



Industria y Comercio

SUPERINTENDENCIA

Delegatura de propiedad Industrial

División de Nuevas Creaciones

PCT

SOLICITUD

PATENTE DE INVENCION

21. **EXPEDIENTE No.**

07-34171

54. **TÍTULO**

Composiciones De Amortizantes

51. **CLASIFICACIÓN INTERNACIONAL**

A01N 37/18, A01N 37/52, A01N 43/28

71. **SOLICITANTE**

WYETH

DOMICILIO

NUOVA JERSEY, ESTADOS UNIDOS

74. **APODERADO**

**ALVARO CONTRERAS OLIVERA
T.P. No 20281**

22. **BOGOTÁ, D. C.,**

ABRIL 4, 2007

Industria y Comercio
SUPERINTENDENCIA

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Rad: 07-034171- -00000-0000

Fee: 2007-04-04 14:50:13 Dep. 2020 NUECREACION Edición

Tra. 11 PATENTENYU

Eve: 378 FASENACIONALI

6 of 11 PRESENTACION

Folios: 29

FORMULARIO ÚNICO DE SOLICITUD DE PATENTE

PCT

ENTRADA EN FASE NACIONAL

①

SOLICITUD DE :

☒

Patente de Invención

☐

Patente de Modelo de Utilidad

☒

Capítulo I.

☐

Capítulo II.

②

SOLICITANTE

(71)

Nombre: WYETH

Dirección: Five Giralda Farms, Madison, NJ 07940 Estados Unidos de América

Nacionalidad o Domicilio: Nueva Jersey, Estados Unidos

Lugar de Constitución: Delaware, Estados Unidos

Teléfono:

Fax:

E-Mail:

IDENTIFICACION

C.C.

☐

NIT

☐

C.E.

☐

Otro

☐

Cual

Número

③

REPRESENTANTE
O APODERADO

Nombre: ALVARO CORREA ORDOÑEZ

Dirección: Avenida 82 No.10-82 Piso 8

Teléfono: 634 1500

Fax: 378 2211

E-Mail: office.bogota@bakernet.com

IDENTIFICACION

C.C.

☒

NIT

☐

C.E.

☐

Otro

☐

Cual

Número

79.143.388 de

Usaquén

TP 20.281

④

INVENTOR (E9)

(72)

Nombre: SABNIS, Shobhan Shashi; ZUPAN, Jacob A. y ALBRIGHT, Robert Bruce

Dirección: 4 Carey Street, Pennington, NJ 08534, Estados Unidos; 387 Robin Hood Drive, Yardley, PA 19087, Estados Unidos y 213 Green Valley Way, Chalfont, PA 18914, Estados Unidos, respectivamente.

Nacionalidad o Domicilio: India, Estadounidense y Estadounidense, respectivamente.

⑤ PCT (85)

Solicitud Internacional No. PCT/US2005/036121

Fecha 07-OCT-05

Publicación Internacional No. WO/2006/042099

Fecha 20-ABR-06

⑥ Título (54)

COMPOSICIONES DE AMITRAZ

⑦

Clasificación Internacional (51)

A01N 37/16, A01N 37/52, A01N 43/08

⑧

Prioridad

SI ☒NO ☐

(33) País de Origen

US

US

(32) Fecha

08-OCT-04

23-MAY-05

(31) Número de Solicitud

60/616,995

60/683,646

⑨

Comprobante de pago No. 07-19695

Fecha 08-MAR-07

Instrucciones para el diligenciamiento del presente formulario, ver reverso de esta página

10

ANEXOS

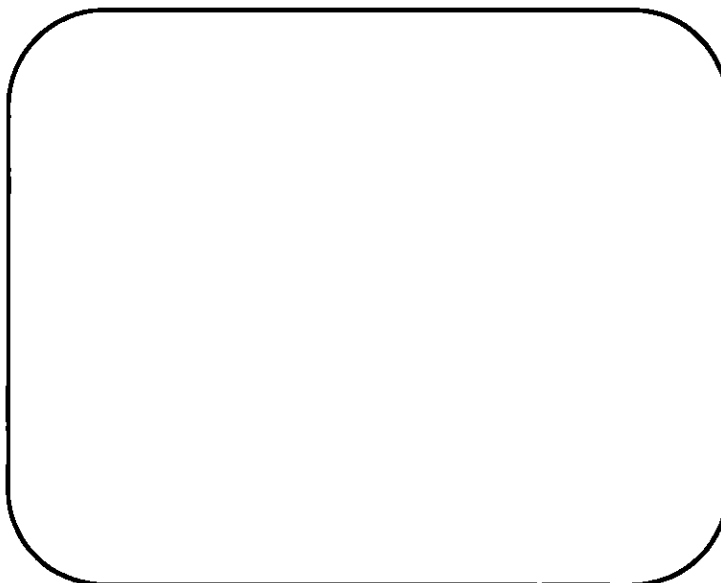
2

nnn/2

- ☒ Comprobante de pago de la tasa de presentación de la solicitud
- ☐ Documento que acredite la existencia y representación legal cuando el solicitante sea persona jurídica
- ☐ Poderes, si fuere el caso
- ☒ Documento de cesión del inventor al solicitante o a su causante
- ☐ Declaraciones
- ☒ Copia de la solicitud internacional. (Resumen, descripción, reivindicaciones, dibujos)
- ☒ Traducción de la solicitud internacional al castellano. (Resumen, descripción, reivindicaciones, dibujos)
- ☐ Copia del examen preliminar internacional efectuado por la Autoridad Internacional de Examen preliminar (IPEA)
- ☐ Traducción del examen preliminar internacional efectuado por la IPEA
- ☐ De ser el caso, copia del contrato de acceso
- ☐ De ser el caso, documento que acredite la licencia o autorización de uso de conocimientos tradicionales de las comunidades indígenas
- ☐ De ser el caso, certificado de depósito del material biológico
- ☐ Arte final 12 x 12
- ☐ De ser el caso, información sobre otras solicitudes de patente o títulos obtenidos en el extranjero por el mismo titular o su causante, relacionadas parcial o totalmente con la invención de esta solicitud
- ☐ De ser el caso, modificaciones efectuadas a la solicitud internacional.
- ☒ Otros: Extractos, Reporte Internacional de búsqueda y opinión escrita y notificación de presentación de documento de prioridad.

11

FIGURA CARACTERISTICA



12

Solicito la concesión de la patente,

NOMBRE: ALVARO CORREA ORDOÑEZ

FIRMA:

C.C. 79.143.388 de Usaquén

T.P. 20.281

Instrucciones para la presentación de los anexos, ver reverso de esta página

SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 07 - 19,695
FECHA : MARZO 8 DE 2007

Rad: 07-034771- -00000-0000
Fec. 2007-04-04 14:50.13 Dep. 2020 NUECREACIONES
Tra. 11 PATENTES
Eva: 378 FASENACIONALI
Ag: 411 PRESENTACION Folios: 09

CONSIGNACION

DEBITANTE	TIPO PAGO	BANCO	CUENTA	Nº. PAGO	FECHA PBO	Vr. PAGO
RAISBECK LARA RODRIGUEZ	CONSIGNACION	BANCO POPULAR	050-00110-6	54489077	08/03/2007	82,306,000.00

CONCEPTO

CANT. HISTORICO	CONCEPTO	TOTAL CONCEPTO
1 50005-01-01 SOLICITUDES	1 TRAMITES DE SOL. DE PATENTE DE IN	482,000.
	TOTAL :	\$ 482,000.00

SOM: CUATROCIENTOS OCHENTA Y DOS MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

2
... nno/2

TRADUCCIÓN OFICIAL No. 2903074 del inglés al español realizada por Jaime Armando Garavito Burgos, cédula de ciudadanía No. 19.130.702 de Bogotá, Traductor e Intérprete Oficial inglés-español-inglés según Resolución No. 034 de enero 11 de 1983 expedida por el Ministerio de Justicia de la República de Colombia

APOSTILLA

1. País: Estados Unidos de América
Este documento público
2. Ha sido firmado por JULIANNE DECKER
3. Quien actúa en calidad de NOTARIO PÚBLICO DE NUEVA JERSEY
4. Lleva el sello de JULIANNE DECKER, NOTARIO

Certificado

5. En Trenton, Nueva Jersey
6. El 18 de enero de 2007
7. Por Bradley Abelow, Tesorero de Nueva Jersey
8. N° A280804
9. Sello (Aparece adherido sello dorado)
10. Firma (firmado) Bradley Abelow

Jaime A. Garavito B.
JAIME A. GARAVITO B
TRADUCTOR E INTÉRPRETE OFICIAL
Res 034 de Enero 11 de 1983
MINISTERIO DE JUSTICIA

AM101860L

DECLARACIÓN JURAMENTADA

Yo, Michelle L. McGowan, Asociado de Legalizaciones, Wyeth, por medio del presente certifico que la copia anexa ha sido comparada con el documento original de traspaso (para U.S.S.N. 60/616.995, y cualquier equivalente legal del mismo en

un país extranjero, para la invención titulada: "COMPOSICIONES DE AMITRAZ") con fecha octubre 14, 2004 de Shobhan Shashi Sabnis; y con fecha octubre 14, 2004 de Jacob A. Zupan; y que la mencionada copia es una copia auténtica de su original.

Dado hoy 15 de enero de 2007 en Madison, Nueva Jersey, Estados Unidos de América.

Wyeth

(Firmado)
Michelle L. McGowan
Asociado de Legalizaciones

PARA SER USADO EN COLOMBIA

RECONOCIMIENTO

Estado de Nueva Jersey

Condado de Morris


JAIME A. GARAVITO B.
TRADUCTOR E INTERPRETE OFICIAL
Cm 034 de Enero 11 de 1983
MINISTERIO DE JUSTICIA

El día 15 de enero de 2007 compareció personalmente ante mí Michelle L. McGowan, Asociado de Legalizaciones de Wyeth, a quien conozco y de quien doy fe se trata de la persona descrita en el anterior instrumento y quien también lo suscribió y reconoció ante mí haberlo suscrito.

(Firmado) Julianne Decker, Notario Público

(Sello en tinta que dice: "Julianne Decker. Notario Público de Nueva Jersey. Mi comisión vence el 22 de octubre de 2008")

(Sello notarial realzado)

[Aparece en el encabezamiento de cada página: "Archivo No. AM101860-L Patente"]

[Aparece en cada pie de página: "Traspaso de Invención – Solicitud Provisional"]

Traspaso de la Invención

6
nn/05

En consideración del pago efectuado por la CESIONARIA a la CEDENTE de una contraprestación válida y suficiente, cuyo recibo se reconoce por medio del presente.

CEDENTE:

- (1) Nombre completo del Inventor: Shobhan Shashi SABNIS
Residencia: 4 Carey Street, Pennington, NJ 08534
Ciudadanía: India
- (2) Nombre completo del Inventor: Jacob A. ZUPAN
Residencia: 387 Robin Hood Drive, Yardley, PA 19067
Ciudadanía: Estados Unidos de América

Jaime A. Garavito B.
JAIME A. GARAVITO B.
TRANSMISOR E INTERPRETE OFICIAL
Del 034 de Enero 11 de 1983
MINISTERIO DE JUSTICIA

Por medio del presente vende, cede y transfiere a la CESIONARIA:

Wyeth
Five Giralda Farms
Madison, New Jersey 07940

a sus sucesores, cesionarios y representantes legales, la totalidad de su derecho, título e intereses para los Estados Unidos y sus posesiones territoriales y en todos los países extranjeros, incluyendo todos los derechos de invocar prioridad, en y a su invención titulada:

COMPOSICIONES DE AMITRAZ

E inventada por la CEDENTE y los siguientes inventores adicionales, si los hubiere:

Y que se encuentra en la Solicitud Provisional de los Estados Unidos No. 60/616.995 presentada el 08 de octubre de 2004.

[Verificar también si se está(n) cediendo solicitud(es) extranjera(s)]

☒ y cualquier equivalente de la misma en un país extranjero,

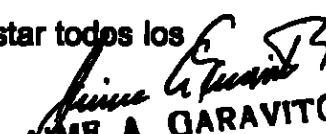
la fecha de presentación y el número de solicitud de la mencionada solicitud de los Estados Unidos cuando se conozcan, se insertarán arriba, incluyendo el derecho a

invocar prioridad, así como todas y cada una de las mejoras divulgadas en ella y todas y cada una de las patentes que se hayan de obtener para la mencionada solicitud o cualquier solicitud provisional, no provisional, continuación, divisional, renovación o sustitución de la misma y en cuanto a patente, cualquier reexpedición o re-examen de la misma.

La CEDENTE por medio del presente declara que no se ha hecho ni se hará o suscribirá ninguna cesión, venta, acuerdo o gravamen que esté o pudiera estar en conflicto con este traspaso.

La CEDENTE autoriza a la CESIONARIA a presentar solicitudes de patente y a recibir títulos de patente para la mencionada invención en cualquiera de los mencionados países en su propio nombre, o en el nombre de la CEDENTE, según por lo que pueda optar.

La CEDENTE declara y acuerda suscribir o tramitar cualquier garantía adicional necesaria del título a la mencionada invención y cualquier patente que se pueda expedir; también a entregar en cualquier momento, a solicitud y a expensas de la CESIONARIA, cualquier testimonio con respecto a cualesquier derechos preexistentes que impidan el patentamiento, litigio o procedimiento relacionado con la misma y a suscribir todos los documentos que puedan ser necesarios o convenientes para perfeccionar el título a la mencionada invención o cualquier patentes que pueda ser otorgada a la CESIONARIA, sus sucesores, cesionarios u otros representantes legales y a suscribir en cualquier momento, a solicitud y a expensas de la CESIONARIA cualquier continuación, continuación parcial, divisional, renovación o sustitución de la misma y en cuanto a patente, re-expedición o re-examen de la misma, o cualesquier otras solicitudes adicionales de patente para la mencionada invención o cualquier parte(s) de la misma, todas las cuales por medio del presente se ceden a la CESIONARIA y prestar todos los


JAIME A. GARAVITO B.
TRADUCTOR E INTERPRETE OFICIAL.
Dec 034 de Enero 11 de 1963
MINISTERIO DE JUSTICIA.

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juramentos o declaraciones al igual que encargarse de todos los demás actos legales que se requieran para obtenerlas, sin compensación adicional, pero a expensas de la CESIONARIA, sus sucesores, cesionarios u otros representantes legales.

La CEDENTE autoriza y solicita al Comisionado de Patentes expedir a su CESIONARIA todas y cada una de las Patentes de los Estados Unidos para la mencionada invención, que resulten de cualquiera de las solicitudes anteriormente mencionadas.

[Firma ilegible]
Shobhan Shashi SABNIS

Octubre 14, 2004
Fecha

RECONOCIMIENTO

Estado de Nueva Jersey

Declaración juramentada

Condado de Middlesex

Hoy 14 de octubre de 2004, ante mí, el suscrito Notario Público, compareció personalmente Shobhan Shashi SABNIS, de quien doy fe se trata de la persona descrita en el anterior instrumento y reconoció ante mí haberlo suscrito en forma libre y espontánea para los fines consignados en él.

[Firmado] ADELE I. DI. DONATO, Notario Público

[Sello en tinta que dice: "ADELE I. DI. DONATO, Notario Público de Nueva Jersey.

Mi comisión vence el 27 de febrero de 2008"]

[Firma ilegible] Jacob A. ZUPAN

Octubre 14, 2004

RECONOCIMIENTO

Estado de Nueva Jersey

Declaración juramentada

Jaime A. Garavito B.
JAIME A. GARAVITO B
TRADUCTOR E INTERPRETE OFICIAL
Del 034 de Enero 11 de 1983
MINISTERIO DE JUSTICIA

Condado de Middlesex

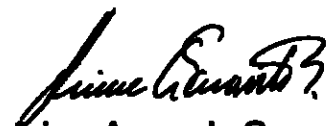
Hoy 14 de octubre de 2004, ante mí, el suscrito Notario Público, compareció personalmente Jacob A. ZUPAN , de quien doy fe se trata de la persona descrita en el anterior instrumento y reconoció ante mí haberlo suscrito en forma libre y espontánea para los fines consignados en él.

[Firmado] ADELE I. DI. DONATO, Notario Público

[Sello en tinta que dice: "ADELE I. DI. DONATO, Notario Público de Nueva Jersey.

Mi comisión vence el 27 de febrero de 2008"]

La anterior es traducción fiel y completa de la cual se deja copia en esta oficina para su confrontación.

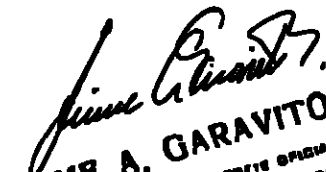


Jaime Armando Garavito Burgos

c.c. N° 19.130.702 de Bogotá

Traductor e Intérprete Oficial según Resolución N° 034 de enero 11 de 1983 expedida por el Ministerio de Justicia

BOGDM5 # 74050



JAIME A. GARAVITO B.
TRADUCTOR E INTERPRETE OFICIAL
Seg 034 de Enero 11 de 1983
MINISTERIO DE JUSTICIA

... 000000

1. COUNTRY: UNITED STATES OF AMERICA
2. THIS PUBLIC DOCUMENT HAS BEEN SIGNED BY:
JULIANNE DECKER
3. ACTING IN THE CAPACITY OF:
NOTARY PUBLIC OF NEW JERSEY
4. BEARS THE SEAL/STAMP OF:
JULIANNE DECKER, NOTARY

5. AT TRENTON, NEW JERSEY

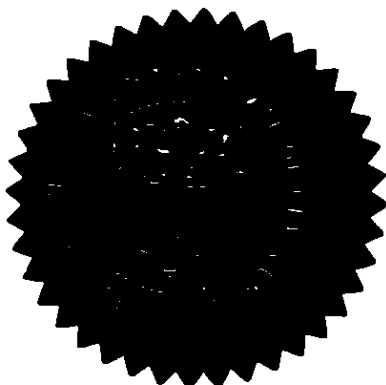
6. THE 18TH DAY OF JANUARY 2007

7. BY: Bradley Abelow, NEW JERSEY TREASURER

8. NO. A280804

9. SEAL/STAMP: 10. SIGNATURE:

10. SIGNATURE



Bradley Albee

AFFIDAVIT

I, Michelle L. McGowan, Legalization Associate, Wyeth, do hereby certify that the attached copy has been compared with the original Assignment (for U.S.S.N. 60/616,995, and any legal equivalent thereof in a foreign country, for the invention entitled: "AMITRAZ COMPOSITIONS" dated October 14, 2004 from Shobhan Shashi Sabnis; and dated October 14, 2004, from Jacob A. Zupan; and that the said copy is a true copy of the original.

Dated this 15th day of January 2007, at Madison, New Jersey, United States of America.

Wyeth

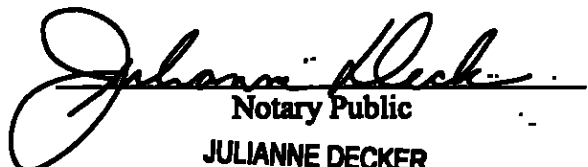

Michelle L. McGowan
Legalization Associate

TO BE USED IN COLOMBIA

ACKNOWLEDGMENT

State of New Jersey)
)
County of Morris)

On this 15th day of January 2007, before me personally appeared Michelle L. McGowan, Legalization Associate of Wyeth, to me known and known to me to be the individual described in and who executed the foregoing instrument, and she acknowledged to me that she executed the same.


Notary Public
JULIANNE DECKER
NOTARY PUBLIC OF NEW JERSEY
MY COMMISSION EXPIRES OCT. 22, 2008

2
nnn/2

Assignment of Invention

In consideration of the payment by ASSIGNEE to ASSIGNOR of good and valuable consideration, the receipt of which is hereby acknowledged,
ASSIGNOR:

(1) Full Name of Inventor: Shobhan Shashi SABNIS
Residence: 4 Carey Street, Pennington, NJ 08534
Citizenship: India

(2) Full Name of Inventor: Jacob A. ZUPAN
Residence: 387 Robin Hood Drive, Yardley, PA 19067
Citizenship: USA

hereby sells, assigns and transfers to ASSIGNEE:

Wyeth
Five Giraldi Farms
Madison, New Jersey 07940

and the successors, assigns and legal representatives of the ASSIGNEE the entire right, title and interest for the United States and its territorial possessions and in all foreign countries, including all rights to claim priority, in and to the invention entitled:
AMITRAZ COMPOSITIONS

and invented by ASSIGNOR and the following additional inventors, if any:

and which is found in U.S. Provisional Application No. 60/616895 filed on: October 8, 2004

[also check if foreign application(s) is(are) also being assigned]

☒ and any legal equivalent thereof in a foreign country,

the date of filing and application number of said U.S. application when known, to be inserted above, including the right to claim priority, including any and all improvements disclosed therein, and in and to all Letters Patent to be obtained for said invention by the above application or any subsequently filed provisional, nonprovisional, continuation, divisional, renewal, or substitute thereof, and as to Letters Patent any reissue or re-examination thereof.

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

ASSIGNOR authorizes ASSIGNEE to make applications for and to receive Letters patent for said invention in any of said countries in its own name, or in ASSIGNOR's name, at its election.

ASSIGNOR covenants and agrees to execute or procure any further necessary assurance of the title to said invention and any Letters Patent which may issue therefore and to, at any time, upon the request and at the expense of ASSIGNEE deliver any testimony in any interference, litigation or proceeding related thereto and execute all papers that may be necessary or desirable to perfect the title to said invention or any Letters Patent which may be granted therefore in ASSIGNEE, its successors, assigns or other legal representatives, and that to, at any time, upon the request and at the expense of ASSIGNEE execute any continuation, continuation-in-part, divisional, renewal or substitute thereof, and as to Letters Patent and reissue or re-examination thereof, or any other additional applications of Letters Patent for said invention or any part thereof, all of which applications and any Letters Patent issuing thereon are hereby assigned to ASSIGNEE, and will make all rightful oaths or declarations, and do all lawful acts requisite for procuring the same therein, without further compensation, but at the expense of ASSIGNEE, its successors, assigns or other legal representatives.

ASSIGNOR authorizes and requests the Commissioner of Patents to issue any and all Letters Patent of the United States for said invention, resulting from any of the aforesaid applications to its ASSIGNEE.


Shobhan Shashi SABNIS

October 14, 2004
Date

ACKNOWLEDGMENT

State of New Jersey }
County of Middlesex } ss:

On the 14th day of October 2004, Shobhan Shashi SABNIS personally appeared before me, known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he/she executed the same, of his/her own free will and for the purposes set forth.

ADILE L. DI DONATO
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 2/12/2008


Notary Public

Jacob A. Zupan
Jacob A. ZUPAN

Oct 14, 2004
Date

14
- 0001/4

ACKNOWLEDGMENT

State of New Jersey }
County of Middlesex } ss:

On the 14th day of October 2004, Jacob A. ZUPAN personally appeared before me, known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he/she executed the same, of his/her own free will and for the purposes set forth.

ADELE L. DI DONATO
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 2/27/2008

Adele L. DiDonato
Notary Public

.. n n n 1/5 15

TRADUCCIÓN OFICIAL No. 2903073 del inglés al español realizada por Jaime Armando Garavito Burgos, cédula de ciudadanía No. 19.130.702 de Bogotá, Traductor e Intérprete Oficial inglés-español-inglés según Resolución No. 034 de enero 11 de 1983 expedida por el Ministerio de Justicia de la República de Colombia

APOSTILLA

1. País: Estados Unidos de América
Este documento público
2. Ha sido firmado por JULIANNE DECKER
3. Quien actúa en calidad de NOTARIO PÚBLICO DE NUEVA JERSEY
4. Lleva el sello de JULIANNE DECKER, NOTARIO

Certificado

5. En Trenton, Nueva Jersey
6. El 18 de enero de 2007
7. Por Bradley Abelow, Tesorero de Nueva Jersey
8. N° A280805
9. Sello (Aparece adherido sello dorado)
10. Firma (firmado) Bradley Abelow


JAIME A. GARAVITO B
TRADUCTOR E INTERPRETE OFICIAL
Des 034 de Enero 11 de 1983
MINISTERIO DE JUSTICIA

AM101860L2

DECLARACIÓN JURAMENTADA

Yo, Michelle L. McGowan, Asociado de Legalizaciones, Wyeth, por medio del presente certifico que la copia anexa ha sido comparada con el documento original de traspaso (para U.S.S.N. 60/683.646, y cualquier equivalente legal del mismo en un país extranjero, para la invención titulada: "COMPOSICIONES DE AMITRAZ") con fecha septiembre 13, 2005 de Shobhan Shashi Sabnis; y con fecha

septiembre 13, 2005 de Jacob A. Zupan; y con fecha septiembre 14, 2005 de Robert Bruce Albright a Wyeth y que la mencionada copia es una copia auténtica de su original.

Dado hoy 15 de enero de 2007 en Madison, Nueva Jersey, Estados Unidos de América.

Wyeth

(Firmado)
Michelle L. McGowan
Asociado de Legalizaciones

PARA SER USADO EN COLOMBIA

RECONOCIMIENTO

Estado de Nueva Jersey

Condado de Morris

Julianne Decker
JULIANNE A. GARAVITO B.
TRADUCTOR E INTERPRETE OFICIAL
Lic. 034 de Enero 11 de 1983
MINISTERIO DE JUSTICIA

El día 15 de enero de 2007 compareció personalmente ante mí Michelle L. McGowan, Asociado de Legalizaciones de Wyeth, a quien conozco y de quien doy fe se trata de la persona descrita en el anterior instrumento y quien también lo suscribió y reconoció ante mí haberlo suscrito.

(Firmado) Julianne Decker, Notario Público

(Sello en tinta que dice: "Julianne Decker, Notario Público de Nueva Jersey. Mi comisión vence el 22 de octubre de 2008")

(Sello notarial realizado)

[Aparece en el encabezamiento de cada página: "Archivo No. AM101860-L2 Patente"]

[Aparece en cada pie de página: "Traspaso de Invención – Solicitud Provisional"]

Traspaso de la Invención

En consideración del pago efectuado por la CESIONARIA a la CEDENTE de una contraprestación válida y suficiente, cuyo recibo se reconoce por medio del presente.

CEDENTE:

- (1) Nombre completo del Inventor: Shobhan Shashi SABNIS
Residencia: 4 Carey Street, Pennington, NJ 08534
Ciudadanía: India
- (2) Nombre completo del Inventor: Jacob A. ZUPAN
Residencia: 387 Robin Hood Drive, Yardley, PA 19067
Ciudadanía: Estados Unidos de América
- (3) Nombre completo del Inventor: Robert Bruce ALBRIGHT
Residencia: 213 Green Valley Way, Chalfont, PA 18914
Ciudadanía: Estados Unidos de América

Jaime A. Garavito
JAIME A. GARAVITO
 TRADUCTOR E INTERPRETE OFICIAL
 Dec 024 de Enero 11 de 1983
 MINISTERIO DE JUSTICIA

Por medio del presente vende, cede y transfiere a la CESIONARIA:

Wyeth
 Five Giralda Farms
 Madison, New Jersey 07940

a sus sucesores, cesionarios y representantes legales, la totalidad de su derecho, título e intereses para los Estados Unidos y sus posesiones territoriales y en todos los países extranjeros, incluyendo todos los derechos de invocar prioridad, en y a su invención titulada:

COMPOSICIONES DE AMITRAZ

E inventada por la CEDENTE y los siguientes inventores adicionales, si los hubiere:

Y que se encuentra en la Solicitud Provisional de los Estados Unidos No. 60/683.646 presentada el 23 de mayo de 2005.

- ☒ Yo/nosotros la CEDENTE que abajo firma, por medio del presente autorizo (amos) y solicito (amos) insertar arriba el número de solicitud y la fecha de presentación una vez éstos se conozcan.

[Verificar (c) si también se están cediendo solicitud(es) extranjera(s)]

- ☒ y cualquier equivalente de la misma en un país extranjero,

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Incluyendo el derecho a invocar prioridad, así como todas y cada una de las mejoras divulgadas en ella y todas y cada una de las patentes que se hayan de obtener para la mencionada invención por medio de la anterior solicitud o cualquier solicitud provisional, no provisional, continuación, divisional, renovación, prórroga o sustitución de la misma y en cuanto a patentes, cualquier reexpedición o re-examen de las mismas.

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Aime A. Garavito
AIME A. GARAVITO B

TRADUCTOR E INTERPRETE OFICIAL
Ley 034 de Enero 11 de 1983

La CEDENTE declaran y acuerdan suscribir o tramitar cualquier garantía adicional necesaria del título a la mencionada invención y cualquier patente que se pueda expedir, también a entregar en cualquier momento, a solicitud y a expensas de la CESIONARIA, cualquier testimonio con respecto a cualesquier derechos preexistentes que impidan el patentamiento, litigio o procedimiento relacionado con la misma y a suscribir todos los documentos que puedan ser necesarios o convenientes para perfeccionar el título a la mencionada invención o cualquier patentes que pueda ser otorgada a la CESIONARIA, sus sucesores, cesionarios u otros representantes legales y a suscribir en cualquier momento, a solicitud y a expensas de la CESIONARIA cualquier continuación, continuación parcial, divisional, renovación o sustitución de la misma y en cuanto a patente, re-expedición o re-examen de la misma, o cualesquier otras solicitudes adicionales de patente para la mencionada invención o cualquier parte(s) de la misma, todas las cuales por medio del presente se ceden a la CESIONARIA y prestar todos los

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[Firma ilegible] Shobhan Shashi SABNIS

Septiembre 13, 2005

RECONOCIMIENTO

Estado de Nueva Jersey

Declaración juramentada

Condado de Middlesex


JAIME A. GARAVITO B
TRADUCTOR E INTERPRETE OFICIAL
Lic. 024 de Enero 11 de 1989
MINISTERIO DE JUSTICIA

Hoy 13 de septiembre de 2005, ante mí, el suscrito Notario Público, compareció personalmente Shobhan Shashi SABNIS, de quien doy fe se trata de la persona descrita en el anterior instrumento y reconoció ante mí haberlo suscrito en forma libre y espontánea para los fines consignados en él.

[Firmado] Janice Capasso, Notario Público

[Sello en tinta que dice: "Janice Capasso, Notario Público de Nueva Jersey. Mi comisión vence el 29 de mayo de 2006"]

[Firma ilegible] Jacob A. ZUPAN

Agosto 13, 2005

RECONOCIMIENTO

Estado de Nueva Jersey

Declaración juramentada

Condado de Middlesex

Hoy 13 de septiembre de 2005, ante mí, el suscrito Notario Público, compareció personalmente Jacob A. ZUPAN , de quien doy fe se trata de la persona descrita en el anterior instrumento y reconoció ante mí haberlo suscrito en forma libre y espontánea para los fines consignados en él.

[Firmado] Janice Capasso, Notario Público

[Sello en tinta que dice: "Janice Capasso, Notario Público de Nueva Jersey. Mi comisión vence el 29 de mayo de 2006"]

[Firma ilegible] Robert Bruce ALBRIGHT

Septiembre 14, 2005
(Texto manuscrito ilegible)

RECONOCIMIENTO

Estado de Nueva Jersey

Declaración juramentada

Condado de Middlesex

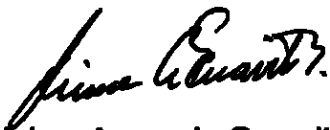

JAIME A. GARAVITO B.
TRADUCTOR E INTERPRETE OFICIAL
Res. 034 de Enero 11 de 1983
MINISTERIO DE JUSTICIA

Hoy 14 de septiembre de 2005, ante mí, el suscrito Notario Público, compareció personalmente Robert Bruce ALBRIGHT, de quien doy fe se trata de la persona descrita en el anterior instrumento y reconoció ante mí haberlo suscrito en forma libre y espontánea para los fines consignados en él.

[Firmado] Janice Capasso, Notario Público

[Sello en tinta que dice: "Janice Capasso, Notario Público de Nueva Jersey. Mi comisión vence el 29 de mayo de 2006"]

La anterior es traducción fiel y completa de la cual se deja copia en esta oficina para su confrontación.



Jaime Armando Garavito Burgos
c.c. N° 19.130.702 de Bogotá
Traductor e Intérprete Oficial según Resolución N° 034 de enero 11 de 1983
expedida por el Ministerio de Justicia

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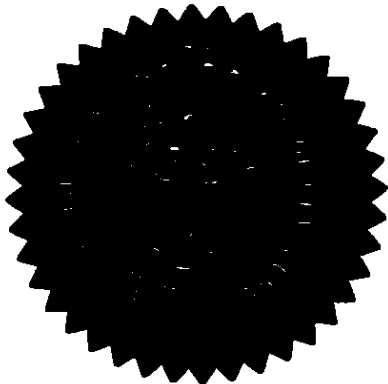
12
APOSTILLE

(CONVENTION DE LA HAYE DU 5 OCTOBRE 1961)

1. COUNTRY: UNITED STATES OF AMERICA
2. THIS PUBLIC DOCUMENT HAS BEEN SIGNED BY:
JULIANNE DECKER
3. ACTING IN THE CAPACITY OF:
NOTARY PUBLIC OF NEW JERSEY
4. BEARS THE SEAL/STAMP OF:
JULIANNE DECKER, NOTARY

CERTIFIED

5. AT TRENTON, NEW JERSEY
6. THE 18TH DAY OF JANUARY 2007
7. BY: Bradley Abelow, NEW JERSEY TREASURER
8. NO. A280805
9. SEAL/STAMP: 10. SIGNATURE



Bradley Abelow

AFFIDAVIT

I, Michelle L. McGowan, Legalization Associate, Wyeth, do hereby certify that the attached copy has been compared with the original Assignment (for U.S.S.N. 60/683,646 and any legal equivalent thereof in a foreign country, for the invention entitled: "AMITRAZ COMPOSITIONS" dated September 13, 2005 from Shobhan Shashi Sabnis, and dated September 13, 2005 from Jacob A. Zupan, and dated September 14, 2005 from Robert Bruce Albright, to Wyeth and that the said copy is a true copy of the original.

Dated this 15th day of January 2007, at Madison, New Jersey, United States of America.

Wyeth

Michelle L. McGowan
Michelle L. McGowan
Legalization Associate

TO BE USED IN COLUMBIA

ACKNOWLEDGMENT

State of New Jersey)
)
County of Morris)

On this 15th day of January 2007, before me personally appeared Michelle L. McGowan, Legalization Associate of Wyeth, to me known and known to me to be the individual described in and who executed the foregoing instrument, and he acknowledged to me that he executed the same.

Julianne Decker
Notary Public

JULIANNE DECKER
NOTARY PUBLIC OF NEW JERSEY
MY COMMISSION EXPIRES OCT. 22, 2008

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Assignment of Invention

In consideration of the payment by ASSIGNEE to ASSIGNOR of good and valuable consideration, the receipt of which is hereby acknowledged,
ASSIGNOR:

-
- (1) Full Name of Inventor: Shobhan Shashi SABNIS
Residence: 4 Carey Street, Pennington, NJ 08534
Citizenship: India
-
- (2) Full Name of Inventor: Jacob A. ZUPAN
Residence: 387 Robin Hood Drive, Yardley, PA 19067
Citizenship: USA
-
- (3) Full Name of Inventor: Robert Bruce ALBRIGHT
Residence: 213 Green Valley Way, Chalfont, PA 18914
Citizenship: USA
-

hereby sells, assigns and transfers to ASSIGNEE:

Wyeth
Five Giralda Farms
Madison, New Jersey 07940

and the successors, assigns and legal representatives of the ASSIGNEE the entire right, title and interest for the United States and its territorial possessions and in all foreign countries, including all rights to claim priority, in and to the invention entitled:
AMITRAZ COMPOSITIONS

and invented by ASSIGNOR and the following additional inventors, if any:

and which is found in U.S. Provisional Application No. 60/683,646 filed on: May 23, 2005

- ☒ I/we the ASSIGNOR signing below, hereby authorize and request insertion above of the application number and filing date, when they become known,

[also check if foreign application(s) is(are) also being assigned]

- ☒ and any legal equivalent thereof in a foreign country,

including the right to claim priority, including any and all improvements disclosed therein, and in and to all Letters Patent to be obtained for said invention by the above application or any subsequently filed provisional, nonprovisional, continuation, divisional, renewal, or substitute thereof, and as to Letters Patent any reissue or re-examination thereof.

ASSIGNOR hereby covenants that no assignment, sale, agreement or encumbrance has been or will be made or entered into which would conflict with this assignment.

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ASSIGNOR authorizes ASSIGNEE to make applications for and to receive Letters patent for said invention in any of said countries in its own name, or in ASSIGNOR's name, at its election.

ASSIGNOR covenants and agrees to execute or procure any further necessary assurance of the title to said invention and any Letters Patent which may issue therefore and to, at any time, upon the request and at the expense of ASSIGNEE deliver any testimony in any interference, litigation or proceeding related thereto and execute all papers that may be necessary or desirable to perfect the title to said invention or any Letters Patent which may be granted therefore in ASSIGNEE, its successors, assigns or other legal representatives, and that to, at any time, upon the request and at the expense of ASSIGNEE execute any continuation, continuation-in-part, divisional, renewal or substitute thereof, and as to Letters Patent and reissue or re-examination thereof, or any other additional applications of Letters Patent for said invention or any part thereof, all of which applications and any Letters Patent issuing thereon are hereby assigned to ASSIGNEE, and will make all rightful oaths or declarations, and do all lawful acts requisite for procuring the same therein, without further compensation, but at the expense of ASSIGNEE, its successors, assigns or other legal representatives.

ASSIGNOR authorizes and requests the Commissioner of Patents to issue any and all Letters Patent of the United States for said invention, resulting from any of the aforesaid applications to its ASSIGNEE.



Shobhan Shashi SABNIS

September 13, 2005

Date

ACKNOWLEDGMENT

State of New Jersey }
County of Middlesex } ss:

JANICE CAPASSO
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 6/29/2008

On the 13th day of September 2005, Shobhan Shashi SABNIS personally appeared before me, known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he/she executed the same, of his/her own free will and for the purposes set forth.



Notary Public

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page 5

Jacob A. Zupan
Jacob A. ZUPAN

Sept 13, 2005
Date

ACKNOWLEDGMENT

State of New Jersey }
County of Middlesex }

JANICE CAPASSO
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 6/29/2008

On the 13th day of September 2005, Jacob A. ZUPAN personally appeared before me, known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he/she executed the same, of his/her own free will and for the purposes set forth.

Janice Capasso
Notary Public

Robert Bruce Albright
Robert Bruce ALBRIGHT

Sept 14, 2005
Date

ACKNOWLEDGMENT

State of New Jersey }
County of Middlesex }

JANICE CAPASSO
NOTARY PUBLIC OF NEW JERSEY
Commission Expires 6/29/2008

On the 14th day of September 2005, Robert Bruce ALBRIGHT personally appeared before me, known by me to be the same person described in and who executed the foregoing instrument, and acknowledged that he/she executed the same, of his/her own free will and for the purposes set forth.

Janice Capasso
Notary Public

From the INTERNATIONAL BUREAU

PCT

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... nnn26

LENCES, Barbara, L
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Patent Law Department
Five Giralda Farms
Madison, NJ 07940
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Applicant's or agent's file reference

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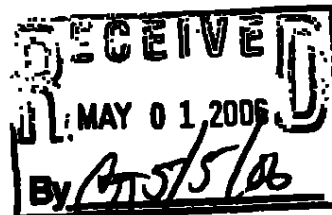
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Applicant

WYETH et al

The International Bureau transmits herewith the following documents:

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No. WOFor an explanation as to the reason for this republication of the international application, reference is made to INID codes (15), (48)
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ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: AMITRAZ COMPOSITIONS

(57) Abstract: The present invention provides a stable composition which comprises a non-hydroxyl-group-containing solvent mixture comprising N,N-diethyl-m-tolamide and γ -hexalactone, optionally with dimethyl sulfoxide, eucalyptol and 1-methoxy-2-propyl acetate; and an effective amount of each of amitraz and at least one additional parasitocidal compound, such as R-28153. Said composition allows for high concentrations of a mixture of parasitocidal agents in a single application and is useful for treating and controlling parasitocidal infection and infestation in a homeothermic animal.

WO 2006/042099 A1

AMITRAZ COMPOSITIONS

5

This invention relates to amitraz compositions, more particularly amitraz compositions in a non-hydroxyl-group-containing solvent mixture, methods for using them and processes for preparing them.

10 Amitraz is a valuable veterinary product effective against strains of ticks resistant to other chemical classes of biocides. It also possesses sufficient persistence on hair and wool to control all stages of parasitic ticks. The unique expellent action of amitraz causes ticks to withdraw mouthparts rapidly from, and fall off, the host animal. Effective tick control in conjunction with effective ecto or
15 endoparasiticide control is highly desirable in the raising, breeding and housing of healthy agronomic and domestic animals. Amitraz is, unfortunately, chemically unstable in the presence of solvents having a reactive hydroxyl group such as alcohols, glycols, water and the like. This characteristic has limited the development of veterinary compositions containing amitraz, and especially those containing
20 amitraz and at least one additional parasiticide agent, due to the combination of the instability of amitraz in hydroxyl-group-containing solvents and the insolubility of many parasiticide agents in non-hydroxyl-group-containing solvents.

 A further complication to the formulation of amitraz-containing compositions for use with animals is the cosmetic acceptability and non-irritability of the formulation
25 when applied to the animal. Obviously, an acceptable formulation must be sufficiently easy to apply, dry within a reasonable period of time without impairment of the animal's appearance, be gentle on the animal's coat, non-irritating to the animal's skin and maintain its effectiveness on the animal through normal activities of

the animal, such as exposure to sun and water. It must also be able to be applied to the animal in a small enough volume so that it can be applied so as to avoid the animal licking the area of application. Most desirably, the composition will provide the active ingredients in a formulation which will have at least a sufficient duration of activity, so as to avoid the necessity of frequent reapplications.

Therefore, it is an object of this invention to provide a topical, parasiticide veterinary composition containing amitraz, and at least one additional parasiticide compound, which is stable, and which allows sufficiently high concentrations of each of the active ingredients.

It is likewise an object of the invention to provide a composition which provides for at least a one-month interval between applications.

It is another object of the invention to provide a method for the prevention, treatment and control of ectoparasiticide infection or infestation in an animal, particularly a homeothermic animal.

An additional feature of this invention is that the compositions provided offer improved efficacy over a broad spectrum of parasites for an extended period of time.

Other objects and features of the invention will become more apparent from the detailed description set forth hereinbelow.

20 SUMMARY OF THE INVENTION

The present invention provides a composition which comprises an effective amount of each of amitraz and at least one additional parasiticide compound in a non-hydroxyl-group-containing solvent mixture comprising N,N-diethyl-m-toluamide and γ -hexalactone. In a preferred composition, the non-hydroxyl-group-containing solvent mixture additionally comprises: dimethyl sulfoxide; eucalyptol; and 1-methoxy-2-propyl acetate.

Also provided are a method for the treatment and control of parasitic infection and infestation and a process for the preparation of a topical veterinary parasiticide composition.

DETAILED DESCRIPTION OF THE INVENTION

Many topical veterinary compositions require relatively high concentrations of active ingredients to ensure effective and long-lasting protection to the host animal and administration in sufficiently small volumes so as to avoid loss of the composition from run-off or licking by the animal. Typical "spot-on" applications of such compositions to the base of the neck of the animal aid in making the applied composition difficult for the animal to remove, but require that a relatively small volume be applied. Frequently, highly polar solvents containing active hydroxyl groups such as water, alcohol, glycol or the like are utilized to prepare such compositions due to their compatibility with animal skin, hide and/or hair, and their ability to dissolve relatively high concentrations of active. Topical veterinary compositions containing amitraz as one of the active ingredients are highly desirable due to the effective and persistent activity of amitraz against a wide variety of ticks, including ticks resistant to other parasitocidal actives. Heretofore, veterinary compositions containing amitraz and an additional parasitocidal compound have been limited by the instability of amitraz in the presence of hydroxyl-group-containing solvents.

Surprisingly, it has now been found that amitraz and at least one additional parasitocidal compound may be formulated in a stable topical non-irritating composition by employing as a carrier a non-hydroxyl-group-containing solvent combination of N,N-diethyl-m-toluamide and γ -hexalactone, optionally, in further combination with dimethyl sulfoxide, eucalyptol, and 1-methoxy-2-propyl acetate. Accordingly, the present invention provides a topical veterinary parasitocidal composition which comprises a non-hydroxyl-group-containing solvent mixture comprising N,N-diethyl-m-toluamide and γ -hexalactone, optionally with dimethyl sulfoxide, eucalyptol, and 1-methoxy-2-propyl acetate; and an effective amount of each of amitraz and at least one additional parasitocidal compound.

Solvent mixtures suitable for the composition of the invention include those non-hydroxyl-group-containing solvent mixtures containing about 2-30% w/v, preferably about 5-25% w/v of N,N-diethyl-m-toluamide; about 2-30% w/v, preferably about 5-25% w/v, of dimethyl sulfoxide; about 2-30% w/v, preferably about 5-25% w/v, of eucalyptol; about 2-40% w/v, preferably about 10-30% w/v, of γ -hexalactone, and about 2-40% w/v, preferably about 15-35% w/v, of 1-methoxy-2-propyl acetate.

The effective amounts of amitraz and at least one additional parasiticide compound may be up to as high as 30% w/v of the total composition. For example, amitraz may be present at about 10-30% w/v, preferably 13-20% w/v, and the additional parasiticide compounds may be present at about 10-30% w/v, preferably 13-20% w/v. The effective amounts of the additional parasiticide compounds may vary according to the potency of the compounds, the method of application, the host animal, the target parasite, the degree of infestation, or the like. It is understood that effective amounts of less than 10% of the additional parasiticide compounds may be suitable for the composition of the invention. For example when the composition is administered in the form of a pour-on, spray or any topical administration suitable for use in large animals such as swine, sheep, horses or cattle, amounts of about 3-9% w/v, preferably 5-7% w/v, of amitraz may be suitable and amounts of about 3-9% w/v, preferably 5-7% w/v, of the additional parasiticide compound may be suitable.

Examples of non-hydroxyl-group-containing solvents include: N,N-diethyl-m-tolamide, γ -hexalactone, dimethyl sulfoxide, eucalyptol, D-limonene or similar terpenes, 1-methoxy-2-propyl acetate, diethylene glycol monobutyl ether acetate, diethylene glycol monoethyl ether acetate, propylene glycol diacetate, ethylene glycol butyl ether acetate, N-methyl-2-pyrrolidone, benzyl acetate, dimethyl formamide, diethyl succinate, diethyl adipate, diethyl sebacate, 2,6-dimethyl-4-heptanone, dipropylene glycol dimethyl ether, heptyl acetate, 2-butoxyethyl acetate, isopropyl myristate, lauryl pyrrolidone, methyl butanone, methyl pentanone, alkyl ethers of ethylene glycol, γ -butyrolactone, benzyl benzoate, and the like; preferably N,N-diethyl-m-tolamide, γ -hexalactone, dimethyl sulfoxide, eucalyptol, 1-methoxy-2-propyl acetate, or a mixture thereof.

Representative parasiticide compounds suitable for use in the composition of the invention are: chitin synthesis inhibitors including benzoylphenylureas such as diflubenzuron, flufenoxuron, teflubenzuron, novaluron, flusazuron, or the like; juvenile hormone mimics such as methoprene, hydroprone, pyriproxyfen, fenoxycarb, or the like; pyrethroid insecticides such as permethrin, cypermethrin, α -cypermethrin or the like; phenylpyrazole insecticides such as flupyrifur; organophosphate insecticides such as chlorfenvinphos, diazinon, malathion, terbufos, or the like; oxime carbamate insecticides; avermectins such as abamectin, doramectin, ivermectin, selamectin or eprinomectin; imidacloprid; milbemycins such as moxidectin or milbemycin oxime;

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semicarbazones such as endoxcarb or R-28153, preferably R-28153 (also named as metaflumizone); and the like. R-28153 is especially preferred for use with amitraz, due to its complementary mode of parasitcidal activity, and its chemical compatibility with, and solubility in, non-hydroxyl-group-containing solvents.

5 As used in the specification and claims, the term R-28153 designates the compound 2-[2-(4-cyanophenyl)-1-[3-(trifluoromethyl) phenyl] ethylidene]-N-[4-(trifluoromethoxy) phenyl]-hydrazinecarboxamide. R-28153 and a method for the preparation thereof are described in U. S. Patent 5,543,573. The animal health uses of R-28153 are described in U. S. Patent Publication number US2004-0116418A1.

10 As used herein, the term "w/w" designates weight/weight, the term "w/v" designates weight/volume, and the term "mg/kg" designates milligrams per kilogram of body weight.

Advantageously, the stable topical parasitcidal veterinary composition of the invention allows for high concentrations of the active ingredients and demonstrates
15 no irritation to the skin/hide/hair of the host animal. Accordingly, the present invention provides a method for the treatment and control of ectoparasitcidal infection or infestation in an animal, particularly a homeothermic animal, which comprises topically administering to said animal a composition which comprises a non-hydroxyl-group-containing solvent mixture comprising N,N-diethyl-m-toluidide
20 and γ -hexalactone; optionally with dimethyl sulfoxide; eucalyptol; and 1-methoxy-2-propyl acetate; and an effective amount of each of amitraz and at least one additional parasitcidal compound.

Examples of topical administrations suitable for use in the method of the invention include spot-on, pour-on, dip, wash, shampoo, foam, gel, lotion, or any of
25 the conventional means of topically applying a liquid veterinary composition. The topical mode or administration will vary with the species and size of the host animal. As an example, for companion animals such as dogs or cats, a spot-on, shampoo or wash, and most preferably a spot-on, may be suitable. For large agronomic animals such as cattle, horses or sheep, a pour-on or spray, most preferably a pour-on, may
30 be suitable.

Homeothermic animals suitable for treatment using the composition and method of the present invention include: swine, cattle, sheep, horses, goats, camels, water buffalos, donkeys, rabbits, fallow deer, reindeer, minks, chinchillas, raccoons,

chicken, geese, turkeys, ducks, dogs, cats, or the like, preferably dogs, cats, swine, cattle, horses or sheep.

Ectoparasitic infection or infestations suitable for treatment by the method of the invention include fleas, ticks, lice, mites, or flies, preferably fleas or ticks.

5 In actual practice, the composition of the invention may be administered in dose rates of mg of active ingredient per kg of body weight of the host animal. Dose rates suitable for use in the method of invention will vary depending upon the mode of administration, the species and health of the host animal, the target parasite, the degree of infection or infestation, the breeding habitat, the potency of the additional
10 parasitocidal compound, and the like. In general, a dose of at least 20 mg/kg of amitraz is suitable and, in the case wherein the additional parasitocidal compound is R-28153, at least 1.0 mg/kg of R-28153, preferably 20-45 mg/kg of amitraz and 20-45 mg/kg of R-28153.

In one embodiment of the invention, a dose rate of about 0.1-100 mg/kg, preferably about 1.0-50 mg/kg, of amitraz may be suitable and about 0.1-100 mg/kg, preferably about 1.0-50 mg/kg of an additional parasitocidal compound, such as R-2813. Such doses may be particularly applicable to large animals such as swine, cattle, horses or sheep.

The present invention also provides a process for the preparation of a topical
20 veterinary parasitocidal composition which comprises: admixing N,N-diethyl-m-toluamide and γ -hexalactone, optionally with dimethyl sulfoxide, eucalyptol, and 1-methoxy-2-propyl acetate to form a non-hydroxyl-group-containing solvent mixture; and treating said solvent mixture with amitraz and at least one additional parasitocidal compound to form a homogeneous solution, optionally passing said
25 solution through a solid dehydrating agent.

Parasitocidal compounds suitable for use in the process of the invention may be chitin synthesis inhibitors including benzoylphenylureas such as diflubenzuron, flufenoxuron, teflubenzuron, novaluron, flusazuron, or the like; juvenile hormone
30 mimics such as methoprene, hydroprene, pyriproxyfen, fenoxycarb, or the like; pyrethroid insecticides such as permethrin, cypermethrin, α -cypermethrin or the like; phenylpyrazole insecticides such as fipronil; organophosphate insecticides such as chlorfenvinphos, diazinon, malathion, terbufos, or the like; oxime carbamate insecticides; avermectins such as abamectin, doramectin, ivermectin, selamectin or

epinomectin; imidacloprid; milbemycins such as moxidectin or milbemycin oxime; semicarbazones such as endoxcarb or R-28153; and the like, preferably R-28153.

Solid dehydrating agents suitable for use in the process of the invention include any conventional solid reagents useful for absorbing and removing trace amounts of water from a solution, for example silica gel, magnesium sulfate, sodium sulfate, charcoal, molecular sieves, or the like, preferably molecular sieves, more preferably 4Å molecular sieves.

For a more clear understanding of the invention, the following examples are set forth hereinbelow. These examples are merely illustrative and are not understood to limit the scope or underlying principles of the invention in any way. Indeed, various modifications of the invention, in addition to those shown and described herein, will become apparent to those skilled in the art from the examples set forth hereinbelow and the foregoing description. Such modifications are also intended to fall within the scope of the appended claims.

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EXAMPLE 1

Preparation of Ectoparasiticide Compositions

<u>Component Description</u>	<u>A</u>		<u>B</u>	
	<u>w/w%</u>	<u>w/v%</u>	<u>w/w%</u>	<u>w/v%</u>
amitraz	14.6	15.3	14.6	15.3
R-28153	14.6	15.3	14.6	15.3
N,N-diethyl-m-toluamide	9.6	10.0	9.6	10.0
dimethyl sulfoxide	9.6	10.0	9.6	10.0
eucalyptol	9.6	10.0	9.6	10.0
1-methoxy-2-propyl acetate	28.7	30.0	19.1	20.0
γ -hexalactone	13.3	9.4	22.9	19.4

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Method of Preparation

The following solvents are introduced sequentially into a jacketed vessel at 25°C with stirring: N,N-diethyl-m-toluamide, dimethyl sulfoxide, eucalyptol, 1-methoxy-2-propyl acetate and γ -hexalactone. This solvent mixture is slowly treated with R-28153 and amitraz; stirring is continued until solution is complete. The resultant solution is passed through a bed of activated 4/ molecular sieves.

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EXAMPLE 2

Preparation of Ectoparasiticide Compositions

Using essentially the same procedure described in Example 1 hereinabove, the compositions shown below are prepared.

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<u>Component Description</u>	<u>C</u> <u>w/w%</u>	<u>D</u> <u>w/w%</u>
amitraz	14.5	14.5
R-28153	14.5	14.5
N,N-diethyl-m-tolamide	19.3	9.6
dimethyl sulfoxide	—	9.6
eucalyptol	9.6	19.3
1-methoxy-2-propyl acetate	22.8	32.5
γ -hexalactone	14.5	—
Silwet®-580 organosilicone	4.8	—

EXAMPLE 3

5 Preparation of Ectoparasiticide Compositions

Using essentially the same procedure described in Example 1 hereinabove, the compositions shown below are prepared.

<u>Component Description</u>	<u>E</u> <u>w/v%</u>	<u>F</u> <u>w/v%</u>
amitraz	6.0	6.0
R-28153	6.0	6.0
N,N-diethyl-m-tolamide	10.0	10.0
eucalyptol	10.0	10.0
1-methoxy-2-propyl acetate	30.0	20.0
γ -hexalactone	38.8	48.0

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EXAMPLE 4

Evaluation of the Efficacy of Test Composition B

In this evaluation sixteen dogs are each infested with 100 unfed adult fleas (*Ctenocephalides felis*) and 50 adult brown dog ticks (*Rhipicephalus sanguineus*).

15 Each dog is assessed for its ability to retain fleas and ticks by examination and

combing taken 24 hours post infestation for fleas and 48 hours post infestation for ticks. The dogs are blocked by flea counts and randomly assigned to one of two treatment groups. Two days prior to treatment each dog is infested with 50 adult brown dog ticks and 50 adult American dog ticks (*Dermacentor variabilis*). One day prior to treatment each dog is infested with 100 fleas. Test composition B is applied at a dose rate of 20 mg/kg of amitraz and 20 mg/kg of R-28153 to a single spot on the skin between the shoulder blades of the dogs in one group. The other group is not treated. At one-day post treatment, the live fleas and ticks on the dogs are counted to check for knockdown efficacy. At two days post treatment, the dogs are examined and combed to count and remove live fleas and ticks. The dogs are subsequently re-infested with fleas and both species of ticks, and examined and comb counted at weekly intervals. Efficacy of the test composition is determined relative to the untreated dogs, and is recorded as a percent of the geometric mean of the insect count for the untreated control animals. The data obtained is shown in Table I below where DAT designates days after treatment.

Table I
% Efficacy of Composition B

<u>DAT</u>	<u>Fleas</u>	<u>Brown Dog Ticks</u>	<u>American Dog Ticks</u>
1	99.4	97.4	97.6
2	100	99.7	100
7	100	100	100
14	99.6	100	100
21	100	96.5	96.3
28	98.8	88.5	89.8
35	95.9	34.5	43.3
42	86.6	17.3	21.8

As can be seen from the data shown hereinabove, the composition of the invention is stable and efficacious over an extended period of time.

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EXAMPLE 5**Evaluation of the Efficacy of Test Compositions E and F**

- 5 In this evaluation, swine are separated into control groups and treatment groups. The control (untreated) and treatment groups are housed separately. Each treatment group is treated with sufficient test composition to obtain doses of 1.0 mg/kg, 15 mg/kg, 30 mg/kg and 50 mg/kg, i.e. a total of eight treatment groups made up of 4 dose rates for each test compound. For each treatment group, the test
- 10 compound is poured on the back of the swine. Fly counts are made for all groups at time 0, 7 days after treatment and weekly thereafter. Efficacy of the test composition is determined relative to the untreated swine, and is recorded as a percent of the geometric mean of the fly count for the untreated control animals.

What is claimed is:

1. A parasitocidal composition which comprises amitraz and at least one additional parasitocidal compound, in a non-hydroxyl-group-containing solvent mixture comprising N,N-diethyl-m-toluamide and γ -hexalactone, and optionally one or more of dimethyl sulfoxide, eucalyptol and 1-methoxy-2-propyl acetate.
2. The composition according to claim 1 wherein the solvent mixture comprises about 2-30% w/v of N,N-diethyl-m-toluamide; 2-30% w/v of dimethyl sulfoxide; 2-30% w/v of eucalyptol; 2-40% w/v of γ -hexalactone, and 2-40% w/v of 1-methoxy-2-propyl acetate.
3. The composition according to claim 1 wherein the solvent mixture comprises about 5-25% w/v of N,N-diethyl-m-toluamide; 5-25% w/v of dimethyl sulfoxide; 5-25% w/v of eucalyptol; 10-30% w/v of γ -hexalactone; and 15-35% w/v of 1-methoxy-2-propyl acetate.
4. The composition according to any one of claims 1 to 3 wherein the additional parasitocidal compound is R-28153.
5. The composition according to any one of claims 1 to 3 wherein the additional parasitocidal compound is a benzoylphenylurea; a juvenile hormone mimic; a pyrethroid; an organophosphate; a semicarbazone, flupronil; imidacloprid; ivermectin; or moxidectin.
6. The composition according to any one of claims 1 to 4 which comprises about 10-30% w/v of amitraz and about 10-30% w/v of R-28153.
7. The composition according to any one of claims 1 to 4 comprising about 3-9% w/v of amitraz and about 3-9% w/v of R-28153.
8. The composition according to any one of claims 1 to 4 comprising about 13-20% w/v of amitraz and about 13-20% w/v of R-28153.

9. The composition according to any one of claims 1 to 4 wherein the effective amount is about 5-7% w/v of amitraz and about 5-7% w/v of R-28153.

5 10. A method for the treatment and control of ectoparasiticial infection or infestation in a homeothermic animal which comprises topically administering to said animal a composition according to any one of claims 1 to 9.

10 11. The method according to claim 10 wherein said composition is administered as a spot-on, pour-on, dip, wash, shampoo, spray, foam, gel or lotion.

12. The method according to claim 10 or claim 11 wherein said animal is selected from the group consisting of dogs; cats; swine, cattle; horses; and sheep.

15 13. The method according to any one of claims 10 to 12 wherein said ectoparasiticial infection or infestation is caused by fleas, ticks, lice, mites, or flies.

14. A process for the preparation of a composition according to claim 1 which comprises: admixing N,N-diethyl-m-toluamide and γ -hexalactone, optionally
20 with one or more of eucalyptol, dimethyl sulfoxide and 1-methoxy-2-propyl acetate to form a solvent mixture; and treating said solvent mixture with amitraz and an additional parasiticial compound to form a homogeneous solution, optionally passing said solution through a solid dehydrating agent.

25 15. The process according to claim 14 wherein the additional parasiticial compound is R-28153.

16. The process according to claim 14 or claim 15 wherein the solid dehydrating agent is 4Å molecular sieves.

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COMPOSICIONES DE AMITRAZ

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La invención se relaciona con composiciones de amitraz, más particularmente composiciones de amitraz en una mezcla de disolvente que contiene grupos no hidroxilo, los métodos para usarlas y los procesos para su preparación.

El amitraz es un producto veterinario importante y efectivo contra cepas de garrapatas o ácaros resistentes a otras clases químicas de ixodicidas. También posee persistencia suficiente sobre pelo y lana para controlar todas las etapas de las garrapatas parasíticas. La acción única expelente del amitraz hace que las garrapatas se retiren rápidamente de las partes de la boca del, y se caigan del animal anfitrión. El control efectivo de las garrapatas en conjunto con el control ecto o endoparasitocida es altamente deseable en la crianza, procreación y mantenimiento de animales agronómicos y domésticos saludables. El amitraz es, desafortunadamente, inestable químicamente en la presencia de disolventes que tengan un grupo hidroxilo reactivo tal como alcoholes, glicoles, agua y similares. Esta característica ha limitado el desarrollo de composiciones veterinarias que contienen amitraz, y especialmente aquellas que contienen amitraz y por lo menos un agente parasitocida adicional, debido a la combinación de la inestabilidad del amitraz en disolventes que contienen grupos hidroxilo y la insolubilidad de muchos agentes parasitocidas en disolventes que contienen grupos no hidroxilo.

Una complicación adicional en la formulación de composiciones que contienen amitraz para el uso en animales es la aceptabilidad cosmética y la no irritabilidad de la formulación cuando es aplicada al animal. Obviamente, una formulación aceptable debe ser lo suficientemente fácil de aplicar, secar dentro de un período de tiempo razonable sin deteriorar la apariencia del animal, ser gentil con el pelo del animal, no debe irritar la piel del animal y mantener su efectividad sobre el animal durante la actividad normal del animal, tal como la exposición al sol y al agua. Esta también debe ser capaz de ser aplicada al animal en un volumen suficientemente pequeño de modo que se evite que el animal lama el área de aplicación. De manera más deseable, la composición suministrará los ingredientes activos en una formulación que tendrá por lo menos una duración suficiente de actividad, de modo que se evite la necesidad de volver a aplicar frecuentemente.

Por lo tanto, un objetivo de esta invención es suministrar una composición veterinaria tópica, parasitocida que contiene amitraz, y por lo menos un compuesto parasitocida adicional, que sea estable, y que permita concentraciones suficientemente altas de cada uno de los ingredientes activos.

También es un objetivo de la invención suministrar una composición que provea actividad por lo menos en un intervalo de un mes entre aplicaciones.

Otro objetivo de la invención es suministrar un método para la prevención, tratamiento y control de la infección ectoparasitocida o la infestación en un animal, en particular un animal homeotérmico.

Un rasgo adicional de esta invención es que las composiciones provistas ofrecen una eficacia mejorada sobre un amplio espectro de parásitos durante un período de tiempo extendido.

Otros objetivos y rasgos de la invención se harán evidentes a partir de la descripción detallada que se da enseguida.

RESUMEN DE LA INVENCION

La presente invención suministra una composición que comprende una cantidad efectiva de amitraz y de por lo menos un compuesto parasitocida adicional en una mezcla de disolvente que no tiene grupos hidroxilo la cual comprende N,N-dietil-m-toluamida y γ -hexalactona. En una composición preferida, la mezcla de disolvente que no tiene grupos hidroxilo comprende adicionalmente: sulfóxido de dimetilo; eucaliptol; y acetato de 1-metoxi-2-propilo.

También se suministra un método para el tratamiento y control de infección parasitaria y de infestación y un proceso para la preparación de una composición veterinaria tópica, parasitocida.

DESCRIPCION DETALLADA DE LA INVENCION

Muchas composiciones tópicas veterinarias requieren concentraciones relativamente altas de los ingredientes activos para asegurar una protección efectiva y de larga duración del animal anfitrión y la administración en volúmenes suficientemente pequeños para evitar la pérdida de la composición por

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escurrimiento o porque el animal se lame. Las aplicaciones "en un punto" típicas de tales composiciones en la base del cuello del animal ayudan para que el animal no remueva la composición aplicada, pero esto requiere la aplicación de un volumen relativamente pequeño. Frecuentemente, los disolventes altamente polares que contienen grupos hidroxilo activos tales como agua, alcohol, glicol y similares, son utilizados para preparar tales composiciones debido a su compatibilidad con la piel del animal, la piel dura y el pelo, y su habilidad para disolver concentraciones relativamente altas de los ingredientes activos. Las composiciones tópicas veterinarias que contienen amitraz como uno de los ingredientes activos son altamente deseables debido a la actividad efectiva y persistente del amitraz contra una amplia variedad de ácaros, incluyendo ácaros resistentes a otros activos parasitocidas. Hasta ahora, las composiciones veterinarias que contienen amitraz y un compuesto parasitocida adicional se han visto limitadas debido a la inestabilidad del amitraz en la presencia de disolventes que contienen grupos hidroxilo.

De manera sorprendente, se ha encontrado que el amitraz y por lo menos un compuesto parasitocida adicional se pueden formular en una composición estable, tópica y no irritante empleando como vehículo una combinación de disolventes que no contienen grupos hidroxilo de N,N-dietil-m-toluamida y γ -hexalactona, opcionalmente, en combinación adicional con sulfóxido de dimetilo; eucaliptol; y acetato de 1-metoxi-2-propilo. De acuerdo a lo anterior, la presente invención suministra una composición veterinaria tópica, parasitocida que comprende una mezcla de disolvente que no tiene grupos hidroxilo que comprende N,N-dietil-m-toluamida y γ -hexalactona, opcionalmente con sulfóxido de dimetilo; eucaliptol; y acetato de 1-metoxi-2-propilo; y una cantidad efectiva de amitraz y de por lo menos un compuesto parasitocida adicional.

Las mezclas de disolvente adecuadas para la composición de la invención incluyen aquellas mezclas de disolvente que no tienen grupos hidroxilo que contienen cerca de 2 a 30% p/v, preferiblemente 5 a 25% p/v de N,N-dietil-m-toluamida; cerca de 2 a 30% p/v, preferiblemente 5 a 25% p/v de sulfóxido de dimetilo; cerca de 2 a 30% p/v, preferiblemente 5 a 25% p/v de eucaliptol; cerca de 2 a 40% p/v, preferiblemente 10 a 30% p/v de γ -hexalactona, y cerca de 2 a 40% p/v, preferiblemente 15 a 35% p/v de acetato de 1-metoxi-2-propilo.

Las cantidades efectivas de amitraz y de por lo menos un compuesto parasitocida adicional pueden llegar a ser tan altas como 30% p/v del total de la

composición. Por ejemplo, el amitraz puede estar presente entre 10 a 30% p/v, preferiblemente 13 a 20% p/v, y los compuestos parasitocidas adicionales pueden estar presentes entre 10 a 30% p/v, preferiblemente 13 a 20% p/v. Las cantidades efectivas de los compuestos parasitocidas adicionales pueden variar de acuerdo con la potencia de los compuestos, el método de aplicación, el animal anfitrión, el parásito objetivo, el grado de infestación, o parámetros similares. Se entiende que las cantidades efectivas de menos de 10% de los compuestos parasitocidas adicionales pueden ser adecuadas para la composición de la invención. Por ejemplo, cuando la composición es administrada en la forma de una administración vertida, en aerosol o cualquier administración tópica adecuada para el uso en animales grandes como cerdos, ovejas, caballos o ganado, pueden ser adecuadas cantidades entre 3 a 9% p/v, preferiblemente 5 a 7% p/v de amitraz y cantidades entre 3 a 9% p/v, preferiblemente 5 a 7% p/v de compuesto parasitocida adicional.

Ejemplos de disolventes que no tienen grupos hidroxilo incluyen: N,N-dietil-m-toluamida, γ -hexalactona, sulfóxido de dimetilo, eucaliptol, D-limoneno o terpenos similares, acetato de 1-metoxi-2-propilo, monobutil éter acetato de dietilenglicol, monoetil éter acetato de dietilenglicol, diacetato de propilenglicol, butil éter acetato de etilenglicol, N-metil-2-pirrolidona, acetato de bencilo, dimetil formamida, succinato de dietilo, adipato de dietilo, sebacato de dietilo, 2,6-dimetil-4-heptanona, dipropilenglicol dimetil éter, acetato de heptilo, acetato de 2-butoxietilo, miristato de isopropilo, laurel pirrolidona, metil butanona, metil pentanona, alquiléteres de etilenglicol, γ -butirolactona, benzoato de bencilo, y similares; preferiblemente N,N-dietil-m-toluamida, γ -hexalactona, sulfóxido de dimetilo, eucaliptol, acetato de 1-metoxi-2-propilo, o una mezcla de ellos.

Los compuestos parasitocidas representativos adecuados para ser usados en la composición de la invención son: inhibidores de la síntesis del quitín incluyendo benzoilfenilúreas tales como diflubenzuron, flufenoxuron, teflubenzuron, novaluron, fluazuron, o similares; mimicos de la hormona juvenil tales como metopreno, hidropreno, pyriproxyfen, fenoxycarb, y similares; insectocidas piretroides tales como permetrina, cipermetrina, α -cipermetrina, o similares; insectocidas de fenilpirazol tal como fipronil; insectocidas de organofosfato tales como clorfenvinfos, diazinon, malation, terbufos, o similares; insectocidas de carbamato de oxima; avermectinas tales como abamectina, doramectina, ivermectina, selamectina o eprinomectina; imidacloprid; milbemicinas tales como moxidectina o milbemicina oxima; semicarbazonas tales como

endoxcarb o R-28153, preferiblemente R-28153 (también llamada metaflumizona); y similares. El R-28153 es especialmente preferido para usarse con amitraz, debido a su modo complementario de actividad parasitocida, y su compatibilidad química con, y solubilidad en, disolventes que no contienen grupos hidroxilo.

Como se usa en la especificación y en las reivindicaciones, el término R-28153 designa al compuesto 2-[2-(4-cianofenil)-1-[3-(trifluorometil)fenil]etilideno]-N-[4-(trifluorometoxi)fenil]-hidrazinacarboxamida. El R-28153 y un método para su preparación se describen en la patente Estadounidense número 5,543,573. Los usos del R-28153 en la salud del animal se describen en la publicación de la patente Estadounidense número US2004-0116419A1.

Como se usa aquí, el término "p/p" designa peso/peso, el término "p/v" designa peso/volumen, y el término "mg/mk" designa miligramos por kilogramo del peso del cuerpo.

Ventajosamente, la composición veterinaria tópica, parasitocida de la invención permite tener altas concentraciones de los ingredientes activos y no muestra irritación de la piel/cuero/pelo del animal anfitrión. De acuerdo a lo anterior, la presente invención suministra un método para el tratamiento y control de la infección ectoparasitocida o infestación en un animal, particularmente un animal homeotérmico, que comprende administrar tópicamente a dicho animal una composición que comprende una combinación de disolventes que no contienen grupos hidroxilo de N,N-dietil-m-toluamida y γ -hexalactona; opcionalmente con sulfóxido de dimetilo; eucalipto; y acetato de 1-metoxi-2-propilo; y una cantidad efectiva de amitraz y un compuesto parasitocida adicional.

Ejemplos de administraciones tópicas adecuadas para usarse con el método de la invención incluyen colocar en un punto, por vertido, por inmersión, por lavado, champú, espuma, gel, loción, o cualquier medio convencional de aplicación tópica de una composición veterinaria líquida. El modo o administración tópico variará con las especies y tamaño del animal anfitrión. Como un ejemplo, para animales de compañía tales como perros o gatos, pueden ser adecuados los modos de colocar en un punto, champú o lavado, más preferiblemente el de colocar en un punto. Para animales agronómicos grandes tales como vacas, caballos u ovejas, un modo de vertido o de rociado pueden ser los modos adecuados, preferiblemente el vertido.

Los animales homeotérmicos adecuados para el tratamiento usando la composición y el método de la presente invención incluyen: cerdos, ovejas, caballos, ganado, cabras, camellos, búfalos de agua, burros, conejos, venados barbechados, renos, visones, chinchillas, mapaches, pollos, gansos, pavos, patos, perros, gatos, o similares, preferiblemente perros, gatos, cerdos, vacas, caballos u ovejas.

La infección o infestación ectoparasítica adecuadas para ser tratadas mediante el método de la invención incluyen pulgas, ácaros como garrapatas, piojos, gorgojos, o moscas, preferiblemente pulgas o ácaros.

En la práctica real, la composición de la invención puede ser administrada en ratas de dosificación de mg de ingrediente activo por kg del peso del cuerpo del animal anfitrión. Las ratas de dosificación adecuadas para usarse con el método de la invención varían dependiendo del modo de administración, las especies y salud del animal anfitrión, el parásito objetivo, el grado de infección o de infestación, el medio de crianza, la potencia del compuesto parasitocida adicional, y factores similares. En general, una dosis de por lo menos 20 mg/kg de amitraz es adecuada, y , en el caso en donde el compuesto parasitocida adicional es el R-28153, por lo menos 1,0 mg/kg de R-28153, preferiblemente 20 a 45 mg/kg de amitraz y 20 a 45 mg/kg de R-28153.

En una modalidad de la invención, una rata de dosificación entre cerca de 0,1 a 100 mg/kg, preferiblemente cerca de 1.0 a 50 mg/kg de amitraz puede ser adecuado y cerca de 0,1 a 100 mg/kg, preferiblemente cerca de 1.0 a 50 mg/kg de un compuesto parasitocida adicional, tal como el R-28153. Tales dosis pueden ser aplicables en particular a animales grandes tales como cerdos, ovejas, caballos o ganado.

La presente invención suministra también un proceso para la preparación de una composición veterinaria tópica, parasitocida que comprende: mezclar N,N-dietil-m-toluamida y γ -hexalactona, opcionalmente con sulfóxido de dimetilo, eucallptol, y acetato de 1-metoxi-2-propilo para formar una mezcla de disolvente que no contiene grupos hidroxilo; y tratar dicha mezcla de disolventes con amitraz y por lo menos un compuesto parasitocida adicional para formar una solución homogénea, opcionalmente hacer pasar dicha solución por un agente sólido de deshidratación.

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Los compuestos parasitocidas adecuados para uso en el proceso de la invención pueden ser inhibidores de la síntesis del quitín incluyendo benzoilfenilúreas tales como diflubenzuron, flufenoxuron, teflubenzuron, novaluron, fluazuron, o similares; mímicos de la hormona juvenil tales como metopreno, hidropreno, pyriproxyfen, fenoxycarb, y similares; insectocidas piretroides tales como permetrina, cipermetrina, α -cipermetrina, o similares; insectocidas de fenilpirazol tal como fipronil; insectocidas de organofosfato tales como clorfeninfos, diazinon, malation, terbufos, o similares; insectocidas de carbamato de oxima; avermectinas tales como abamectina, doramectina, ivermectina, selamectina o eprinomectina; imidacloprid; milbemicinas tales como moxidectina o milbemicina oxima; semicarbazonas tales como endoxcarb o R-28153; y similares, preferiblemente R-28153.

Los agentes sólidos de deshidratación adecuados para usarse en el proceso de la invención incluyen cualesquier reactivos sólidos convencionales útiles para absorber y remover cantidades pequeñas de agua de una solución, por ejemplo gel de sílice, sulfato de magnesio, sulfato de sodio, carbón vegetal, tamices moleculares, o los similares, preferiblemente los tamices moleculares, más preferiblemente tamices moleculares de 4Å.

Para un entendimiento más claro de la invención, se dan los siguientes ejemplos aquí adelante. Estos ejemplos son meramente ilustrativos y no se deben entender como que limitan el alcance o los principios subyacentes de la invención de ninguna manera. De hecho, varias modificaciones de la invención, además de aquellas mostradas y descritas aquí, se harán evidentes a aquellos versados en la técnica a partir de los ejemplos que se dan enseguida y la anterior descripción. Tales modificaciones también caen dentro del alcance de las reivindicaciones adjuntas.

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EJEMPLO 1

Preparación de composiciones ectoparasitcidas

<u>Descripción de Componentes</u>	<u>A</u>		<u>B</u>	
	<u>p/p%</u>	<u>p/v%</u>	<u>p/p%</u>	<u>p/v%</u>
Amitraz	14.6	15.3	14.6	15.3
R-28153	14.6	15.3	14.6	15.3
N,N-dietil-m-toluamida	9.6	10.0	9.6	10.0
sulfóxido de dimetilo	9.6	10.0	9.6	10.0
Eucalyptol	9.6	10.0	9.6	10.0
acetate de 1-metoxi-2-propilo	28.7	30.0	19.1	20.0
γ-hexalactona	13.3	9.4	22.9	19.4

Método de Preparación

Los siguientes disolventes son introducidos secuencialmente en una vasija encamisada a 25°C con agitación: N,N-dietil-m-toluamida, sulfóxido de dimetilo, eucalyptol, acetato de 1-metoxi-2-propilo y γ-hexalactona. Esta mezcla de disolventes es tratada lentamente con R-28153 y amitraz; la agitación se continúa hasta que la solución está completa. La solución resultante es pasada por un lecho de tamices moleculares activados de 4Å.

EJEMPLO 2

Preparación de composiciones ectoparasitcidas

Usando esencialmente el mismo procedimiento descrito aquí arriba en el ejemplo 1, se prepararon las composiciones que se muestran enseguida.

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<u>Descripción de Componentes</u>	<u>C</u> <u>p/p%</u>	<u>D</u> <u>p/p%</u>
Amitraz	14.5	14.5
R-28153	14.5	14.5
N,N-dietil-m-toluamida	19.3	9.6
sulfóxido de dimetilo	—	9.6
Eucalyptol	9.6	19.3
acetate de 1-metoxi-2-propil	22.8	32.5
γ -hexalactona	14.5	—
Organosilicona Silwet [®] -560	4.8	—

EJEMPLO 3

Preparación de composiciones ectoparasitícidas

Usando esencialmente el mismo procedimiento descrito aquí arriba en el ejemplo 1, se prepararon las composiciones que se muestran enseguida.

<u>Descripción de componentes</u>	<u>E</u> <u>p/v%</u>	<u>F</u> <u>p/v%</u>
Amitraz	6.0	6.0
R-28153	6.0	6.0
N,N-dietil-m-toluamida	10.0	10.0
Eucalyptol	10.0	10.0
acetate de 1-metoxi-2-propilo	30.0	20.0
γ -hexalactona	38.8	48.0

EJEMPLO 4

Evaluación de la eficacia de la composición de prueba B

En esta evaluación dieciséis perros son infestados cada uno con 100 pulgas adultas no alimentadas (*Ctenocephalides felis*) y 50 garrapatas carmelitas de perro adultas no alimentadas (*Rhipicephalus sanguineus*). Se determinó la habilidad de

cada perro para retener las pulgas y las garrapatas mediante examen y peinado hecho 24 horas después de la infestación para pulgas y 48 horas después de la infestación para garrapatas. Los perros son encerrados a la cuenta de las pulgas y son asignados aleatoriamente a uno de dos grupos de tratamiento. Dos días antes del tratamiento cada perro es infestado con 50 garrapatas carmelitas de perro adultas y 50 garrapatas de perro americano adultas (*Dermacentor variabilis*). Un día antes del tratamiento cada perro es infestado con 100 pulgas. La composición de prueba B es aplicada en una rata de dosificación de 20 mg/kg de amitraz y 20 mg/kg de R-28153 en un punto único sobre la piel entre las láminas del hombro de los perros en un grupo. El otro grupo no es tratado. Un día después del tratamiento, se cuentan las pulgas y garrapatas vivas en los perros para verificar la eficacia de abatimiento. Dos días después del tratamiento, los perros son examinados y peinados para contar y remover las pulgas y garrapatas vivas. Luego los perros se vuelven a infestar con pulgas y ambas especies de garrapatas, y son examinados y se hacen cuentas mediante peinado a intervalos semanales. La eficacia de la composición de prueba es determinada con relación a los perros no tratados, y se registra como porcentaje de la media geométrica de la cuenta de insectos para los animales de control no tratados. Los datos obtenidos se muestran en la Tabla I abajo en donde DAT designa días después del tratamiento.

Table I

% de Eficacia de la Composición B

DAT	Pulgas	Garrapatas carmelitas de perro	Garrapatas de perro americano
1	99.4	97.4	97.6
2	100	99.7	100
7	100	100	100
14	99.6	100	100
21	100	96.5	96.3
28	98.8	86.5	89.8
35	95.9	34.5	43.3
42	86.6	17.3	21.8

Como puede observarse de los datos mostrados arriba, la composición de la invención es estable y eficaz durante un período de tiempo extenso.

EJEMPLO 4

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Evaluación de la eficacia de las composiciones de prueba E y F

En esta evaluación, se separan cerdos en grupos de control y grupos de tratamiento. Los grupos de control (sin tratar) y de tratamiento se encierran separados. Cada grupo de tratamiento es tratado con suficiente composición de prueba para obtener dosis de 1,0 mg/kg, 30 mg/kg, y 50 mg/kg, es decir, un total de ocho grupos de tratamiento hechos de 4 ratas de dosificación para cada compuesto de prueba. El compuesto de prueba es vertido sobre la espalda del cerdo en cada grupo de tratamiento. Se cuentan las moscas en todos los grupos en el tiempo 0 y 7 días después del tratamiento y semanalmente de ahí en adelante. La eficacia de la composición de prueba es determinada con relación a los cerdos no tratados, y se registra como porcentaje de la media geométrica de la cuenta de moscas para los animales de control no tratados.

Reivindicaciones

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1. Una composición parasitocida que comprende amitraz y por lo menos un compuesto parasitocida adicional, en una mezcla de disolvente que no contiene grupos hidroxilo que comprende N,N-dietil-m-toluamida y γ -hexalactona, y opcionalmente uno o más entre sulfóxido de dimetilo, eucaliptol, y acetato de 1-metoxi-2-propilo.
2. La composición de acuerdo con la reivindicación 1 en donde la mezcla de disolventes comprende cerca de 2 a 30% p/v de N,N-dietil-m-toluamida; cerca de 2 a 30% p/v de sulfóxido de dimetilo; cerca de 2 a 30% p/v de eucaliptol; cerca de 2 a 40% p/v de γ -hexalactona, y cerca de 2 a 40% p/v de acetato de 1-metoxi-2-propilo.
3. La composición de acuerdo con la reivindicación 1 en donde la mezcla de disolventes comprende cerca de 5 a 25% p/v de N,N-dietil-m-toluamida; 5 a 25% p/v de sulfóxido de dimetilo; 5 a 25% p/v de eucaliptol; 10 a 30% p/v de γ -hexalactona, y 15 a 35% p/v de acetato de 1-metoxi-2-propilo.
4. La composición de acuerdo con cualquiera de las reivindicaciones 1 a 3 en donde el compuesto parasitocida adicional es R-28153.
5. La composición de acuerdo con cualquiera de las reivindicaciones 1 a 3 en donde el compuesto parasitocida adicional es benzoilfenilúrea; un mimético de la hormona juvenil; un piretroide; un organofosfato; una semicarbazona; fipronil; imidacloprid; ivermectina; o moxidectina.
6. La composición de acuerdo con cualquiera de las reivindicaciones 1 a 4 que comprende cerca 10 a 30 % p/v de amitraz y cerca de 10 a 30% p/v de R-28153.
7. La composición de acuerdo con cualquiera de las reivindicaciones 1 a 4 que comprende cerca de 3 a 9 % p/v de amitraz y cerca de 3 a 9% p/v de R-28153.
8. La composición de acuerdo con cualquiera de las reivindicaciones 1 a 4 que comprende cerca 13 a 20 % p/v de amitraz y cerca de 13 a 20% p/v de R-28153.
9. La composición de acuerdo con cualquiera de las reivindicaciones 1 a 4 en donde la cantidad efectiva está cerca de 5 a 7 % p/v de amitraz y cerca de 7 a 7% p/v de R-28153.
10. Un método para el tratamiento y control de la infección o infestación ectoparasitocida en un animal homeotérmico que comprende administrar

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de manera tópica a dicho animal una composición de acuerdo con cualquiera de las reivindicaciones 1 a 9.

11. El método de acuerdo con la reivindicación 10 en donde dicha composición es administrada en un punto, por vertido, por inmersión, por lavado, champú, espuma, gel o loción.
12. El método de acuerdo con la reivindicación 10 u 11 en donde dicho animal es seleccionado entre perros, gatos, cerdos, vacas, caballos u ovejas.
13. El método de acuerdo con una cualquiera de las reivindicaciones 10 a 12 en donde dicha infección o infestación ectoparasítica es causada por pulgas, ácaros, piojos, gorgojos, o moscas.
14. Un proceso para la preparación de una composición según la reivindicación 1 que comprende: mezclar N,N-dietil-m-toluamida y γ -hexalactona, opcionalmente con uno o más entre sulfóxido de dimetilo, eucaliptol, y acetato de 1-metoxi-2-propilo para formar una mezcla de disolvente; y tratar dicha mezcla de disolventes con amitraz y un compuesto parasitocida adicional para formar una solución homogénea, opcionalmente hacer pasar dicha solución por un agente sólido de deshidratación.
15. El proceso de la reivindicación 14 en donde dicho compuesto parasitocida adicional es R-28153.
16. El proceso de acuerdo con la reivindicación 14 o la 15 en donde el agente sólido de deshidratación es tamices moleculares de 4Å.

RESUMEN

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COMPOSICIONES DE AMITRAZ

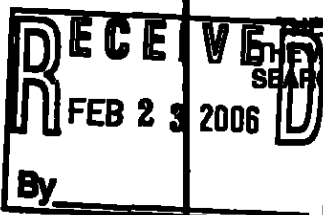
La presente invención suministra una composición que comprende una mezcla de disolvente que no contiene grupos hidroxilo que comprende N,N-dietil-m-toluamida y γ -hexalactona, y opcionalmente con sulfóxido de dimetilo, eucaliptol, y acetato de 1-metoxi-2-propilo; y una cantidad efectiva de amitraz y por lo menos un compuesto parasitocida adicional, tal como R-28153. Dicha composición permite altas concentraciones de una mezcla de agentes parasiticidas en una aplicación única y es útil para tratar y controlar la infección o infestación parasitaria en un animal homeotérmico.

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

WYETH
Patent Law Department
Attn: Lences, Barbara L.
Five Giralda Farms
Madison, New Jersey 07940
UNITED STATES OF AMERICA



NOTIFICATION OF TRANSMITTAL OF
THE INTERNATIONAL SEARCH REPORT AND
THE WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY, OR THE DECLARATION

(PCT Rule 44.1)

Date of mailing (day/month/year)	17/02/2006
Applicant's or agent's file reference	FOR FURTHER ACTION See paragraphs 1 and 4 below
International application No. PCT/US2005/036121	International filing date (day/month/year) 07/10/2005
Applicant WYETH	

1. ☒ The applicant is hereby notified that the International search report and the written opinion of the International Searching Authority have been established and are transmitted herewith.

Filing of amendments and statement under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the International Application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the International Search Report.

Where? Directly to the International Bureau of WIPO, 34 chemin des Colombettes
1211 Geneva 20, Switzerland, Facsimile No.: (41-22) 338.82.70

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no International search report will be established and that the declaration under Article 17(2)(a) to that effect and the written opinion of the International Searching Authority are transmitted herewith.
3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:

- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
- ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. Reminders

Shortly after the expiration of 18 months from the priority date, the International application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the International application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis.1 and 90bis.3, respectively, before the completion of the technical preparations for International publication.

The applicant may submit comments on an informal basis on the written opinion of the International Searching Authority to the International Bureau. The International Bureau will send a copy of such comments to all designated Offices unless an international preliminary examination report has been or is to be established. These comments would also be made available to the public but not before the expiration of 30 months from the priority date.

Within 18 months from the priority date, but only in respect of some designated Offices, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later); otherwise, the applicant must, within 20 months from the priority date, perform the prescribed acts for entry into the national phase before those designated Offices.

In respect of other designated Offices, the time limit of 30 months (or later) will apply even if no demand is filed within 18 months.

See the Annex to Form PCT/IB/301 and, for details about the applicable time limits, Office by Office, see the PCT Applicant's Guide, Volume II, National Chapters and the WIPO Internet site.

Name and mailing address of the International Searching Authority  European Patent Office, P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl; Fax: (+31-70) 340-3018	Authorized officer Sandrine Parriche RECEIVED MAR 02 2006 SHEILA McBRIDE
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CC: PRINCETON

These Notes are intended to give the basic instructions concerning the filing of amendments under Article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the *PCT Applicant's Guide*, a publication of WIPO.

In these Notes, "Article", "Rule", and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report and the written opinion of the international Searching Authority, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only (see *PCT Applicant's Guide*, Volume I/A, Annexes B1 and B2).

The attention of the applicant is drawn to the fact that amendments to the claims under Article 19 are not allowed where the international Searching Authority has declared, under Article 17(2), that no international search report would be established (see *PCT Applicant's Guide*, Volume I/A, paragraph 286).

What parts of the international application may be amended?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the international Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the international Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When?

Within 2 months from the date of transmittal of the international search report or 18 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the international Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments?

The amendments may only be filed with the international Bureau and not with the receiving Office or the international Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How?

Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference AM101860	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, Item 5 below.	
International application No. PCT/US2005/036121	International filing date (day/month/year) 07/10/2005	(Earliest) Priority Date (day/month/year) 08/10/2004
Applicant NYETH		

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 3 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
☐ a translation of the international application into _____, which is the language of a translation furnished for the purpose of international search (Rules 12.3(a) and 23.1(b))

b. ☐ With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.

2. ☐ Certain claims were found unsearchable (See Box No. II)

3. ☐ Unity of invention is lacking (see Box No. III)

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 No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority

6. With regard to the drawings,

- a. the figure of the drawings to be published with the abstract is Figure No. _____
☐ as suggested by the applicant
☐ as selected by this Authority, because the applicant failed to suggest a figure
☐ as selected by this Authority, because this figure better characterizes the invention
- b. ☐ none of the figures is to be published with the abstract

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2005/0361216^v

A. CLASSIFICATION OF SUBJECT MATTER

A01N37/52 A01N37/18 A01P7/02
//(A01N37/52,43;08,37:18),(A01N37/18,43:08)

nnn/8

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)

A01N

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, 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	EP 0 249 409 A (COOPERS ANIMAL HEALTH LIMITED) 16 December 1987 (1987-12-16) example 3	
A	WO 99/18782 A (ISP INVESTMENTS INC) 22 April 1999 (1999-04-22) examples	
A	EP 0 226 285 A (SCHERING AGROCHEMICALS LIMITED) 24 June 1987 (1987-06-24) example 1	



Further documents are listed in the continuation of Box C.



See patent family 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 (see specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

Z document member of the same patent family

Date of the actual completion of the international search

10 February 2006

Date of mailing of the international search report

17/02/2006

Name and mailing address of the ISA/

European Patent Office, P.B. 5818 Patentkan 2
NL - 2200 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Bertrand, F

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No

PCT/US2005/036121 000009

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
EP 0249409	A	16-12-1987	AU 599383 B2	19-07-1990
			AU 7401887 A	10-12-1987
			NZ 220578 A	26-07-1990
			US 5045536 A	03-09-1991
			ZA 8704058 A	25-01-1989
WO 9918782	A	22-04-1999	AU 9798198 A	03-05-1999
			EP 1022939 A1	02-08-2000
			US 5968990 A	19-10-1999
EP 0226285	A	24-06-1987	AU 570596 B2	17-03-1988
			AU 6412586 A	21-05-1987
			BR 8605037 A	14-07-1987
			CA 1266229 A1	27-02-1990
			CN 86106596 A	15-04-1987
			CS 8607418 A2	15-01-1988
			DD 250042 A5	30-09-1987
			DE 3676466 D1	07-02-1991
			DK 490686 A	17-04-1987
			EG 18048 A	30-08-1991
			FI 864116 A	17-04-1987
			GR 3001672 T3	23-11-1992
			HU 41595 A2	28-05-1987
			IE 58898 B1	01-12-1993
			IL 80306 A	26-07-1990
			JP 2017484 C	19-02-1996
			JP 7051483 B	05-06-1995
			JP 62093202 A	28-04-1987
			KR 9509174 B1	16-08-1995
			MW 7086 A1	10-08-1988
			NZ 217919 A	29-03-1989
			OA 8428 A	30-06-1988
			PH 21782 A	24-02-1988
			PT 83545 A	01-11-1986
			SU 1812944 A3	30-04-1993
			TR 22547 A	21-10-1987
			US 4710512 A	01-12-1987
			ZA 8607811 A	26-08-1987
			ZM 9586 A1	27-09-1991
			ZW 20786 A1	13-05-1987

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

5
nong/0

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

To:

see form PCT/ISA/220

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No. PCT/US2005/036121	International filing date (day/month/year) 07.10.2005	Priority date (day/month/year) 08.10.2004
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International Patent Classification (IPC) or both national classification and IPC
A01N37/52, A01N37/18, A01P7/02

Applicant
WYETH

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

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:  European Patent Office D-80298 Munich Tel. +49 89 2369 - 0 Tx: 523655 epmu d Fax: +49 89 2369 - 4465	Authorized Officer Bertrand, F Telephone No. +49 89 2369-8606 
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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/036121

000/51

Box No. 1 Basis of the opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
☐ a sequence listing
☐ table(s) related to the sequence listing
 - b. format of material:
☐ in written format
☐ in computer readable form
 - c. time of filing/furnishing:
☐ contained in the international application as filed.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/036121

nnnsf

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step (to be non obvious), or to be industrially applicable have not been examined in respect of:

☐ the entire international application,

☒ claims Nos. 10-13

because:

☒ the said international application, or the said claims Nos. 10-13 relate to the following subject matter which does not require an international preliminary examination (*specify*):

see separate sheet

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed.

☐ no international search report has been established for the whole application or for said claims Nos.

☐ the nucleotide and/or amino acid sequence listing does not comply with the standard provided for in Annex C of the Administrative Instructions in that:

the written form

☐ has not been furnished

☐ does not comply with the standard

the computer readable form

☐ has not been furnished

☐ does not comply with the standard

☐ the tables related to the nucleotide and/or amino acid sequence listing, if in computer readable form only, do not comply with the technical requirements provided for in Annex C-bis of the Administrative Instructions.

☒ See separate sheet for further details

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/US2005/036121

02
nnn/3

**Box No. V Reasoned statement under Rule 43b/a.1(a)(i) with regard to novelty, inventive step or
Industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-16
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-16
Industrial applicability (IA)	Yes: Claims	1-9,14-16
	No: Claims	10-13(?)

2. Citations and explanations

see separate sheet

Re Item I

Basis of the report

The prior art documents mentioned herein are numbered in accordance with the order they appear in the International Search Report.

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

For the assessment of the present claims 10-13 on the question whether they are industrially applicable, no unified criteria exist in the PCT Contracting States. The patentability can also be dependent upon the formulation of the claims. The EPO, for example, does not recognize as industrially applicable the subject-matter of claims to the use of a compound in medical treatment, but may allow, however, claims to a known compound for first use in medical treatment and the use of such a compound for the manufacture of a medicament for a new medical treatment.

The treatment against ectoparasite is not necessarily a method of therapy. However, the current wording of claims 10-13 encompasses such methods of therapy.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

The present invention relates to ectoparasitocidal compositions based on amitraz and a further parasiticide and the composition is formulated with a solvent system containing at least DEET and γ -hexalactone.

Whereas the cited prior art documents are concerned with the control of ectoparasites with amitraz, the presently claimed solvent system is not mentioned. The most usual solvents are hydrocarbons, DMSO or alkylpyrrolidones. Therefore, novelty of the claimed subject-matter is acknowledged (Art.33(2)PCT).

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY (SEPARATE SHEET)**

nnn/55
International application No.

PCT/US2005/036121

Having regard to inventive step, the presently claimed subject-matter is not suggested by or derivable from the cited prior art. However, the contribution to the art is unclear. Using different solvents for a known pesticide is an obvious alternative. The only composition tested is composition B and the results show that it is active in controlling ticks. But this is not surprising. No surprising effect has been substantiated so far and the question of the contribution is still open: there is no hint (let alone any data) as to whether a surprising stability or activity or other property is achieved by the claimed invention.

non/6

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION CONCERNING
SUBMISSION OR TRANSMITTAL
OF PRIORITY DOCUMENT

(PCT Administrative Instructions, Section 411)

Date of mailing (day/month/year) 15 December 2005 (15.12.2005)	To: LENCES, Barbara, L. Wyeth Patent Law Department Five Giralda Farms Madison, NJ 07940 ETATS-UNIS D'AMERIQUE By
Applicant's or agent's file reference [REDACTED]	IMPORTANT NOTIFICATION
International application No. [REDACTED]	International filing date (day/month/year) 07 October 2005 (07.10.2005)
International publication date (day/month/year)	Priority date (day/month/year) 08 October 2004 (08.10.2004)
Applicant WYETH et al	

CC-PRINCETON

By means of this Form, which replaces any previously issued notification concerning submission or transmittal of priority documents, the applicant is hereby notified of the date of receipt by the International Bureau of the priority document(s) relating to all earlier application(s) whose priority is claimed. Unless otherwise indicated by the letters "NR", in the right-hand column or by an asterisk appearing next to a date of receipt, the priority document concerned was submitted or transmitted to the International Bureau in compliance with Rule 17.1(a) or (b).

(If applicable) The letters "NR" appearing in the right-hand column denote a priority document which, on the date of mailing of this Form, had not yet been received by the International Bureau under Rule 17.1(a) or (b). Where, under Rule 17.1(a), the priority document must be submitted by the applicant to the receiving Office or the International Bureau, but the applicant fails to submit the priority document within the applicable time limit under that Rule, the attention of the applicant is directed to Rule 17.1(c) which provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

3. (If applicable) An asterisk (*) appearing next to a date of receipt, in the right-hand column, denotes a priority document submitted or transmitted to the International Bureau but not in compliance with Rule 17.1(a) or (b) (the priority document was received after the time limit prescribed in Rule 17.1(a) or the request to prepare and transmit the priority document was submitted to the receiving Office after the applicable time limit under Rule 17.1(b)). Even though the priority document was not furnished in compliance with Rule 17.1(a) or (b), the International Bureau will nevertheless transmit a copy of the document to the designated Offices, for their consideration. In case such a copy is not accepted by the designated Office as the priority document, Rule 17.1(c) provides that no designated Office may disregard the priority claim concerned before giving the applicant an opportunity, upon entry into the national phase, to furnish the priority document within a time limit which is reasonable under the circumstances.

Priority date	Priority application No.	Country or regional Office or PCT receiving Office	Date of receipt of priority document
08 October 2004 (08.10.2004)	60/616,995	US	30 November 2005 (30.11.2005)
23 May 2005 (23.05.2005)	60/683,646	US	30 November 2005 (30.11.2005)

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The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No. +41 22 338 82 70	Authorized officer SHEILA McBRIDE Junko TAKEUCHI (Fax: 338 71 30) Facsimile No. (41-22) 338.71.30 Telephone No. +41 22 338 8446
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Form PCT/IB/304 (January 2004)

COM4P63P

Retira folios 67, 68 y 69
"Extracto y Tojotas"

62, 70



SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
Rad: 07-004171- -0000-0000
Fec. 2007-04-06 14:50:13 Dep. 2020 NUECREACIONES
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Eve: 378 FASENACIONALI
Act: 411 PRESENTACION Filing 02

Industria y Comercio
SUPERINTENDENCIA

**REQUISITOS MINIMOS PARA ADMISION A TRAMITE
PCT**

PATENTE DE INVENCION ☒ MODELO DE UTILIDAD ☐

- ◆ Indicación de que se solicita la concesión de una patente ☒
- ◆ Datos de identificación del solicitante o de la persona que presenta la solicitud ☒
- ◆ Descripción de la invención ☒
- ◆ Dibujos de ser estos pertinentes ☒
- ◆ Comprobante de pago de las tasas establecidas ☒

COMPLETA ☐ INCOMPLETA ☐

DISEÑO INDUSTRIAL ☐

- ◆ 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 ☐

COMPLETA ☐ INCOMPLETA ☐

ESQUEMA DE TRAZADO ☐

- ◆ Indicación de que se 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 trazado ☐
- ◆ Comprobante de pago de las tasas establecidas ☐

COMPLETA ☐ INCOMPLETA ☐

Claudia M. Neiva
Firma Responsable.

Fecha _____

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