reivindicación corregida 4 a través de la reivindicación 6 presentada originalmente.

El solicitante cree que su invención tiene como ahora está corregida y reivindicada en las reivindicaciones 1-17, en adición a novedad y aplicabilidad industrial como lo encuentra el Concepto Escrito del IPEA, también nivel inventivo. Como ninguna referencia citada por el Concepto Escrito del uso de ingredientes como ahora reivindicó el Solicitante, el Solicitante respetuosamente presenta las reivindicaciones 1-17, como se corrigen aquí, demuestran nivel inventivo.

Respetuosamente

(Aparece firma)  
Polly E. Ramstad  
Reg. No. 28,253  
Para el Solicitante ICI AMERICAS INC.

Fechado: 26 Septiembre 03

Hojas de reemplazo para las páginas 19-21 de invención del Solicitante (Reivindicaciones corregidas) siguen a continuación.

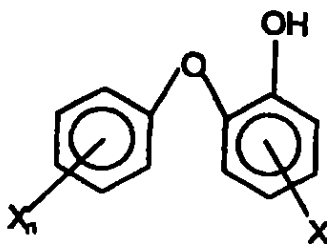


$R_2$  representa independientemente un átomo de hidrógeno, un alquilo  $C_1-C_2$  o una mezcla de estos, en donde al menos un  $R_2$  no es hidrógeno; y

X es un valor promedio mayor de 0,2.

dicha solución tiene un Valor de Color Gardner (GSV) por debajo de 8.

2. La solución de acuerdo a la reivindicación 1, en donde el compuesto antimicrobiano se selecciona de aceite de árbol de té o un compuesto de hidroxí-difeniléter halogenado representado por la fórmula I:



(I)

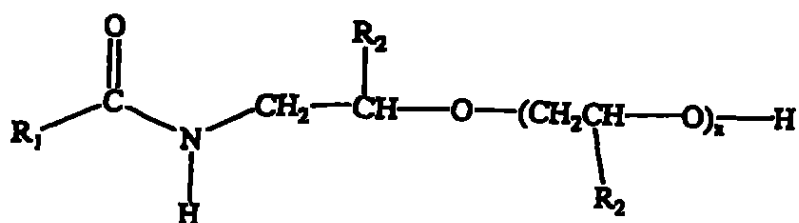
En donde:

n es 1 o 2;

23  
23

X independientemente representa un átomo de cloro, un átomo de bromo, o un átomo de hidrógeno.

3. La solución de acuerdo a la reivindicación 2, en donde el GSV está por debajo de 3.
4. La solución de acuerdo a la reivindicación 2, en donde dicho compuesto antimicrobiano es dicho compuesto representado por la fórmula I y dicho al menos un tensoactivo incluye un tensoactivo representado por la fórmula II:



(II)

En donde:

R<sub>1</sub> representa un radical hidrocarbilo;

$R_2$  representa independientemente un átomo de hidrógeno, un alquilo  $C_1-C_2$  o , en donde el primer  $R_2$  es hidrógeno y el segundo  $R_2$  es alquilo  $C_1-C_2$ ; y

X es un valor promedio mayor de 0,2

5. La solución de la reivindicación 2, en donde la solución es un líquido a aproximadamente 18° a 25° C.
6. La solución de la reivindicación 4, en donde el al menos un tensoactivo está presente en una cantidad de al menos 50% en peso, con relación al peso total de la solución.
7. La solución de la reivindicación 4, en donde el al menos un tensoactivo incluye una monoalcalonamida de caprilo alcoxilada, un monoalcalonamida de coco alcoxilada, una monoalcalonamida de aceite de soja alcoxilada, una monoalcalonamida isoesteárica alcoxilada, una monoalcalonamida esteárica alcoxilada o mezclas de estas.



8. La solución de la reivindicación 6, en donde el índice del compuesto antimicrobiano a al menos un tensoactivo está entre 5:95 y 5:50 en peso.
9. La solución de la reivindicación 8, en donde el índice de compuesto antimicrobiano a el menos un tensoactivo está entre 20:80 y 33:66 en peso.
10. La solución de la reivindicación 4, en donde el compuesto antimicrobiano es Triclosan.
11. La solución de la reivindicación 6, en donde R<sub>1</sub> es un radical alquilo C<sub>3</sub>-C<sub>21</sub> ramificado o no ramificado o una mezcla de estos y x Independientemente representa un valor de 1 a 4.
12. La solución de la reivindicación 7, en donde el al menos un tensoactivo incluye una monoetanolamida de coco propoxilada y dicho compuesto antimicrobial es Triclosan.

13. La solución de la reivindicación 7, en donde el al menos un tensoactivo incluye una monoetanolamida isoesteárica propoxilada y dicho compuesto antimicrobiano es Triclosan.
14. La composición de la reivindicación 6, en donde dicha composición es para el cuidado terapéutico, cosmético, personal o un limpiador de hogar.
15. Un método para preparar una solución de premezcla visualmente clara y sustancialmente incolora que comprende agitar un compuesto antimicrobiano en un tensoactivo de alcanolamida etoxilado en la ausencia de calor.
16. Un método para preparar una composición desinfectante, que comprende mezclar la premezcla de la reivindicación 15 en la ausencia de calor.
17. La composición de la reivindicación 14, en donde dicha composición es un terapéutico para el tratamiento de Herpes Simplex.

## PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITYTo:  
POLLY E. RAMSTAD  
LAW DEPARTMENT  
ICI AMERICAS INC.  
10 FINDERNE AVENUE  
BRIDGEWATER, NJ 08807

PCT

WRITTEN OPINION

(PCT Rule 66)

Date of Mailing  
(day/month/year)

29 AUG 2003

Applicant's or agent's file reference

50968/WO/1

REPLY DUE

within 1 months/days from  
the above date of mailing

International application No.

PCT/US02/17824

International filing date (day/month/year)

30 May 2002 (30.05.2002)

Priority date (day/month/year)

01 June 2001 (01.06.2001)

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

IPC(7): A61K 35/78 and US Cl.: 424/725

Applicant

ICI AMERICAS INC.

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2 (a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension. See rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.  
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.  
For an informal communication with the examiner, see Rule 66.6

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 01 October 2003 (01.10.2003).

Name and mailing address of the IPEA/US

Mail Stop PCT, Attn: IPEA/US

Commissioner for Patents

P.O. Box 1450

Alexandria, Virginia 22313-1450

Facsimile No. (703)305-3230

Authorized officer

Melissa D. Roberto for  
Michael V. Meier

Telephone No. 703-308-0196

Form PCT/IPEA/408 (cover sheet)(July 1998)

# WRITTEN OPINION

International application No.

PCT/US02/17824

## I. Basis of the opinion

### 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed
- ☒ the description:  
 pages 1-18 \_\_\_\_\_, as originally filed  
 pages NONE \_\_\_\_\_, filed with the demand  
 pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
 pages 19-21 \_\_\_\_\_, as originally filed  
 pages NONE \_\_\_\_\_, as amended (together with any statement) under Article 19  
 pages NONE \_\_\_\_\_, filed with the demand  
 pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the drawings:  
 pages NONE \_\_\_\_\_, as originally filed  
 pages NONE \_\_\_\_\_, filed with the demand  
 pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
 pages NONE \_\_\_\_\_, as originally filed  
 pages NONE \_\_\_\_\_, filed with the demand  
 pages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_

### 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item. These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

### 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

- ☐ contained in the international application in printed form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer-readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

### 4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages NONE \_\_\_\_\_
- ☐ the claims, Nos. NONE \_\_\_\_\_
- ☐ the drawings, sheets/fig NONE \_\_\_\_\_

### 5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed."

WRITTEN OPINION

International application No.  
PCT/US02/17824

V. Reasoned statement under Rule 66.2(a)(II) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement

1. STATEMENT

|                               |             |     |
|-------------------------------|-------------|-----|
| Novelty (N)                   | Claims 1-17 | YES |
|                               | Claims NONE | NO  |
| Inventive Step (IS)           | Claims NONE | YES |
|                               | Claims 1-17 | NO  |
| Industrial Applicability (IA) | Claims 1-17 | YES |
|                               | Claims NONE | NO  |

2. CITATIONS AND EXPLANATIONS

Claims 1-17 lack an inventive step under PCT Article 33(3) as being obvious over Derwent Publications Ltd. AN 1997-103672 or Glover et al. since the claimed ingredients are known in the art to be used for washing/cleaning compositions.

Claims 1-17 meet the criteria set out in PCT Article 33(4), and thus have industrial applicability because the subject matter claimed can be made or used in industry.

NEW CITATIONS

US 5,435,996 A (GLOVER et al.) 25 July 1995 (25.07.1995), see table 1, col. 6, col. 9.

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WRITTEN OPINION

International application No.  
PCT/US02/17824

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

TIME LIMIT:

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.

## PATENT COOPERATION TREATY

From the  
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:  
POLLY E. RAMSTAD  
LAW DEPARTMENT  
10 FINDERNE AVENUE  
BRIDGEWATER, NEW JERSEY 08807

NOTIFICATION OF RECEIPT  
OF DEMAND BY COMPETENT INTERNATIONAL  
PRELIMINARY EXAMINING AUTHORITY(PCT Rules 59.3(e) and 61.1(b), first sentence  
and Administrative Instructions, Section 601(a))Date of mailing  
(day/month/year) **11 FEB 2003**Applicant's or agent's file reference  
50988/WO/1

IMPORTANT NOTIFICATION

International application No.  
PCT/US02/17824International filing date/Date of receipt (day/  
month/year) 30 May 2002Priority date (day/month/year)  
01 Jun 2001Applicant  
ICI AMERICAS INC.

1. The applicant is hereby notified that this International Preliminary Examining Authority considers the following date as the date of receipt of the demand for international preliminary examination of the international application:

17 Jun 2003 (17.01.03)

2. That date of receipt is:

- ☒ the actual date of receipt of the demand by this Authority (Rule 61.1(b)).  
☐ the actual date of receipt of the demand on behalf of this Authority (Rule 59.3(e)).  
☐ the date on which this Authority has, in response to the invitation to correct defects in the demand (Form PCT/IPEA/404), received the required corrections.

3. ☐ ATTENTION: That date of receipt is AFTER the expiration of 19 months from the priority date. Consequently, the election(s) made in the demand does (do) not have the effect of postponing the entry into the national phase until 30 months from the priority date (or later in some Offices) (Article 39(1)). Therefore, the acts for entry into the national phase must be performed within 20 months from the priority date (or later in some Offices) (Article 22). For details, see the PCT Applicant's Guide, Volume II.

- ☐ (If applicable) This notification confirms the information given by telephone, facsimile transmission or in person on \_\_\_\_\_

4. Only where paragraph 3 applies, a copy of this notification has been sent to the International Bureau

Name and mailing address of the IPEA/  
Assistant Commissioner for Patent  
Box PCT  
Washington, D.C. 20231 Ann ROUS  
Facsimile No. 703-305-3230

Authorized officer  
J. C. ...  
Telephone No. 703- ...

Form PCT/IPEA/402 (July 1998)

**REPLY TO FIRST IPEA/PCT WRITTEN OPINION UNDER RULE 66**

International application number: PCT/US02/17824  
International filing date: 30 May 2002  
Priority date: 01 June 2001  
Applicant's reference: 50968/WO/1  
Applicant: ICI AMERICAS INC.

I hereby certify this correspondence is being deposited  
with the United States Postal Service as express mail,  
Label No. EL569399847US, postpaid in an envelope,  
addressed to: Mail Stop PCT, Attn: IPEA/US, Commissioner  
for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

Date: 9/26/03  
Signature: Barbara McHugh  
Barbara McHugh

Mail Stop PCT  
Attn: IPEA/US  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Applicant hereby submits its written reply to the First IPEA Written Opinion mailed on August 29, 2003. In support of Applicant's reply, Applicant also hereby submits pursuant to Rule 66.3, and in accordance with the requirements of Rules 66.8 and 66.9, amendments to its filed claims. A clean replacement sheet for each sheet of the Claims so amended is herein enclosed.

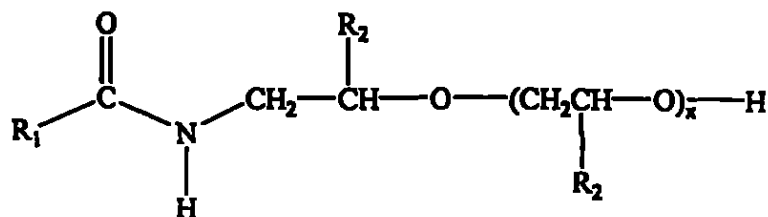
Applicant herein amends Claims 1, 4 and 11 to more particularly claim its invention (original sheet pages 19-21). The specific amendments are as follows for each of these claims, with underlined text indicating the amendment and strikethrough text indicating deletions:

Claim 1 (as amended and replacing the filed Claim 1):

1. A visually clear and substantially colorless solution comprising:
  - a) an antimicrobial compound selected from the group consisting of tea tree oil and a halogenated hydroxy-diphenyl ether and
  - b) at least 20 weight percent, relative to the total weight of the solution, of at least one alkoxyated alkanolamide surfactant represented by formula II:

EL569399847US

(II)



wherein:

R<sub>1</sub> represents a hydrocarbyl radical;

R<sub>2</sub> independently represents a hydrogen atom, a C<sub>1</sub>—C<sub>2</sub> alkyl or a mixture thereof, wherein at least one R<sub>2</sub> is not hydrogen; and

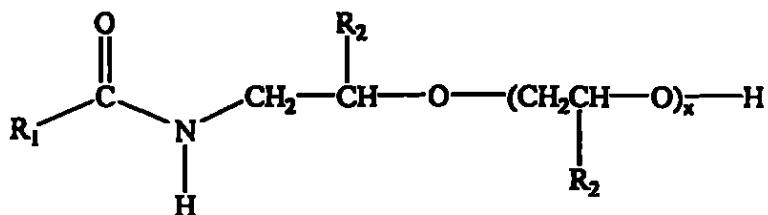
x is an average value of greater than 0.2.

said solution having a Gardner Colour Value (GSV) below 8.

Claim 4 (as amended and replacing the filed Claim 4):

4. The solution according to claim 2, wherein said antimicrobial compound is said compound represented by Formula I and said at least one surfactant includes a surfactant represented by formula II:

(II)



wherein:

R<sub>1</sub> represents a hydrocarbyl radical;

R<sub>2</sub> independently represents a hydrogen atom, a C<sub>1</sub>—C<sub>6</sub> hydrocarbyl radical C<sub>1</sub>—C<sub>2</sub> alkyl or a mixture thereof, wherein the first R<sub>2</sub> is hydrogen and the second R<sub>2</sub> is C<sub>1</sub>—C<sub>2</sub> alkyl; and

x is an average value of greater than 0.2.

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Claim 11 (as amended and replacing the filed Claim 11):

11. The solution of claim 6, wherein  $R_1$  is a branched or unbranched  $C_3-C_{21}$  alkyl radical or a mixture thereof;  $R_2$  independently represents hydrogen atom, or  $C_1-C_2$  alkyl or a mixture thereof; and  $x$  independently represents a value of from 1 to 4.

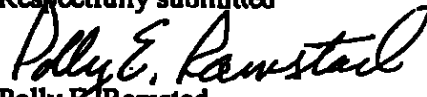
Support for the amendment to Claim 1 may be found in the Abstract of Applicant's invention as well as within Applicant's Specification, page 3 line 25 through page 4 line 16, specifically page 4 lines 10 and 11, which discloses a formula for the alkoxyated monoalkanolamide surfactant wherein  $R_2$  may represent a hydrogen or  $C_1-C_2$  alkyl and that at least one  $R_2$  is not hydrogen. The originally filed claim 1 did not state a formula for the at least one alkoxyated alkanolamide surfactant.

Support for the amendment to Claim 4 may be found on page 4 lines 18-25 of Applicant's specification, which lists suitable alkoxyated alkanolamides as incorporated within Reference US Patent Application 09/793,042, now U.S. Patent 6,531,443 and more specifically furthermore by lines 23-24 of page 4 of the present application which cite "[e]xamples of preferred alkoxyated alkanolamide compounds include polyoxypropylene-, polyoxybutylene-, fatty ethanolamides" wherein by definition the first  $R_2$  is hydrogen and the second  $R_2$  is a  $C_1-C_2$  alkyl. The originally filed Claim 4 defined  $R_2$  as independently representing a hydrogen atom, a  $C_1-C_6$  hydrocarbyl radical or a mixture thereof.

Claim 11 is amended to delete the now repetitive reference to  $R_2$ , as Claim 11 is dependent upon the above-amended Claim 4 through originally filed Claim 6.

The Applicant believes that its invention as now amended and claimed in Claims 1-17 has, in addition to novelty and industrial applicability as found by the IPEA Written Opinion, also inventive step. As neither reference cited by the Written Opinion use ingredients as now claimed by Applicant, Applicant respectfully submits that Claims 1-17, as herein amended, demonstrate inventive step.

Respectfully submitted



Polly E. Ramstad  
Reg. No. 28,253

For Applicant ICI AMERICAS INC.

Dated: 26 September 03

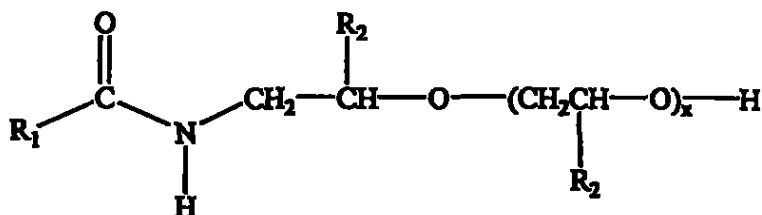
Replacement Sheets for pages 19-21 of Applicant's invention (the Amended Claims)  
immediately follow.

Claims**WHAT IS CLAIMED IS:**

1. A visually clear and substantially colorless solution comprising:

- a) an antimicrobial compound selected from the group consisting of tea tree oil and a halogenated hydroxy-diphenyl ether and
- c) at least 20 weight percent, relative to the total weight of the solution, of at least one alkoxyated alkanolamide surfactant represented by formula II:

(II)



wherein:

R<sub>1</sub> represents a hydrocarbyl radical;

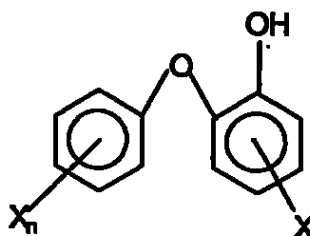
R<sub>2</sub> independently represents a hydrogen atom, a C<sub>1</sub>—C<sub>2</sub> alkyl or a mixture thereof, wherein at least one R<sub>2</sub> is not hydrogen; and

x is an average value of greater than 0.2.

said solution having a Gardner Colour Value (GSV) below 8.

2. The solution according to claim 1, wherein the antimicrobial compound is selected from tea tree oil or a halogenated hydroxy-diphenyl ether compound represented by Formula I:

(I)



wherein:

n is 1 or 2; and

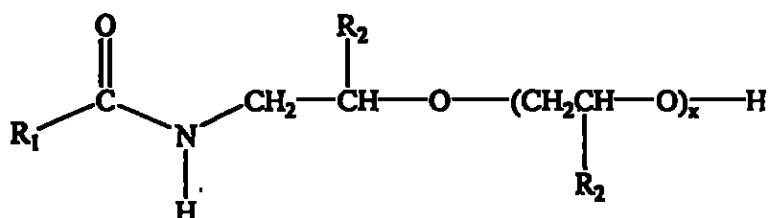
X independently represents a chlorine atom, a bromine atom, or a hydrogen atom.

3. The solution according to claim 2, wherein the GSV is below 3.

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4. The solution according to claim 2, wherein said antimicrobial compound is said compound represented by Formula I and said at least one surfactant includes a surfactant represented by formula II:

(II)



wherein:

$\text{R}_1$  represents a hydrocarbyl radical;

$\text{R}_2$  independently represents a hydrogen atom, a  $\text{C}_1$ — $\text{C}_2$  alkyl or a mixture thereof, wherein the first  $\text{R}_2$  is hydrogen and the second  $\text{R}_2$  is  $\text{C}_1$ — $\text{C}_2$  alkyl; and

$x$  is an average value of greater than 0.2.

5. The solution of claim 2, wherein the solution is a liquid at about 18°-25 C.
6. The solution of claim 4, wherein the at least one surfactant is present in an amount of at least 50 weight percent, relative to the total weight of the solution.
7. The solution of claim 4, wherein the at least one surfactant includes an alkoxyated capryl monoalkanolamide, alkoxyated coconut monoalkanolamide, alkoxyated soy oil monoalkanolamide, alkoxyated isostearic monoalkanolamide, alkoxyated stearic monoalkanolamide or mixtures thereof.
8. The solution of claim 6, wherein the ratio of the antimicrobial compound to the at least one surfactant is between 5:95 and 50:50 by weight.
9. The solution of claim 8 wherein the ratio of the antimicrobial compound to the at least one surfactant is between 20:80 and 33:66 by weight.
10. The solution of claim 4, wherein the antimicrobial compound is triclosan.
11. The solution of claim 6, wherein  $\text{R}_1$  is a branched or unbranched  $\text{C}_3$ — $\text{C}_{21}$  alkyl radical or a mixture thereof and  $x$  independently represents a value of from 1 to 4.
12. The solution of claim 7, wherein the at least one surfactant includes a propoxylated coconut monoethanolamide and said antimicrobial compound is triclosan.

8/7

13. The solution of claim 7, wherein the at least one surfactant includes a propoxylated isostearic monoethanolamide and said antimicrobial compound is triclosan.

14. The composition of claim 6, wherein said composition is a therapeutic, cosmetic, personal care or household cleanser.

15. A method for preparing a visually clear and substantially colorless premixture solution, comprising stirring an antimicrobial compound into an alkoxylated alkanolamide surfactant in the absence of heat.

16. A method of preparing a disinfectant composition, comprising admixing the premixture of claim 15 in the absence of heat.

17. The composition of claim 14, wherein said composition is a therapeutic for the treatment of Herpes Simplex.

**ASSIGNMENT**

**WHEREAS**, we, John L. Gormley of 52 Hillside Avenue, Midland Park, New Jersey 07432, United States of America, and James E. Reilly of 38 Held Terrace, Wanaque, New Jersey 07465, United States of America have made certain inventions in Solutions of Alkoxyated Alkanol Amide Surfactants and Antimicrobial Compounds and have previously filed U.S. Provisional Patent Application USSN 60/294,587 filed June 1, 2001, and have executed a complete U.S. Patent Application on May 20, 2002 and May 22, 2002, respectively, claiming priority of said U.S. Provisional Patent Application; and

**WHEREAS**, ICI Americas Inc., a corporation organized under the laws of the State of Delaware, and having a place of business at 10 Findern Avenue, Bridgewater, New Jersey 08807, is desirous of acquiring the full and exclusive right, title and interest in and to the invention, application and any and all Letters Patent which may be granted thereon.

**NOW, THEREFORE**, be it known that for valuable consideration, the receipt whereof is hereby acknowledged, we do hereby sell, assign and transfer unto ICI Americas Inc., its successors and assigns, the full and exclusive right, title and interest in and to the aforesaid invention, application and any and all Letters Patent and reissues thereof which may be granted upon the application and upon any and all additional or divisional applications for patents for the invention, in and for the United States and foreign countries, including the full right to claim for any such application the benefits, including priority rights, of any international convention, arrangement, or treaty, as fully and entirely as we could have done if the application had been filed in our name; to the full ends of the terms for which all the Letters Patent and reissues thereof may be granted.

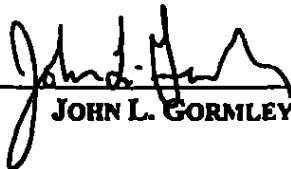
**AND**, we hereby covenant and agree to communicate to the Corporation, its successors and assigns, any facts known to us respecting the invention, and testify in any legal proceeding, sign all lawful papers, execute all additional and divisional applications, make all rightful oaths, and execute or procure any further necessary assurance of the title to the invention and any Letters Patent which may issue thereon, and generally do everything possible to aid the Corporation, its successors and assigns, to obtain and enforce proper patent protection for the invention in any country, without further compensation, but at the expense of the Corporation, its successors and assigns.

**AND**, we hereby authorize and request the Director of Patents and Trademarks of the United States, and any Official of any country foreign to the United States, whose duty it is to issue patents on applications as aforesaid, to issue all Letters Patent for the invention to ICI Americas Inc., as sole assignee.

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269  
89

IN TESTIMONY WHEREOF, we hereunto set our hand and seal.

Dated: May 20, 2002

  
JOHN L. GORMLEY

The foregoing instrument was acknowledged before me by the above-identified individual on this 20 day of May, 2002, in the State of New Jersey and County of Passaic.

PATRICIA A. VOLPE  
NOTARY PUBLIC OF NEW JERSEY  
Commission Expires 12/1/2004

  
Notary Public

My Commission Expires

Dated: 5-22-02

  
JAMES E. REILLY

The foregoing instrument was acknowledged before me by the above-identified individual on this 22 day of May, 2002, in the State of New Jersey and County of Passaic.

PATRICIA A. VOLPE  
NOTARY PUBLIC OF NEW JERSEY  
Commission Expires 12/1/2004

  
Notary Public

My Commission Expires

P. 515

40

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

(43) International Publication Date  
12 December 2002 (12.12.2002)

PCT

(10) International Publication Number  
WO 02/098222 A1

(51) International Patent Classification: A01N 25/30, 31/16, A61K 7/50, 31/085, 31/16, C11D 17/08

(21) International Application Number: PCT/US02/17824

(22) International Filing Date: 30 May 2002 (30.05.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data: 60/294,587 1 June 2001 (01.06.2001) US

(71) Applicant: ICI AMERICAS INC. (US/US); 10 Findern Avenue, Bridgewater, NJ 08807 (US).

(72) Inventors: GORMLEY, John, L.; 52 Hillside Avenue, Midland Park, NJ 07432 (US); REILLY, James, E.; 38 Hickl Terrace, Wanaque, NJ 07465 (US).

(74) Agent: RAMSTAD, Polly, E.; Law Department, 10 Findern Avenue, Bridgewater, NJ 08807 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CL, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GR, GU, 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, MY, NZ, OM, PA, PE, PG, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW.

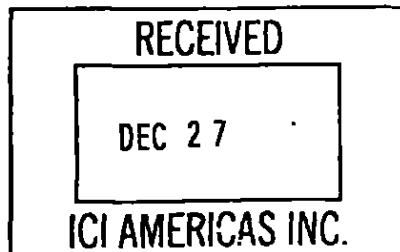
(84) Designated States (regional): ARIPO patent (GM, KI, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NI, SN, TD, TG).

Published:  
with international search report

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 02/098222 A1



(54) Title: SOLUTIONS OF ALKOXYLATED ALKANOL AMIDE SURFACTANTS AND ANTIMICROBIAL COMPOUNDS

(57) Abstract: A visually clear and substantially colorless antimicrobial-containing solution comprising at least 20 weight percent of an alkoxyated monoalkanolamide surfactant represented by formula II: (II) wherein: R1 represents a hydrocarbon radical, R2 represents a hydrogen atom, -CH3 or -CH2-CH3 radical; and independently represents at least 1. The antimicrobial-containing solutions are suitable for readily mixing into cosmetics and disinfectant cleaning products.

# PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

|                                                            |                                                                                                                                                         |                                                                |
|------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Applicant's or agent's file reference<br><b>50968/WO/1</b> | <b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below. |                                                                |
| International application No.<br><b>PCT/US 02/17824</b>    | International filing date (day/month/year)<br><b>30/05/2002</b>                                                                                         | (Earliest) Priority Date (day/month/year)<br><b>01/06/2001</b> |
| Applicant<br><b>ICI AMERICAS INC.</b>                      |                                                                                                                                                         |                                                                |

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

### 1. Basis of the report

a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ Certain claims were found unsearchable (See Box I).

3. ☐ Unity of invention is lacking (see Box II).

### 4. With regard to the title,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

### 5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

### 6. The figure of the drawings to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☒ None of the figures.

## INTERNATIONAL SEARCH REPORT

Int'l Application No  
PCT/US 02/17824

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A01N25/30 A01N31/16 A61K7/50 A61K31/085 A61K31/16  
C11D17/08

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 A01N A61K C11D

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, BIOSIS, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                                                                                                                                                                               | Relevant to claim No. |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| A          | US 5 407 668 A (KELLNER DAVID M)<br>18 Apr11 1995 (1995-04-18)<br>column 4, line 3 - line 19; claim 1;<br>example 1                                                                                                                                                                                                                                                                                              | 1-17                  |
| A          | DATABASE WPI<br>Derwent Publications Ltd., London, GB;<br>AN 1997-103672<br>XP002212523<br>"Mixture of polyoxypropylene fatty acid<br>alkanol amide compound-used as thickener,<br>foaming stabiliser, emulsifier,<br>solubilising agent, cosmetic material or<br>washing compositions"<br>& JP 08 337560 A (KAWAKEN FINE CHEM CO<br>LTD), 24 December 1996 (1996-12-24)<br>cited in the application<br>abstract | 1-17                  |

☐ 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
- \*A\* document member of the same patent family

Date of the actual completion of the international search

5 September 2002

Date of mailing of the international search report

19/09/2002

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentaan 2  
NL - 2280 HV Rijswijk  
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Nopper-Jaunky, A

INTERNATIONAL SEARCH REPORT

Information on patent family members

93  
National Application No  
PCT/US 02/17824

| Patent document cited in search report | Publication date | Patent family member(s) | Publication date |
|----------------------------------------|------------------|-------------------------|------------------|
| US 5407668                             | A                | 18-04-1995              | NONE             |
| JP 8337560                             | A                | 24-12-1996              | NONE             |

# INTERNATIONAL SEARCH REPORT

International Application No.  
PCT/US 02/17824

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A01N25/30 A01N31/16 A61K7/50 A61K31/085 A61K31/16  
C11D17/08

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 A01N A61K C11D

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, BIOSIS, CHEM ABS Data

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages                                                                                                                                                                                                                                                                                                                               | Relevant to claim No. |
|------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| A          | US 5 407 668 A (KELLNER DAVID M)<br>18 April 1995 (1995-04-18)<br>column 4, line 3 - line 19; claim 1;<br>example 1                                                                                                                                                                                                                                                                                              | 1-17                  |
| A          | DATABASE WPI<br>Derwent Publications Ltd., London, GB;<br>AN 1997-103672<br>XP002212523<br>"Mixture of polyoxypropylene fatty acid<br>alkanol amide compound-used as thickener,<br>foaming stabiliser, emulsifier,<br>solubilising agent, cosmetic material or<br>washing compositions"<br>& JP 08 337560 A (KAWAKEN FINE CHEM CO<br>LTD), 24 December 1996 (1996-12-24)<br>cited in the application<br>abstract | 1-17                  |

☐ 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.
- "S" document member of the same patent family

Date of the actual completion of the international search

5 September 2002

Date of mailing of the international search report

19/09/2002

Name and mailing address of the ISA

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Nopper-Jaunky, A

# INTERNATIONAL SEARCH REPORT

Information on patent family members

and Application No

PCT/US 02/17824

| Patent document<br>cited in search report | Publication<br>date | Patent family<br>member(s) | Publication<br>date |
|-------------------------------------------|---------------------|----------------------------|---------------------|
| US 5407668                                | A                   | 18-04-1995                 | NONE                |
| JP 8337560                                | A                   | 24-12-1996                 | NONE                |

XP-002212523

96 95

AN - 1997-103672 [10]

AP - JP19950146403 19950613

CPY - KAWF

DC - A96 A97 D21 D25 E16

DR - 0370-S 1068-S 1131-S

FS - CPI

IC - A61K7/00 ; A61K7/06 ; A61K7/08 ; A61K7/09 ; A61K7/40 ; B01F17/22 ;  
B01F17/42 ; B01J31/02 ; C07B61/00 ; C07C231/02 ; C07C231/12 ;  
C07C233/18 ; C07C233/20 ; C09K3/00 ; C11D1/52

MC - A10-E17 A12-V04 A12-W12A A12-W12B A12-W12C D08-B D11-A03A5 E10-D03C

M3 - [01] A111 A960 C710 M411 M730 M903 Q421

- [02] H4 H401 H481 H581 H582 H583 H584 H589 H721 H8 J0 J011 J3 J371  
M220 M221 M222 M223 M224 M225 M226 M231 M232 M233 M262 M281 M312 M313  
M321 M322 M323 M331 M332 M342 M383 M391 M392 M393 M416 M620 M710 M720  
M903 M904 N205 N209 N241 N242 N262 N309 N331 N342 N422 N441 N513 N520  
Q254 Q273 Q608 Q615 Q616 Q619; 9710-B4301-N 9710-B4301-P

PA - (KAWF) KAWAKEN FINE CHEM CO LTD

PN - JP8337560 A 19961224 DW199710 C07C233/18 049pp

PR - JP19950146403 19950613

XA - C1997-033268

XIC - A61K-007/00 ; A61K-007/06 ; A61K-007/08 ; A61K-007/09 ; A61K-007/40 ;  
B01F-017/22 ; B01F-017/42 ; B01J-031/02 ; C07B-061/00 ; C07C-231/02 ;  
C07C-231/12 ; C07C-233/18 ; C07C-233/20 ; C09K-003/00 ; C11D-001/52

AB - J08337560 A mixt. of polyoxypropylene fatty acid alkanol amide cpd of  
formula  $RCONH(CH_2CH_2O)_p(EO)_m(PO)_nH$  (I) ( $m = 0$  or  $< 1$  and  $n = 0.3-10$ )  
is new. R = 7-21C (un)satd hydrocarbon; EO = oxyethylene; PO = 3C  
oxyalkylene;  $p = 1$  or  $2$ ;  $m = 0$  or integral number of more than 1;  $n =$   
0 or integral number of more than 1. Also claimed is the prepn. of (I)  
by (i) reacting fatty acid alkyl ester of formula  $RCOOR_1$  (II) with  
alkanolamine of formula  $H_2N(CH_2CH_2O)_pH$  (III) in the presence of basic  
catalyst to give a mixt contg fatty acid alkanol amide of formula  
 $RCONH(CH_2CH_2O)_pH$  (IV); (ii) additional reaction of (IV) with 0-1 fold  
mole of ethyleneoxide to give a mixt of polyoxyethylene fatty acid  
alkanol amide of formula  $RCONH(CH_2CH_2O)_p(EO)_mH$  (V); and (iii)  
additional reaction of (V) with 0.3-10 fold mole of propylene-oxide.  
 $R_1 = 1-3C$  alkyl.

- USE - (I) is used as thickener, foaming stabiliser, emulsifier,  
dispersion, solubilising agent, cosmetic material or washing compns.

- ADVANTAGE - (I) is easily handled with low m.pt. and stable in a wide  
range of pH. It scarcely causes eye membrane irritation. It has  
excellent viscosity, foaming activity and foaming stability when used  
with other surfactants. (I) is prepd. in a high purity without  
purification process.

- (Dwg.0/3)

CN - 9710-B4301-N 9710-B4301-P

IW - MIXTURE POLYOXYPROPYLENE FATTY ACID ALKANOL AMIDE COMPOUND THICKEN  
FOAM STABILISED EMULSION SOLUBLE AGENT COSMETIC MATERIAL WASHING  
COMPOSITION

IKW - MIXTURE POLYOXYPROPYLENE FATTY ACID ALKANOL AMIDE COMPOUND THICKEN  
FOAM STABILISED EMULSION SOLUBLE AGENT COSMETIC MATERIAL WASHING  
COMPOSITION

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NC - 001

OPD - 1995-06-13

ORD - 1996-12-24

PAW - (KAWF) KAWAKEN FINE CHEM CO LTD

TI - Mixt. of polyoxypropylene fatty acid alkanol:amide cpd. - used as thickener, foaming stabiliser, emulsifier, solubilising agent, cosmetic material or washing compns.

A01 - [001] 018 ; R00351 G1558 D01 D23 D22 D31 D42 D50 D73 D82 F47 ;  
R00370 G1558 D01 D11 D10 D23 D22 D31 D42 D50 D73 D83 F47 ; P8004  
P0975 P0964 D01 D10 D11 D50 D82 F34 ; P0055 ; H0000 ; H0011-R ;  
H0237-R ; M9999 M2028 ; L9999 L2391 ; L9999 L2028 ; M9999 M2813 ;  
- [002] 018 ; ND01 ; ND04 ; Q9999 Q9110 ; Q9999 Q9347 ; Q9999  
Q9165-R ; Q9999 Q7034-R ; B9999 B5607 B5572 ; B9999 B4535 ; B9999  
B3532 B3372 ; B9999 B3554-R ; B9999 B4488 B4466 ; B9999 B4900 B4740  
;  
- [003] 018 ; D01 D11 D10 D50 D83 F27 F26 F93 F70 ; H0226 ;  
- [004] 018 ; D67 ; R01068 D01 D11 D10 D50 D61 D81 F27 F26 Na 1A ;  
C999 C271 ; C999 C102 C000 ;

# **REQUISITOS NECESARIOS PARA PRESENTACION Y AGILIZACION DEL TRAMITE**

|                                                                                                              | USUARIO               | RADICADOR |
|--------------------------------------------------------------------------------------------------------------|-----------------------|-----------|
| <b>PATENTE DE INVENCION</b>                                                                                  | ( )                   | ( )       |
| <b>MODELO DE UTILIDAD</b>                                                                                    | ( )                   | ( )       |
| - Indicación de que se solicita la concesión de una patente.                                                 | ( )                   | ( )       |
| - Datos de identificación del solicitante o de la persona que se presenta la solicitud.                      | ( )                   | ( )       |
| - Descripción de la invención.                                                                               | ( )                   | ( )       |
| - Dibujos de ser estos pertinentes.                                                                          | ( )                   | ( )       |
| - Comprobante de Pago de las tasas establecidas.                                                             | ( )                   | ( )       |
| <b>COMPLETA</b> ( )                                                                                          | <b>INCOMPLETA</b> ( ) | ( )       |
| <b>DISEÑO INDUSTRIAL</b> ( )                                                                                 |                       |           |
| - Indicación de que se solicita el registro de Diseño Industrial                                             | ( )                   | ( )       |
| - Datos de identificación del solicitante o de la persona que presenta la solicitud.                         | ( )                   | ( )       |
| - Representación gráfica y fotográfica del Diseño Industrial o muestra del Material que incorpora el diseño. | ( )                   | ( )       |
| - Comprobante de pago de las tasas establecidas                                                              | ( )                   | ( )       |
| <b>COMPLETA</b> ( )                                                                                          | <b>INCOMPLETA</b> ( ) | ( )       |
| <b>ESQUEMA DE TRAZADO</b> ( )                                                                                |                       |           |
| - Indicación de que solicita el registro de un Esquema de trazado.                                           | ( )                   | ( )       |
| - Datos de identificación del solicitante o de la persona que presenta La solicitud.                         | ( )                   | ( )       |
| - Representación gráfica del esquema de trazado                                                              | ( )                   | ( )       |
| - Comprobante de pago de las tasas establecidas.                                                             | ( )                   | ( )       |
| <b>COMPLETA</b> ( )                                                                                          | <b>INCOMPLETA</b> ( ) | ( )       |

Firma Responsable:

Fecha:



2020  
Bogotá, D.C.,

**Doctor:**  
**DILIA MARIA RODRIGUEZ D'ALEMAN**  
**Apoderado**  
**ICI AMERICAS INC.**

**Oficio N° 10661**

|                |                                   |                         |
|----------------|-----------------------------------|-------------------------|
| <b>ASUNTO:</b> | <b>Radicación N°</b>              | <b>03-97209</b>         |
|                | <b>Solicitud internacional</b>    | <b>PCT/US2002/17824</b> |
|                | <b>Fecha inicio fase nacional</b> | <b>01/01/2004</b>       |
|                | <b>Trámite</b>                    | <b>011</b>              |
|                | <b>Evento</b>                     | <b>379</b>              |
|                | <b>Actuación</b>                  | <b>430</b>              |
|                | <b>Folios</b>                     | <b>001</b>              |

Como resultado del examen de forma, realizado con fundamento en el artículo 38 de la Decisión 486 de la Comisión de la Comunidad Andina, artículo 27 del Tratado de Cooperación en Materia de Patentes (PCT), regla 51 bis del Reglamento y Circular Única de la Superintendencia de Industria y Comercio, se le comunica que:

- ☐ La solicitud nacional no contiene la traducción de la solicitud internacional tal como fue presentada. (Numeral 5.2.5, capítulo quinto del título décimo de la Circular Única de la SIC).

En cumplimiento de lo dispuesto por el artículo 39 de la Decisión 486, se le requiere para que dentro del término de dos meses siguientes a la fecha de notificación del presente oficio, complete los requisitos anteriormente enuncados. En caso de no dar cumplimiento al presente requerimiento, la solicitud se considerará abandonada y perderá su prelación.

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la Circular Única N° 10 de 2001.

  
**ALIX CARMEN CESPEDES DE VERGEL**  
Jefe de la División de Nuevas Creaciones.

El anterior requerimiento fue notificado por fijación en lista de fecha, 05 DIC. 2003.