

Brigard & Castro

Abogados

SUPERINDUSTRIA Y COMERCIO

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Trámite: 602 PATENTES D 1 REGISTRO/ 538 PETICION

Dependencia: 2029 DIVISION DE NUEVAS CREACIONES

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Señores

**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISION DE NUEVAS CREACIONES**

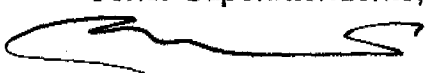
E. S. D.

REF.: Expediente No. 00 068.272 solicitud de Patente a nombre de
MONSANTO COMPANY

RAMIRO CASTRO DUQUE, vecino de Bogotá, portador de la tarjeta profesional No. 1003 del Consejo Superior de la Judicatura, obrando como apoderado de la Sociedad MONSANTO COMPANY, según lo acredita el documento de poder protocolizado en la Secretaría General bajo el No. 300, de acuerdo con el Artículo 44 de la Decisión 486 de la Comisión de la Comunidad andina, me permito solicitar que se examine si la invención contenida en la solicitud en referencia es patentable.

De acuerdo con lo anterior, me permito anexar el recibo oficial de caja No. 03-28,730 por valor de \$335.000.

Señor Superintendente,


RAMIRO CASTRO DUQUE
C.C. No. 170.322 de Bogotá
Código 340
T.P. No.1003 del C.S.J.
Cra. 7 No. 16-56 Piso 9

Mayo 22, 2003
CPB/hsr.

163
255

SUPERINDUSTRIA Y COMERCIO

Radicacion : 00066272 00000002 Folios: 2

Fecha (AMD): 2003-04-22 17:31:42

Tramite : 002 PATENTES D 1 REGISTRO/ 530 PETICION

Dependencia: 2020 DIVISION DE NUEVAS CREACIONES

NIT : 800176089-2

RECIBO OFICIAL DE CAJA : 03 - 28,730
FECHA : ABRIL 24 DE 2003

***** CONSIGNACION *****

DEPOSITANTE	TIPO PAGO	BANCO	CUENTA	No. PAGO	FECHA PAGO	Vr. PAGO
BRIGARD & CASTRO LTDA	CONSIGNACION	BANCO POPULAR	050-00110-6	7392588	24/04/2003	17,550,000.00

***** CONCEPTO *****

CANT.	RENTISTICO	CONCEPTO	TOTAL CONCEPTO
1	50005-01-01 SOLICITUDES	112 PTC CAP-I EXAMEN DE PATENTIBILIDA	335,000.00
		TOTAL :	\$ 335,000.00

SON: TRESCIENTOS TREINTA Y CINCO MIL PESOS

RESPONSABLE : _____

RECIBO DE CAJA APLICADO AL EXPEDIENTE No. _____

D1 164
156



PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

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(21) International Application Number: PCT/US99/11353		(81) Designated States: AU, BR, CA, CN, IN, JP, KR, MX, SG, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).	
(22) International Filing Date: 21 May 1999 (21.05.99)			
(30) Priority Data: 09/090,833 4 June 1998 (04.06.98) US		Published <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	
(71) Applicant: HAMPSHIRE CHEMICAL CORPORATION [US/US]; Suite 2500, 45 Hayden Avenue, Lexington, MA 02421 (US).			
(72) Inventor: CRUDDEN, Joseph, J.; 130 Robinson Road, Hudson, NH 03051 (US).			
(74) Agents: LEMACK, Kevin, S. et al.; Nields, Lemack & Dingman, Suite 8, 176 E. Main Street, Westboro, MA 01581 (US).			
(54) Title: N-ACYL SARCOSINATES AS GLYPHOSATE ADJUVANTS			
(57) Abstract An adjuvant for glyphosate having increased activity, lower irritancy and lower toxicity than conventional adjuvants, and method of controlling weeds using the same. The adjuvant is C₈ to C₂₂ sarcosinate or sarcosinate salt, such as sodium cocoyl sarcosinate, sodium lauroyl sarcosinate, or combinations thereof, which is combined with glyphosate in low concentrations and provides effective activity.			

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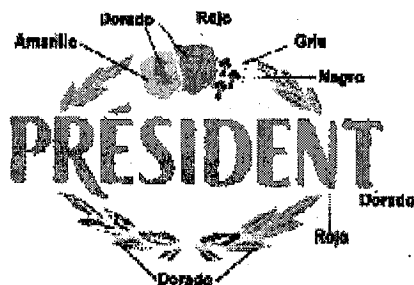
Expediente 1 61247

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 272065

DATOS DEL SIGNO

Marca mixta **PRESIDENT**



PARA DISTINGUIR	ENZIMAS LACTICAS PARA USO ALIMENTARIO, PREPARACIONES CULINARIAS A BASE DE QUESO; CARNES, PESCADOS, AVES Y CAZA; EXTRACTOS DE CARNE; CROQUETAS ALIMENTICIAS; FRUTAS Y LEGUMBRES EN CONSERVA, SECAS Y COCIDAS; PULPAS Y ENSALADAS DE FRUTAS; ENSALADAS DE VERDURAS; CONSERVAS DE CARNE, DE PESCADO, DE VERDURAS Y DE FRUTAS; CONFITURAS, MERMELADAS, COMPOTAS; POLEN PREPARADO PARA LA ALIMENTACION; EXTRATOS DE ALGAS PARA USO EN LA ALIMENTACION; GRANOS DE SOYA CONSERVADOS PARA USO ALIMENTICIO; PROTEINAS PARA LA ALIMENTACION HUMANA; CONSOMES, POTAJES, SOPAS; JUGOS VEGETALES PARA LA COCINA; HUEVOS, LECHE MANTEQUILLA, CREMA, YOGURTS, QUESOS Y OTROS PRODUCTOS LACTEOS; ACEITES Y GRASAS COMESTIBLES; PREPARACIONES PARA HACER CALDOS, PAPAS CHIPS; PLATOS PREPARADOS CON BASE EN LOS PRODUCTOS ANTES MENCIONADOS. ESPECIALIDADES DE QUESO. Productos comprendidos en la clase 29 de la Séptima Edición de la Clasificación Internacional de Niza.
Vigencia	Desde 22/11/2002 Hasta 22/11/2012
Titular	B.S.A.
Domicilio	PARIS FRANCIA 11 BIS AVENUE CHARLES FLOQUET, 75007

165
157N-ACYL SARCOSINATES AS GLYPHOSATE ADJUVANTSBACKGROUND OF THE INVENTION

5 Glyphosate, or N-phosphonomethylglycine
($\text{HOOCCH}_2\text{NHCH}_2\text{PO}(\text{OH})_2$), is a well-known translocated,
postemergence, broadspectrum herbicide. The typical commercial
formulation contains about 41% of the isopropylamine salt of
glyphosate and is believed to contain about 16-20% by weight
of a tallow amine ethoxylate surfactant. Glyphosate is a
10 relatively insoluble acid, and thus is typically formulated and
applied as a salt, such as the isopropylamine, sodium or
ammonium salt.

Surfactants are incorporated into the formulation to
improve the activity of the glyphosate. However, the term
15 "surfactant" is ambiguous, as the form supplied by
manufacturers is not necessarily a single compound, but can be
a mixture. For example, with ethoxylated surfactants, the
degree of ethoxylation can be and typically is a statistical
mixture. The literature describes use of surfactants in
20 glyphosate compositions and in particular, Weed Science, Vol.
25, pp 275-287 (1977) demonstrates the necessity of including
a surfactant in glyphosate formulations. However, tallow amine
ethoxylate is a severe eye irritant.

Conventional glyphosate formulations include the use of
25 surfactants such as silicone to enhance the rainfast properties
of glyphosate formulations. However, commercialization of such
formulations has been hindered by the cost of incorporation of
such surfactants into the formulations, and by the hydrolytic
instability of such adjuvants. Other formulations including
30 surfactants are disclosed in U.S. Patent Nos. 5,362,705,
5,180,414 and 5,118,338.

Adjuvants are typically used in formulations to aid the
operation or improve the effectiveness of the pesticide,
herbicide, etc. The term includes wetting agents, spreaders,
35 emulsifiers, dispersing agents, foaming adjuvants, foam
suppressants, penetrants, and correctives. For example,
adjuvants such as Valent X-77® Spreader are commonly used to
enhance the performance of Fluazifop-P-butyl, another selective
herbicide. However, Valent X-77® Spreader and other

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Expediente 1 61247
Certificado No. 272065

María Consuelo Casig
SECRETARIA GENERAL AD HOC
12/09/2003 (dd/mm/yyyy)AA3082E5

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

166
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ethoxylated nonionic surfactants contain free ethylene oxide which may form 1,4 dioxane, a known carcinogen.

It is therefore an object of the present invention to provide glyphosate adjuvants and formulations which do not suffer from the drawbacks of the prior art.

It is a further object of the present invention to provide herbicide formulations with excellent activity, lower irritancy and lower toxicity than conventional formulations.

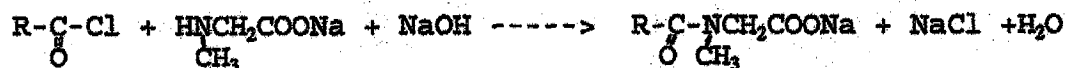
It is yet another object of the present invention to provide efficacious glyphosate formulations with relatively low amounts of surfactant compared to conventional formulations.

SUMMARY OF THE INVENTION

The problems of the prior art have been overcome by the present invention, which provides an adjuvant for glyphosate having excellent activity, lower irritancy and lower toxicity than conventional adjuvants. The adjuvant is C₈ to C₂₂ sarcosinate or sarcosinate salt, such as sodium cocoyl sarcosinate, sodium lauroyl sarcosinate, the isopropylamine salt of oleoyl sarcosinate, the isopropylamine salt of cocoyl sarcosinate, or combinations thereof, which is combined with glyphosate and provides effective activity at equal or lower concentrations than conventional formulations.

DETAILED DESCRIPTION OF THE INVENTION

N-Acyl sarcosinates are mild biodegradable surfactants derived from fatty acid and sarcosine. Typically, sarcosinates are used in the form of their sodium, potassium, ammonium or isopropylamine salt solution. N-Acyl sarcosinates are produced commercially by the Schotten-Baumann reaction of the sodium salt of sarcosine with the appropriate fatty acid chloride under carefully controlled conditions:



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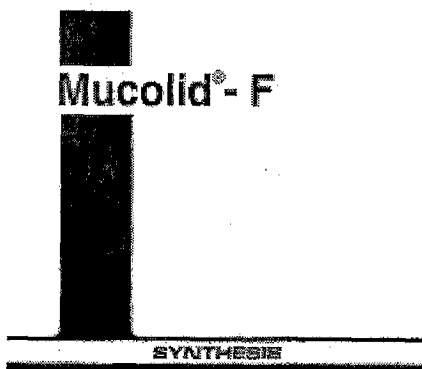
Expediente 99 65706

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 272066

DATOS DEL SIGNO

Marca mixta MUCOLID-F



PARA DISTINGUIR	PRODUCTOS FARMACEUTICOS, VETERINARIOS E HIGIENICOS. Productos comprendidos en la clase 5 de la Séptima Edición de la Clasificación Internacional de Niza.
Vigencia	Desde 11/10/2000 Hasta 11/10/2010
Titular	LABORATORIOS SYNTHESIS LTDA. Y CIA. S.C.A.
Domicilio	BOGOTA D.C. COLOMBIA

Maria Consuelo Casig
SECRETARIA GENERAL AD HOC
12/09/2003 (dd/mm/yyyy)C843F444

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

167
159

where R is typically a fatty acid of chain length C_{10} to C_{18} , commonly made from lauric, coconut, palmitic, myristic or oleic acid. After the reaction is complete, the crude sodium salt is acidified to liberate the water insoluble free fatty sarcosinic acid which is separated from the aqueous by-products. It then is neutralized to a salt form with a suitable base, such as alkali metal hydroxide, ammonia, alkanolamines such as isopropanolamine, monoethanolamine or triethanolamine, or amino alcohols. Sarcosinates such as sodium lauroyl sarcosinate, sodium cocoyl sarcosinate and sodium myristoyl sarcosinate are commercially available under the trademark HAMPOSYL® from Hampshire Chemical Corp., as 30% active solutions in water.

The present inventor has found that C_8 to C_{22} N-acyl sarcosinates, and in particular, the sodium and isopropylamine salts of cocoyl, oleoyl and lauroyl sarcosinate, are excellent adjuvants for glyphosate. The sarcosinates are low in phytotoxicity towards glyphosate tolerant crops, are low in toxicity, including aquatic toxicity, are low in irritancy (e.g., skin irritancy and ocular irritancy), and when combined with glyphosate at relatively low concentrations, cause the same to exhibit excellent activity. The formulations of the present invention exhibit extremely effective surface tension reduction to values below 25 dynes/cm, which should allow penetration through the stomata of the leaves, a highly efficient route of entry unavailable to systems containing tallow amine ethoxylate which cannot depress surface tension below 30 dynes/cm.

Suitable salts of these sarcosinates that are useful in the present invention include monoethylamine; diethylamine; triethylamine; alkali metal salts, particularly sodium and potassium; isopropylamine; and ammonia or amino alcohols such as tris amino or 2-dimethylamino-2-methyl-1-propanol.

Preferably the 30% sarcosinate solutions are used so that the final concentration of sarcosinate in the formulation is from about 2 to about 16% in the typical commercial formulation

45% solution
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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 93 378520

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 272067

DATOS DEL SIGNO

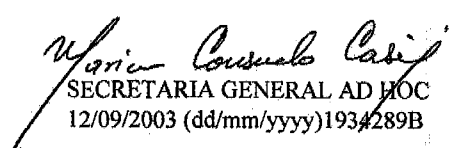
Marca nominativa LIQUI-LASS

PARA DISTINGUIR AGENTE ACTIVO PARA COMPOSICIONES DE SUPERFICIE PARA USO CON
MELAZA PARA ALIMENTO DE ANIMALES, PRODUCTOS AGRICOLAS, HOR-
TICOLAS, FORESTALES Y GRANOS NO INCLUIDOS EN OTRAS CLASES;
ANIMALES VIVOS, FRUTAS Y VERDURAS FRESCAS, SEMILLAS, PLANTAS
VIVAS Y FLORES NATURALES, SUSTANCIAS PARA LA ALIMENTACION DE
ANIMALES, MALTA.
Productos comprendidos en la clase 31 de la Séptima Edición de la Clasificación Internacional de Niza.

Vigencia Desde 30/08/2002 Hasta 30/08/2012

Titular FEED FLAVORS, INC.

Domicilio WEELING (ILLINOIS)
ESTADOS UNIDOS DE AMERICA


SECRETARIA GENERAL AD HOC
12/09/2003 (dd/mm/yyyy)193#289B

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

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of 41% glyphosate isopropylamine salt. Higher sarcosinate concentrations can be used, but concentrations within the aforementioned range are preferred in view of the lower overall cost involved and in view of the desire to minimize phytotoxicity. For these reasons, concentrations of 2-8%, most preferably 2-4%, are especially preferred.

The sarcosinates are compatible with a wide variety of cationic, nonionic and amphoteric surfactants, and these could be incorporated into the formulations to achieve various effects. Examples of suitable additional surfactants include quaternary ammonium compounds, sodium cocamphoprionate, sodium dodecyl sulfate, lauryl dimethyl amine oxide and lauryl pyridinium chloride. Sarcosinates are unexpectedly compatible with cationics over extended concentration ranges.

The sarcosinates are also compatible with a wide variety of pesticides, such as Fuzilade, Pursuit and glufosinate, and these can be incorporated into the formulations of the present invention to achieve multifunctional products. Similarly, compatible insecticide and fungicide actives also could be incorporated and could be especially useful in treating glyphosate tolerant crops.

A wide range of adjuvants, such as stickers, spreaders, humectants and rainfastness additives conventional in pesticide formulations also can be added.

The formulations can be prepared by first mixing the sarcosinate with water, and then mixing the glyphosate herbicide with the resulting surfactant solution. Since dry solid salts of both sarcosinate and glyphosate can be produced, dry solid formulations with sarcosinate as an adjuvant are within the scope of the present invention. Suitable salts useful for that purpose are alkali metal salts, especially the sodium salt, and alkanolamines.

Those skilled in the art will appreciate that the final concentration of glyphosate depends on the particular application. One common concentration is a 41% active glyphosate solution further diluted 80:1, although higher or lower effective concentrations of glyphosate can be used.

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 1 3493

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 272068

DATOS DEL SIGNO

Marca mixta NEXEN



PARA DISTINGUIR	PETROLEO CRUDO, GAS NATURAL, PROPANO, BUTANO, METANO, ETANO, PETROLEO COQUE, ACEITE LUBRICANTE, GASOLINA. Productos comprendidos en la clase 4 de la Séptima Edición de la Clasificación Internacional de Niza.
Vigencia	Desde 26/06/2003 Hasta 26/06/2013
Titular	NEXEN INC.
Domicilio	CALGARY, ALBERTA CANADA

Maria Consuelo Casip
SECRETARIA GENERAL AD HOC
12/09/2003 (dd/mm/yyyy)14294505

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

169
161

The invention is further illustrated by the following non-limiting examples.

EXAMPLE 1

5 Cocoyl sarcosine, 280g, was carefully mixed with 59.11g of isopropylamine. The resulting clear viscous liquid was dissolved in water to produce a clear solution with a pH of about 6.5.

10 Glyphosate acid, 169.07g, was reacted with 90g of isopropylamine in 122g of distilled water in a closed vessel to produce a isopropylammonium glyphosate salt solution. (The closed vessel was necessary because the reaction is exothermic and isopropylamine boils at about 25°C.) The pressure within the vessel at first increases and then decreases as the
15 reaction proceeds. The product, a clear viscous liquid, is miscible with water in all proportions and has a pH of about 6.5..

20 Isopropylammonium glyphosate, 20.49g, 60% glyphosate IPA, was mixed with 0.6g of the isopropylammonium cocoyl sarcosinate, and 29.7g of distilled water was added to produce a 41% active glyphosate IPA solution equivalent in active concentration to commercial glyphosate formulations. The clear, low viscosity solution produced was easily pourable, had a pH of about 6.5, and was readily miscible with water in all
25 proportions. The concentration of isopropylammonium cocoyl sarcosinate was 2%.

Solutions containing 4%, 8%, and 16% isopropylammonium cocoyl sarcosinate were produced in an analogous manner.

30 EXAMPLE 2

Oleoyl sarcosine, 349g, was mixed with 59.11g of isopropylamine. The resulting amber viscous liquid was soluble in water and produced a clear solution with a pH of about 6.5.

35 EXAMPLE 3

Lauroyl sarcosine, 270g, was heated to just above its melting point and subsequently reacted with 59.11g of

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

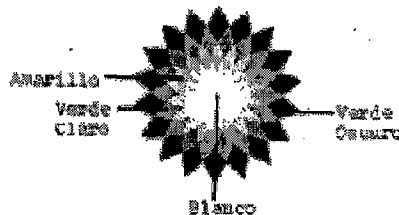
Expediente 0 94787

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 272069

DATOS DEL SIGNO

Marca figurativa



PARA DISTINGUIR

QUIMICOS PARA USO EN LA INDUSTRIA Y EN LA CIENCIA; PRODUCTOS QUIMICOS PARA USO EN LA INDUSTRIA Y/O PROCESOS DE FABRICACION; RESINAS ARTIFICIALES Y SINTETICAS; PLASTICOS NO PROCESADOS PARA USO INDUSTRIAL; PRODUCTOS QUIMICOS PARA USO EN LA INDUSTRIA METALURGICA; PREPARACIONES, FLUIDOS Y ACEITES PARA MAQUINARIA Y/U OPERACIONES PARA TRABAJO EN METALICA; FLUIDOS Y ACEITES PARA CORTE Y RECTIFICACION; REFRIGERANTES; SOLVENTES; FLUIDOS HIDRAULICOS; DETERGENTES Y PREPARACIONES DESENGRASANTES; FLUIDOS Y ACEITES; REFRIGERANTES; SOLVENTES; FLUIDOS HIDRAULICOS; PREPARACIONES DESENGRASANTES PARA USO EN LA INDUSTRIA Y EN PROCESOS DE FABRICACION; PRODUCTOS QUIMICOS PARA USO EN EL TRATAMIENTO DE SISTEMAS REFRIGERANTES; AGENTES LIBERANTES; PREPARACIONES, FLUIDOS Y ACEITES PARA LA REMOCION DE CAL VIVA, ESCORIA, COSTRA, ARGAMASA, ACEITE, GRASA CERA, TINTA, CARBON MUGRE, HONGO, MOHO, SUCIEDAD Y MANCHAS; EMULSIFICANTES; PREPARACIONES QUIMICAS PARA EVITAR OXIDO; MATERIALES DE FILTRO; FLUIDO DE TRANSMISION; FLUIDO PARA FRENO; PREPARACIONES PARA USO EN LA DETECCION DE MANCHAS, DESPERFECTOS Y GRIETAS SUPERFICIALES; PREPARACIONES DE DIAGNOSTICO Y PREPARACIONES ANALITICAS; PREPARACIONES QUIMICAS PARA LA DISPERSION DE ACEITE, GRASA Y PETROLEO; PRODUCTOS QUIMICOS PARA EVITAR COSTRAS; PREPARACIONES DE LIMPIEZA, LAVADO Y PARA LA REMOCION DE ACEITE, TODO PARA USO EN LA ETAPA INDUSTRIAL Y DE FABRICACION; PRODUCTOS QUIMICOS PARA LA CONSERVACION DE ALIMENTOS; CATALIZADORES; LODOS DE PERFORACION. I.U.

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isopropylamine. The resulting clear viscous liquid slowly solidified when allowed to cool to room temperature, but could easily be remelted. When dissolved in water, the product produced a clear solution with a pH of about 6.5.

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EXAMPLE 4

Field evaluations for the 2%, 4%, 8% and 16% formulations prepared in Example 1 were carried out on four different weed species, namely, Cheatgrass (*Bromus Secalinus*), Henbit (*Lamium Amplexicaule*), Velvetleaf (*Abulilon Theophrasti*) and Palmer Ameranth (*Amerantus Palmeri*). Commercially available Roundup[®], Roundup[®] Ultra, and isopropylammonium glyphosate without surfactant were used as controls. The formulations were tested at 0.25 lbs active ingredient per acre, half the recommended rate, in order to separate the various formulations on the basis of efficacy. The results are shown below in Tables 1-4:

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 0 94787
Certificado No. 272069

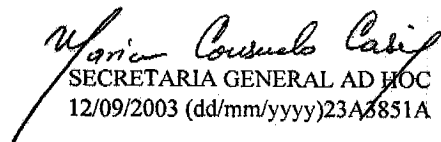
BRICANTES DE PERFORACION; PREPARACIONES ANTICONGELANTES Y
ANTIDESHIELO; ADITIVOS QUIMICOS PARA COMBUSTIBLES Y LUBRI-
CANTES; COMPUESTOS DE MOLDURA; POLIMEROS PARA USO EN LA IN-
DUSTRIA; POLIMEROS LIQUIDOS PARA USO EN COMPOSICIONES DE SE-
LLAMIENTO Y RETOQUE; TERMOPLASTICOS DE INGENIERIA; SILICONA
Y SILICATOS; AGLUTINANTES PARA CEMENTOS.

Productos comprendidos en la clase I de la Séptima Edición de la Clasificación Internacional de Niza.

Vigencia Desde 26/06/2003 Hasta 26/06/2013

Titular B.P. p.l.c.

Domicilio LONDRES, INGLATERRA
REINO UNIDO
1 ST. JAMES'S SQUARE


SECRETARIA GENERAL AD HOC
12/09/2003 (dd/mm/yyyy)23A8851A

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

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163

Table 1.

SURFACTANT	Application Rate lbs. Active/acre	Plant Species: Cheatgrass (Bromus Secalinus) Percent Control	
		7 Days After Treatment	13 Days after Treatment
CIPA 2%	.25	60.0	95.7
CIPA 4%	.25	40.0	91.0
CIPA 8%	.25	43.3	94.7
CIPA 16%	.25	49.3	91.3
Roundup	.25	41.7	91.0
Roundup Ultra	.25	44.0	92.0
Glyphosate(No Adjuvant)	.25	45.0	88.3

Table 2.

Plant Species: Henbit (Lamium Amplexicaule)			
SURFACTANT	Application Rate lbs. Active/acre	Percent Control	
		7 Days After Treatment	13 Days after Treatment
CIPA 2%	.25	48.3	86.0
CIPA 4%	.25	35.0	89.3
CIPA 8%	.25	38.3	80.3
CIPA 16%	.25	46.7	78.3
Roundup	.25	36.7	83.7
Roundup Ultra	.25	43.3	84.0
Glyphosate(No Adjuvant)	.25	35.0	73.3

Table 3.

Plant Species: Velvetleaf (Abutilon Theophrasti)			
SURFACTANT	Application Rate lbs. Active/acre	Percent Control	
		7 Days After Treatment	13 Days after Treatment
CIPA 2%	.25	48.3	95.7
CIPA 4%	.25	33.3	93.3
CIPA 8%	.25	56.7	96.7
CIPA 16%	.25	60.0	90.7
Roundup	.25	48.3	99.3
Roundup Ultra	.25	35.0	95.3
Glyphosate(No Adjuvant)	.25	39.3	89.3

Table 4.

Plant Species: Palmer Ameranth (Amarantus Palmeri)			
SURFACTANT	Application Rate lbs. Active/acre	Percent Control	
		7 Days After Treatment	13 Days after Treatment
CIPA 2%	.25	86.7	98.7
CIPA 4%	.25	83.0	98.7
CIPA 8%	.25	82.3	99.3
CIPA 16%	.25	86.7	96.7
Roundup	.25	78.3	97.7
Roundup Ultra	.25	91.0	97.3
Glyphosate(No Adjuvant)	.25	80.7	94.0

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 3 1339

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 272070

DATOS DEL SIGNO

Marca nominativa BUELL

PARA DISTINGUIR VEHICULOS; APARATOS DE LOCOMOCION TERRESTRE, AEREA O ACUATICA.
Productos comprendidos en la clase 12 de la Octava Edición de la Clasificación Internacional de Niza.

Vigencia Desde 25/08/2003 Hasta 25/08/2013

Titular H-D MICHIGAN, INC.

Domicilio MICHIGAN
ESTADOS UNIDOS DE AMERICA
315 W. HURON STREET, SUITE 400, ANN ARBOR

Monica Consuelo Casig
SECRETARIA GENERAL AD HOC
11/09/2003 (dd/mm/yyyy)181349C6

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

D72
164

What is claimed is:

1. A herbicidal composition comprising a herbicidally effective amount of N-phosphonomethylglycine or a salt thereof, and an adjuvant comprising an N-acyl sarcosinate or a salt thereof having the formula:



wherein R is C_8 to C_{22} alkyl or alkenyl, and X is hydrogen, alkali metal, ammonium, C_1 - C_6 alkylamine or an amino alcohol.

2. The herbicidal composition of claim 1, wherein said N-phosphonomethylglycine is in the form of its isopropylamine salt.

3. The herbicidal composition of claim 1, wherein said N-acyl sarcosinate is selected from the group consisting of alkali metal salts of lauroyl sarcosinate, alkali metal salts of cocoyl sarcosinate, and a mixture of an alkali metal salt of lauroyl sarcosinate and an alkali metal salt of cocoyl sarcosinate.

4. The herbicidal composition of claim 2, wherein said N-acyl sarcosinate is selected from the group consisting of alkali metal salts of lauroyl sarcosinate, alkali metal salts of cocoyl sarcosinate, and a mixture of an alkali metal salt of lauroyl sarcosinate and an alkali metal salt of cocoyl sarcosinate.

5. The herbicidal composition of claim 1, wherein said adjuvant is isopropylammonium lauroyl sarcosinate.

6. The herbicidal composition of claim 1, wherein said adjuvant is isopropylammonium cocoyl sarcosinate.

7. The herbicidal composition of claim 1 in a dry solid form.

8. The herbicidal composition of claim 1, further comprising a cationic, nonionic or amphoteric surfactant.

9. A method of controlling weeds in grass, comprising applying to said grass an effective amount of a herbicidal composition comprising N-phosphonomethylglycine or a salt thereof and an adjuvant comprising an N-acyl sarcosinate or a salt thereof having the formula:



inversión en los fondos está sujeta a los riesgos de inversión, derivados de la evolución de los precios de mercado de los títulos que componen el portafolio del respectivo fondo.»

Fondo Abierto: Se aplicará cuando el respectivo contrato permita a sus suscriptores redimir sus derechos en cualquier momento, con intervalos iguales o inferiores a un mes o en una combinación de estas alternativas.

Fondo de Títulos Mixtos: Se aplicará cuando se provea que el respectivo portafolio de inversiones podrá conformarse, indistintamente, con títulos de contenido crediticio y títulos participativos.

Fondo de Largo Plazo: Se aplicará cuando se prevea que el respectivo portafolio estará compuesto por títulos, valorados a precios de mercado, con plazo promedio ponderado que pueda exceder de cinco años, o por acciones.
(Se anexa la ficha técnica del fondo a 31/50/2006)

Posibilidades y retos de los fondos de inversión

Si se tiene en cuenta la evolución que han presentado los fondos de inversión en los últimos años, sobre todo como consecuencia del mayor conocimiento del producto por parte de las personas del común que no tienen experiencia previa, no hay duda de que en el futuro este producto seguirá captando una parte considerable del ahorro de los inversionistas.

En el futuro, se espera que la evolución de los fondos de inversión en Colombia vaya acompañada de un incremento en la cultura financiera de la gente y de la necesidad de prever rentas para el futuro.

Los fondos de inversión van a seguir evolucionando en el futuro, atendiendo al objetivo por el que se crearon, que no es otro que facilitar el acceso de los pequeños y medianos ahorradores al mundo de la inversión financiera, y así posibilitar la tenencia de instrumentos a los que el acceso de modo individual podría ser complejo.

En resumen, los fondos de inversión son un producto consolidado con unas excelentes expectativas de futuro.

Discusión

Invertir bien en fondos de inversión no es una tarea complicada, basta con tener claro una serie de conceptos como riesgo, cobertura y diversificación de las inversiones.

➤ Hay que tener clara la idea de que el hecho de que un fondo de inversión

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wherein R is C₈ to C₂₂ alkyl or alkenyl, and X is hydrogen, alkali metal, ammonium, C₁-C₆ alkylamine or an amino alcohol.

10. The method of claim 9, wherein said N-phosphonomethyl-glycine is in the form of its isopropylamine salt.

11. The method of claim 9, wherein said adjuvant is isopropylammonium lauroyl sarcosinate.

12. The method of claim 9, wherein said adjuvant is isopropylammonium cocoyl sarcosinate.

13. The method of claim 9, wherein said adjuvant is present in said herbicidal composition in a concentration of between 2 and 16%.

14. The method of claim 9, wherein said herbicidal composition further comprises a cationic, nonionic or amphoteric surfactant.

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 2 53462

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 272172

DATOS DEL SIGNO

Marca mixta

SEW-EURODRIVE

SEW
EURODRIVE

PARA DISTINGUIR

MOTORES, ENGRANAJES, MOTORES ELECTRICOS (PRODUCTOS ESTOS NO PARA VEHICULOS TERRESTRES), EN PARTICULAR MOTORES DE FRENO, MOTORES CONVERTIDORES, MOTORES DE ENGRANAJE, EN PARTICULAR MOTORES DE ENGRANAJE, SINFIN, DE ANGULO, DE BISELADO, DE CICLOS, EXCENTRICOS, DE BALANCIN Y DE VELOCIDAD VARIABLE, MOTORES LINEALES, EN PARTICULAR LOS MOTORES ANTES MENCIONADOS COMO MOTORES NO SINCRONICOS, MOTORES SINCRONICOS Y MOTORES DE RENUENCIA; ACOPLER, ENGRANAJES, CORREAS DE VELOCIDAD VARIABLE, MECANISMOS PARA TRANSMISION DE ENERGIA (NO PARA VEHICULOS TERRESTRES), EN PARTICULAR ADAPTADORES Y ENGRANAJES, EN PARTICULAR ENGRANAJES DE RUEDAS, BALANCIN, BISEL, ANGULO, ESPIROPLAN, SOL, PLANETARIO Y DE CONTROL; FRENOS, EN PARTICULAR FRENOS MAGNETICOS (NO PARA VEHICULOS TERRESTRES); CARCASAS PARA MAQUINAS Y MOTORES; ACTUADORES, EN PARTICULAR ACTUADORES LINEALES; TRANSPORTADORES, MAQUINAS ELEVADORAS Y DE MANIPULACION, GRUAS ELEVADORAS, GRUAS DE CADENA; MAQUINAS HERRAMIENTAS, MAQUINAS DE EMPAQUE, GENERADORES ELECTRICOS, BOMBAS, COMPRESORES; MAQUINAS PARA PROCESAMIENTO DE METAL; MAQUINAS PARA PROCESAMIENTO DE MADERA; MAQUINAS PARA PROCESAMIENTO DE PLASTICO; MAQUINAS PARA AGRICULTURA; MAQUINAS PARA MINERIA; MAQUINAS PARA LA INDUSTRIA QUIMICA; MAQUINAS PARA LA INDUSTRIA DE LA CONSTRUCCION; MAQUINAS PARA LA INDUSTRIA DE VIDRIO Y CERAMICA; MAQUINAS PARA LA INDUSTRIA AUTOMOTRIZ; MAQUINAS PARA LA INDUSTRIA DE PAPEL; MAQUINAS PARA LA INDUSTRIA DEL CUERO; MAQUINAS PARA LA INDUSTRIA GRAFICA; MAQUINAS PARA LA INDUSTRIA TEXTIL Y DE CONFECCION; MAQUINAS PARA LA INDUSTRIA ALIMENTICIA; TRINEOS DE MOTOR; CON-

PCT

WORLD INTELLECTUAL PROPERTY ORGANIZATION
International Bureau



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁶: A01N 57/20	A1	(11) International Publication Number: WO 99/21423 (43) International Publication Date: 6 May 1999 (06.05.99)
(21) International Application Number: PCT/IE98/00086 (22) International Filing Date: 23 October 1998 (23.10.98) (30) Priority Data: S970766 24 October 1997 (24.10.97) IE (71)(72) Applicant and Inventor: PARKER, Brian [IE/IE]; 23 Sonesta, Malahide, County Dublin (IE). (74) Agent: DUFFY, Assumpta; F.R. Kelly & Co., 27 Clyde Road, Ballsbridge, Dublin 4 (IE).		(81) Designated States: AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG). Published <i>With international search report.</i>
(54) Title: A HERBICIDAL COMPOSITION COMPRISING GLYPHOSATE AND AN N-ACYLSARCOSINATE (57) Abstract This invention concerns herbicidal compositions comprising N-phosphonomethyl glycine and/or one or more herbicidally active derivatives thereof and an N-acyl sarcosinate surfactant. Such compositions exhibit greatly reduced eye irritation to the user while maintaining their herbicidal efficacy.		

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15 A HERBICIDAL COMPOSITION COMPRISING GLYPHOSATE AND AN N-ACYLSARCOSINATE

20 Field of the Invention

The present invention relates to herbicidal glyphosate compositions, exhibiting greatly reduced eye irritancy, when compared to commercial glyphosate compositions.

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Background

Glyphosate or N-phosphonomethyl glycine is well-known as a broad-spectrum herbicide. It acts as a postemergent herbicide which is translocated within plants. Typical commercial formulations contain about 41% of the isopropylamine salt of glyphosate and about 5%-20% by weight of a tallow amine ethoxylated surfactant.

Surfactants are typically incorporated into the formulation to improve the efficacy of glyphosate. These surfactants are termed activating surfactants. The term surfactant may include a number of compounds. For example, with ethoxylated surfactants the degree of ethoxylation can be and typically is a statistical mixture.

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Numerous studies have been made on the effect of additives on the herbicidal activity of glyphosate. For example Wyrill and Burnside, Weed Science, Vol 25 (1977), 275-287, examined solutions containing different classes of surfactant, including 2 and 15 oxyethylene units. Some classes of surfactant were more effective than others in enhancing the herbicidal activity of glyphosate. However, Wyrill and Burnside concluded that a surfactant is a critical component of any glyphosate spray mixture.

Ethoxylated alkyl amine surfactants present in glyphosate formulations have been observed to greatly increase the corrosivity or irritancy of the composition to the eyes. The level of irritancy is such that commercially formulated glyphosate solutions containing ethoxylated alkylamine surfactants must be labelled as an irritant.

WO 97/03560 of Hampshire Chemical Corporation discloses herbicidal fluazifop-butyl (or fluazifop-P-butyl) compositions containing a C₈ to C₂₂ sarcosinate or sarcosinate salt, such as sodium cocoyl sarcosinate, sodium lauroyl sarcosinate or combinations thereof. The sarcosinate may be used at concentrations of 0.1 to 3.0% v/v in the formulation. WO 97/03560 does mention lower irritancy and lower toxicity which may be attributed to the use of an aqueous solvent instead of an organic solvent which had been previously necessary to provide a solution of fluazifop-P-butyl. The use of an aqueous solvent in place of an organic solvent would in reality provide lower irritancy. This is confirmed by the fact that the inventor does not provide any evidence of lower irritancy. WO 97/03560 contains no teaching about herbicidal glyphosate compositions. It could not be foreseen whether the use of a sarcosinate or sarcosinate salt in glyphosate compositions would have an adverse effect on the efficacy of glyphosate as the herbicide fluazifop-butyl is substantially different in its chemical structure and its mode of herbicidal action from glyphosate. Sarcosinates are themselves classified as eye irritants when in a 30% w/w aqueous solution.

Object of the Invention

It is an object of the present invention to provide a glyphosate composition which exhibits reduced irritation in particular to the eye without loss of efficacy of the herbicidal composition.

177
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- 2 -

Numerous studies have been made on the effect of additives on the herbicidal activity of glyphosate. For example Wyrill and Burnside, Weed Science, Vol 25 (1977), 275-287, examined solutions containing different classes of surfactant, including 2 and 15 oxyethylene units. Some classes of surfactant were more effective than others in enhancing the herbicidal activity of glyphosate. However, Wyrill and Burnside concluded that a surfactant is a critical component of any glyphosate spray mixture.

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35 Object of the Invention

It is an object of the present invention to provide a glyphosate composition which exhibits reduced irritation in particular to the eye without loss of efficacy of the herbicidal composition.

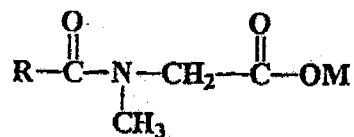
It is a further object of the present invention to significantly reduce the cost of preparation of glyphosate formulations. It is a further object of the present invention to significantly reduce the cost of such formulations in an environmentally friendly manner by the addition of lower amounts of surfactants without loss of efficacy. It is also desirable to produce a composition which does not display phytotoxicity.

Summary of the Invention

The present invention provides a herbicidal composition comprising :

(a) a herbicidally effective amount of N-phosphonomethyl glycine and/or a herbicidally active derivative of N-phosphonomethyl glycine or mixtures of N-phosphonomethyl glycine and a herbicidally active derivative of N-phosphonomethyl glycine or mixtures of derivatives of N-phosphonomethyl glycine; and

(b) an effective amount of at least one surfactant of the formula



wherein R represents an optionally substituted, saturated or unsaturated hydrocarbyl $\text{C}_1\text{-C}_{40}$ group for example an alkyl or alkenyl group having up to 40 carbon atoms, and M is H or a positively charged counter ion.

This composition with the particular combination of glyphosate and an N-acyl sarcosinate surfactant demonstrates reduced eye irritancy as compared to conventional glyphosate compositions. Surprisingly the herbicidal compositions of the present invention, utilising N-acyl sarcosinates at a much-reduced level as a percentage weight of the total formulation compared to conventional surfactants, exhibit no loss of efficacy. In glyphosate solutions, conventional surfactants are used at 6 to 17% by weight of the total formulation.

179
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The sarcosinate surfactant used in the composition of the present invention may be used at concentrations as low as 0.1% to 2% of the total formulation. The eye irritancy of such compositions has been found to be greatly reduced, which is surprising as formulations traditionally carry irritancy labels and the solvent has not been changed. The compositions of the present invention do not need to be labelled as irritants.

R preferably has 8 to 22 carbon atoms, more preferably 10 to 18 carbon atoms. R may be straight chain or branched and may be substituted with halogen, preferably Cl or F, or OH or an alkoxy group, a carboxylic acid derivative or an alcohol derivative. The alkoxy group preferably contains 1 to 8 carbon atoms, more particularly 1 to 4 carbon atoms.

M is desirably selected from the group consisting of alkalis, alkali metals and alkaline earth metals for example, sodium or potassium, or ammonium, alkylamine or aminoalcohol. Preferably the alkylamine comprises 8 to 22 carbon atoms, more preferably 10 to 18. Suitably the aminoalcohol comprises 1 to 22, preferably 2 to 18 carbon atoms. Suitably the surfactant is present from about 0.1% to 40% wt/wt of the composition. However concentrations from about 0.1% to 20%, preferably 0.1% to 5%, more preferably 0.1% to 2% by weight of the composition may be used. The composition may optionally comprise at least one additional surfactant. Additional surfactants which may be used include those used in conventional glyphosate compositions.

The invention also relates to a method of controlling weeds, said method comprising applying to the weeds and the locus in which they grow a herbicidally effective amount of a herbicidal composition described above. Another feature of the invention is a method of controlling weeds growing among a crop of glyphosate-resistant genetically engineered plants, comprising applying to the weeds and the crop a herbicidal composition described above. It is known that plants such as sugar beet which have been genetically engineered to be glyphosate-resistant are available. The herbicidal composition may be diluted with water prior to application.

Surprisingly the N-acyl sarcosinate surfactants themselves when sprayed on vegetation exhibit no phytotoxicity to the vegetation and in some instances appear to enhance growth. This is a very useful attribute

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of any surfactant particularly when a composition containing the surfactant is applied to a herbicide-resistant genetically engineered crop. For example, the composition may be diluted to a concentration that is typically sprayed from 100 - 450 g/litre acid equivalent solutions.

Detailed Description of the Invention

Glyphosate, and its herbicidally active derivatives, particularly its salts, or mixtures thereof which act as the herbicidally active ingredients of the composition of the present invention can be prepared by a variety of oxidations of phosphonoiminodiacetic acid, (PMIDA), that are well known in the art. For example, US patent number 3,954,848 discloses the production of glyphosate by the acid catalysed oxidation of PMIDA. Specifically PMIDA is mixed with water and an acid and the mixture is heated to elevated temperatures. An oxidising agent such as hydrogen peroxide is added to convert the PMIDA to glyphosate, which is subsequently isolated by precipitation. US patent 3,969,398 discloses the oxidation of PMIDA to glyphosate employing molecular oxygen in the form of air, oxygen or oxygen diluted with helium, argon, nitrogen or other inert gasses. Activated carbon is employed as a catalyst. US patent 4,147,719 discloses production of certain mono- and di-salts of glyphosate in a single aqueous reaction system by oxidising a salt of PMIDA with a molecular oxygen-containing gas in the presence of platinum supported on an activated carbon substrate. The oxidation reaction is carried out at elevated pressures ranging from 1.5 to 5 kg/cm². US patent 4,898,972 discloses the production of glyphosate by the oxidation of PMIDA using cobalt or manganese salts in the presence of bromide. US patent 4,002,672 discloses the production of glyphosate by the acid catalysis of PMIDA. PMIDA is contacted with a strong acid having a pKa of less than 2.2, at an elevated temperature so as to cause the decomposition or hydrolysis of PMIDA to N-phosphonomethyl glycine. US patent 4,696,722 discloses how the activity of a carbon catalyst can be enhanced by first removing the oxides of carbon from the surface. Any of these methods can be used to produce the glyphosate for use in compositions of the present invention.

Neutralisation of the glyphosate can be effectuated by any suitable base to form a herbicidally active derivative of glyphosate. These

181
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suitable bases include alkali metal, alkaline earth metal or ammonium hydroxides and alkyl amines. Preferred glyphosate salts upon neutralisation include the mono(trimethylamine), mono(diethylenetriamine), mono

5 n-propylamine, mono isopropylamine, mono sodium salt or mono potassium salt of N-phosphonomethyl glycine. Those skilled in the art will appreciate that the corresponding di and tri salts of N-phosphonomethyl glycine can be prepared by an appropriate increase to the amount of base added on neutralisation.

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Certain surfactants are known to act in glyphosate formulations as activators that increase the biological activity of glyphosate. Ethoxylated amines are considered by those skilled in the art to be the most effective surfactants which may be employed in glyphosate solutions (c.f. Wyril and

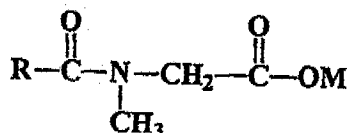
15 Burnside referenced above). Wyril and Burnside concluded in the reference given that the effectiveness of amine-containing surfactants increased with corresponding increases in the hydrophile-lypophile balance (HLB) and the degree of ethoxylation of the surfactant. As a result of these findings commercially formulated glyphosate compositions contain alkyl amine

20 ethoxylates, and in particular, tallow amine ethoxylates. In these commercial formulations the amount of surfactant added is from about 0.1% to 20%, (wt/wt), of the formulation with the actual amount depending on the particular surfactant employed.

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The activating surfactants for use in the present invention are N-acyl sarcosinates having the following general formula:

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wherein R preferably represents an alkyl or alkenyl group having from 1 to 40 carbon atoms, preferably 8 to 22 carbon atoms and more preferably 10 to 18 carbon atoms, and M is H or a positively charged ion. M functions as a counterion to balance the negative charge on the other part of the molecule.

The N-acyl sarcosinate is suitably oleoyl sarcosinate, cocyl sarcosinate or lauroyl, stearoyl or other N-acyl sarcosinates having long unsaturated (C₈-C₂₂) carbon chain.

182
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To prepare the composition of the present invention, the surfactant (N-acyl sarcosinate) may be incorporated into the formulation prior to neutralisation of the glyphosate acid with isopropyl amine or any suitable base. Alternatively, the N-acyl sarcosinate can be added to a glyphosate or glyphosate salt solution. Subsequent adjustment of the pH with a suitable base such as isopropyl amine can be conducted. Alternatively, the surfactant and a suitable base such as isopropylamine can be admixed prior to addition to the glyphosate solution.

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Concentrated liquid compositions can be prepared by simple mixing operations. However it will also be obvious to those familiar with the art that solid powder or granular formulations can also be prepared by simple mixing of glyphosate or an active derivative of glyphosate or mixtures of glyphosate and/or mixtures of active derivatives of glyphosate with a solid surfactant.

15

Apart from the aforementioned additives the compositions according to the present invention can contain other components, in particular one or more other surfactants, formulation agents, anti-foams, corrosion inhibitors, sequesterants, penetrating agents, antifreezes and adhesives.

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By way of illustration, given without implied limitation, examples according to the invention, as well as examples of use of these solutions are given below.

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Example 1:

To 77.70g of 62% mono-isopropyl amine salt of glyphosate was added 2.28g of Oleoyl sarcosinate (Hamposyl O (TM) available from Hampshire Chemical Corporation, Teeside, UK). 34.55g of water was charged under agitation. The solution was neutralized to a pH of 5.60 with isopropylamine. The solution was observed to be stable.

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Example 2:

To 77.70g of 62% mono-isopropyl amine salt of glyphosate was added 2.1g of

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Cocoyl sarcosinate (Hamposyl C (TM) available from Hampshire Chemical Corporation, Teeside, UK). 34.00g of water was charged under agitation and the solution was neutralised to a pH of 5.2 with isopropyl amine (98%).

5 The solution was observed to be stable.

Example 3:

10 To 77.70g of 62% mono-isopropyl amine salt of glyphosate was added 2.3g of Cocoyl sarcosinate isopropyl amine salt under agitation. 34.00g of water was charged under agitation and the solution was found to be clear and stable.

Example 4:

15 To 77.70g of 62% mono-isopropyl amine salt of glyphosate was added 2.3g of Oleoyl sarcosinate isopropyl amine salt under agitation. 34.00g of water was charged under agitation and the solution was found to be clear and stable.

20 Example 5:

The solution from example 4 was diluted to 1% glyphosate acid equivalent solution. This was done to get approximately the same concentrations as in
25 commercially available glyphosate formulations (i.e. 0.1 kg of glyphosate acid was applied per acre) and sprayed on four 20X10 ft plots of mixed broad leaf weeds and grasses to evaluate the performance of the herbicide. A commercial formulation available from Monsanto Inc. under the trade mark Round Up and also containing glyphosate as an active herbicidal ingredient
30 at a concentration of 360g per litre acid equivalent was similarly diluted to the same active concentration and sprayed on another 20X10 ft plot. A sample of oleoyl sarcosinate isopropylamine salt alone, (without the addition of glyphosate), but similarly diluted with water was also sprayed on a separate 20X10 ft plot at the same concentration as the solution of
35 Example 4. Percentage chlorosis and % dry weight was estimated for each plot the results of which are listed in Table I. The percentage chlorosis was based on the observed yellowing of the weeds/grass of the plot. The solution from example 4 showed herbicidal activity comparable to the commercial

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

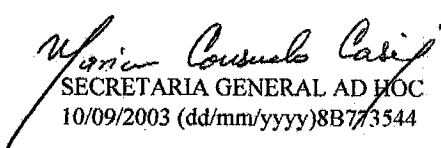
Expediente 3 1675

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 271988

DATOS DEL SIGNO

Marca nominativa	KLYNVELD PEAT MARWICK GOERDELER
PARA DISTINGUIR	SEGUROS; NEGOCIOS FINANCIEROS; NEGOCIOS MONETARIOS; NEGOCIOS INMOBILIARIOS. Servicios comprendidos en la clase 36 de la Octava Edición de la Clasificación Internacional de Niza.
Vigencia	Desde 14/08/2003 Hasta 14/08/2013
Titular	KPMG INTERNATIONAL
Domicilio	ZURICH SUIZA LIMMATQUAI 3 8001


SECRETARIA GENERAL AD HOC
10/09/2003 (dd/mm/yyyy)8B773544

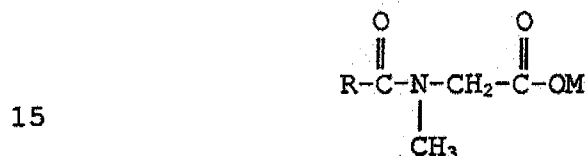
El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

184
176CLAIMS

1. A herbicidal composition comprising:

5 (a) a herbicidally effective amount of N-phosphonomethyl glycine and/or one or more herbicidally active derivatives thereof; and

(b) an effective amount of at least one
10 surfactant of the formula



wherein R represents an optionally substituted saturated or unsaturated C₁ - C₄₀ hydrocarbyl group and
20 M is H or a positively charged counter ion.

2. A herbicidal composition according to claim 1, wherein R has 8 to 22 carbon atoms, preferably 10 to 18 carbon atoms, and/or M is selected from alkalis, alkali
25 metals, such as sodium or potassium, alkaline earth metals, ammonium, alkylamines and aminoalcohols.

3. A herbicidal composition according to claim 1 or 2, wherein R is alkyl or alkenyl.

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4. A herbicidal composition according to any of claims 1 to 3, wherein the surfactant is oleoyl, cocyl, lauroyl, stearoyl or other N-acyl sarcosinate having an unsaturated C₈ to C₂₂ carbon chain.

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REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 3 1674

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 271989

DATOS DEL SIGNO

Marca nominativa	KLYNVELD PEAT MARWICK GOERDELER
PARA DISTINGUIR	GESTION D ENEGOCIOS COMERCIALES; TRABAJOS DE OFICINA. Servicios comprendidos en la clase 35 de la Octava Edición de la Clasificación Internacional de Niza.
Vigencia	Desde 14/08/2003 Hasta 14/08/2013
Titular	KPMG INTERNATIONAL
Domicilio	ZURICH SUIZA LIMMATQUAI 3 8001


SECRETARIA GENERAL AD HOC
10/09/2003 (dd/mm/yyyy)0F1865E8

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

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4. A herbicidal composition according to any of claims 1 to 3, wherein the surfactant is oleoyl, cocyl, lauroyl, stearoyl or other N-acyl sarcosinate having an unsaturated C₈ to C₂₂ carbon chain.

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5. A herbicidal composition according to any of claims 1 to 4, wherein the surfactant is present from about 0.1% to about 40% wt/wt of the composition.

10 6. A herbicidal composition according to claim 5, wherein the surfactant is present from about 0.1% to 20% wt/wt of the composition.

15 7. A herbicidal composition according to claim 6, wherein the surfactant is present from about 0.1% to 5%, preferably from about 0.1% to 2% wt/wt of the composition.

20 8. A herbicidal composition according to any preceding claim, further comprising at least one additional surfactant, and optionally one or more of formulation agents, anti-foams, corrosion inhibitors, sequestrants, stabilizers, penetrating agents, anti-freezes and adhesives.

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9. A method of controlling weeds, said method comprising applying to the weeds and/or the locus in which they grow a herbicidally effective amount of a composition according to any preceding claim.

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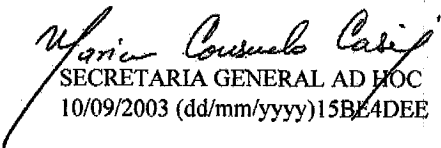
Expediente 3 1673

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 271990

DATOS DEL SIGNO

Marca nominativa	KLYNVELD PEAT MARWICK GOERDELER
PARA DISTINGUIR	PRODUCTOS DE IMPRENTA, PAPELERIA, MATERIAL DE INSTRUCCION O DE ENSEANZA. Productos comprendidos en la clase 16 de la Octava Edición de la Clasificación Internacional de Niza.
Vigencia	Desde 14/08/2003 Hasta 14/08/2013
Titular	KPMG INTERNATIONAL
Domicilio	ZURICH SUIZA LIMMATQUAI 3 8001


SECRETARIA GENERAL AD HOC
10/09/2003 (dd/mm/yyyy)15BE4DEE

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10. A method of controlling weeds growing among a
crop of glyphosate resistant genetically engineered
plants, comprising applying to the weeds and the crop
5 and/or the locus in which they grow a herbicidal
composition according to any of claims 1 to 8.

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SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 3 1670

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 271991

DATOS DEL SIGNO

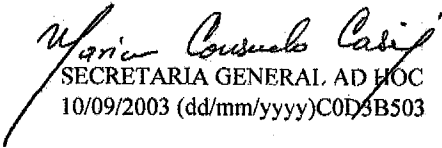
Marca nominativa KLYNVELD PEAT MARWICK GOERDELER

PARA DISTINGUIR APARATOS PARA EL REGISTRO, TRANSMISION, REPRODUCCION DEL SONIDO O IMAGENES; SOPORTES DE REGISTRO MAGNETICOS, DISCOS ACUSTICOS.
Productos comprendidos en la clase 9 de la Octava Edición de la Clasificación Internacional de Niza.

Vigencia Desde 14/08/2003 Hasta 14/08/2013

Titular KPMG INTERNATIONAL

Domicilio ZURICH
SUIZA
LIMMATQUAI 3 8001


SECRETARIA GENERAL AD HOC
10/09/2003 (dd/mm/yyyy)C0D3B503

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US005683958A

United States Patent [19]
Berger et al.**[11] Patent Number:** 5,683,958
[45] Date of Patent: Nov. 4, 1997**[54] SURFACTANTS MIXTURES****[75] Inventors:** Paul D. Berger, Sugar Land; Antonio M. Jimenez, Missouri, both of Tex.**[73] Assignee:** Monsanto Company, St. Louis, Mo.**[21] Appl. No.:** 455,929**[22] Filed:** May 31, 1995**Related U.S. Application Data****[63]** Continuation of Ser. No. 358,274, Dec. 19, 1994, which is a continuation-in-part of Ser. No. 101,214, Aug. 4, 1993, abandoned, which is a continuation of Ser. No. 565,816, Aug. 9, 1990, abandoned.**[51] Int. Cl.⁶** A01N 25/30**[52] U.S. Cl.** 504/116; 252/355; 252/367; 252/357; 71/DIG. 1**[58] Field of Search** 504/116; 71/DIG. 1; 252/367, 355, 357**[56] References Cited****U.S. PATENT DOCUMENTS**

3,117,152	1/1964	Michaels	260/461
3,799,758	3/1974	Franz	71/86
4,313,847	2/1982	Chasin et al.	252/356
4,770,694	9/1988	Iwasaki et al.	71/93
4,844,734	7/1989	Iwasaki et al.	71/120
4,853,026	8/1989	Frisch et al.	71/86
4,912,245	3/1990	Girardeau et al.	558/113

4,976,769	12/1990	Iwasaki	71/86
5,043,008	8/1991	Iwasaki	71/86
5,047,079	9/1991	Djafar et al.	71/86
5,078,782	1/1992	Nielsen et al.	71/100
5,139,152	8/1992	Hodakowski et al.	206/524.7
5,180,414	1/1993	Darchy et al.	504/206
5,198,012	3/1993	Iwasaki	504/344

FOREIGN PATENT DOCUMENTS

0255760	10/1988	European Pat. Off.	25/14
2157952	11/1985	United Kingdom	57/12
0290416	9/1988	United Kingdom	25/30

Primary Examiner—S. Mark Clardy**Assistant Examiner**—Brian G. Bembnick**Attorney, Agent, or Firm**—Stanley M. Tarter; Arnold, White & Durkee**[57] ABSTRACT**

There are provided compositions of certain polyoxyalkylene alkylamine surfactants having eye irritation reduced by the addition of an effective amount of a sulfated polyoxyalkylene alkylphenol, alcohol sulfate, polyoxyalkylene alcohol sulfate, mono- or dialcohol phosphate mono- or di-(polyoxyalkylene alcohol) phosphate, mono- or di-(polyoxyalkylene alkylphenol) phosphate, polyoxyalkylene alkylphenol carboxylate or polyoxyalkylene alcohol carboxylate surfactant. Also provided are pesticidal, particularly herbicidal, compositions comprising polyoxyalkylene alkylamine surfactants having eye irritation reduced by addition of these eye irritation reducing compounds.

16 Claims, No Drawings

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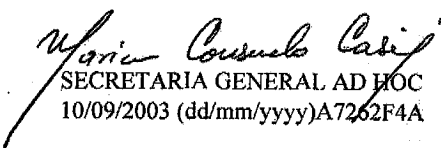
Expediente 3 1655

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 271995

DATOS DEL SIGNO

Marca nominativa	KLYNVELD PEAT MARWICK GOERDELER
PARA DISTINGUIR	SERVICIOS JURIDICOS; ASESORIA JURIDICA. Servicios comprendidos en la clase 42 de la Octava Edición de la Clasificación Internacional de Niza.
Vigencia	Desde 14/08/2003 Hasta 14/08/2013
Titular	KPMG INTERNATIONAL
Domicilio	ZURICH SUIZA LIMMATQUAI 3 8001


SECRETARIA GENERAL AD HOC
10/09/2003 (dd/mm/yyyy)A7262F4A

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188
1801
SURFACTANTS MIXTURES

CROSS-REFERENCE TO RELATED APPLICATION

This application is a Continuation of U.S. Ser. No. 08/358,274 filed Dec. 19, 1994, now pending, which is a Continuation-in-Part of U.S. Ser. No. 08/101,214 filed Aug. 4, 1993, now abandoned, which is a Continuation of U.S. Ser. No. 07/565,816 filed Aug. 9, 1990, now abandoned.

BACKGROUND OF THE INVENTION

The present invention generally relates to novel surfactant compositions, their preparation and to compositions containing these novel surfactant compositions, together with a pesticide, particularly a herbicide. More particularly, an important aspect of this invention is directed to surfactant compositions having reduced eye irritancy which are useful in the preparation of herbicidal compositions having reduced eye irritation properties in addition to their herbicidal effectiveness. In this regard, a further important aspect of the present invention concerns surfactant compositions which are effective in the formulation of glyphosate-containing herbicidal compositions or pesticidal compositions of other water soluble active ingredients. A method of using the herbicidal compositions is also provided.

Numerous organic pesticides; i.e., chemicals that are useful in the control of bacteria, insects, fungi, weeds and the like, have been developed in recent years. These pesticides, especially herbicides, have found use in agriculture, as well as for household applications. Regardless of whether the pesticide is water soluble or water insoluble, it is desirable to use the same in an aqueous medium rather than in a non-aqueous solvent which is more difficult to use by the formulator and applicator, could cause environmental damage, is more costly and is in general less desirable. Water-based dispersions, emulsions and/or solutions can be prepared from most pesticides using selected surfactants. Proper selection of the surfactant can also improve the efficacy of pesticidal compositions.

Surfactants are useful in the preparation of herbicidal compositions whether the herbicide is water soluble or insoluble. When the herbicide is water insoluble, the surfactant can be used to make a water dispersible herbicide composition. When the herbicide is water soluble, the surfactant can often be used to improve the herbicidal effectiveness of the herbicidal composition.

One class of surfactants that has found success in the preparation of herbicidal compositions includes the polyoxyalkylene alkylamines such as, for example, ethoxylated tallowamine. These compounds have the necessary surface activity so that many otherwise water insoluble herbicides, as well as water soluble herbicides, can be formulated into concentrates which will form useful dispersions, emulsions and solutions in water. Herbicides formulated into dispersions, emulsions and solutions using these surfactants often have improved herbicidal properties. This class of surfactants is well known to potentiate the herbicidal activity of glyphosate.

While the polyoxyalkylene alkylamine compounds have excellent surfactant properties which often enhance the efficacy of phytotoxicants, they unfortunately are eye irritants and must be used with a high degree of caution.

Reducing or eliminating the eye irritancy of the polyoxyalkylene alkylamine surfactants used with pesticides, without reducing the efficacy of the pesticidal compositions

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containing the surfactants, is a highly desirable end. The protection of the applicator and personnel preparing the surfactant and pesticidal compositions from eye damage is of paramount importance. Reducing the eye irritancy of the surfactant and pesticidal compositions containing the surfactant, increases the use that can be made of such products while lessening the possibility of injury to personnel handling and using them.

In order to obtain surfactant compositions having the desired characteristics needed for use with the numerous pesticides on the market, various combinations of surfactants have been previously made.

U.S. Pat. No. 4,313,847 describes three component surfactant compositions including a polyoxyalkylene alkyl or alkylaryl ether phosphate ester, a polyoxyalkylene alkylamine and a material selected from the group consisting of nonionic polyoxylated surfactants, polyhydric alcohol esters and polyoxyalkylene glycols. According to this patent, the three component composition is an improved emulsifier enhancing the use of an emulsion containing a water insoluble herbicide.

Combinations of emulsifiers are also shown in the following patents: U.S. Pat. No. 2,872,368 discloses a polyoxyethylene glycol or a polyoxypropylene glycol in combination with an oil soluble alkaline earth metal salt of an alkylated naphthalene sulfonic acid; U.S. Pat. No. 3,683,078 discloses emulsifier compositions having three components: 1) the condensation product of an alkylphenol and an alkylene oxide, 2) a sulfonate salt and 3) a polyoxyalkylene derivative of an alkanol; and U.S. Pat. No. 3,071,550 discloses selected sulfonates in combination with an aliphatic diester of unsaturated carboxylic acids and the condensation product of glycerin and from about 15 to about 27 moles of ethylene oxide.

As stated in British Patent No. 769,736, due to the diverse nature of pesticides, the selection of the proper emulsifying agent in any particular instance is difficult. This patent shows combinations of a surface active alkylaryl polyoxyalkylene glycol ether and a water soluble salt of a phosphate or sulfate ester as one of the ethers. This British patent, like the preceding patents, shows the continuing need for a multitude of surfactants many of which are obtained by combinations of known materials.

It is known to formulate aqueous solutions of the herbicide glyphosate and sulfated nonalkoxylated C₈-C₁₀ alkyl alcohol surfactants. Such herbicidal compositions have been sold by Monsanto Company of St. Louis, Mo., for example, under the trademark PONDMASTER.

None of the foregoing patents discusses the problem of surfactants being eye irritants. Yet this is an important factor which must be taken into consideration when preparing and using compositions containing polyoxyalkylene alkylamine surfactants. Thus, there exists an important need for such compositions having reduced eye irritancy without sacrifice of pesticidal activity.

Perhaps the most widely used herbicide worldwide is glyphosate, which chemically is N-phosphonomethylglycine. This product is normally used in an agriculturally acceptable form, such as a water soluble salt; e.g., the isopropylamine salt. For certain commercial uses glyphosate is made into a herbicidal concentrate composition containing a surfactant, which can then be diluted with water for use by the applicator. Often used surfactants for the preparation of these compositions are the aforementioned polyoxyalkylene alkylamines, especially ethoxylated tallowamine. European Patent 290,416 discloses combina-

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ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 271996

DATOS DEL SIGNO

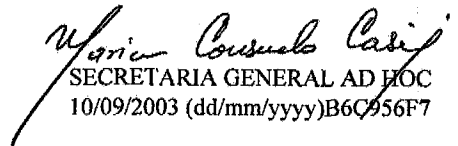
Marca nominativa KPMG

PARA DISTINGUIR SEGUROS; NEGOCIOS FINANCIEROS; NEGOCIOS MONETARIOS; NEGOCIOS
INMOBILIARIOS.
Servicios comprendidos en la clase 36 de la Octava Edición de la Clasificación Internacional de Niza.

Vigencia Desde 14/08/2003 Hasta 14/08/2013

Titular KPMG INTERNATIONAL

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SECRETARIA GENERAL AD HOC
10/09/2003 (dd/mm/yyyy)B6C956F7

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tions of solubilized glyphosate, equivalent to at least 40 grams per liter of glyphosate acid, and alkoxylated alkylamine surfactants in a ratio of the solubilized glyphosate (expressed as glyphosate acid equivalent) to amine surfactant of from about 1:1.75 to about 6:1. According to this European Patent, the compositions permit a reduction in the surfactant to glyphosate ratio without loss of herbicidal effectiveness. Clearly, the use of compositions containing glyphosate and alkoxylated tallowamine having reduced eye irritation is of considerable importance. The invention described herein presents a method of improving the highly desirable properties of such compositions.

The U.S. Environmental Protection Agency requires that currently commercial aqueous concentrate glyphosate herbicide solutions having an alkoxylated alkylamine surfactant be labelled to contain a precautionary statement that the solution can cause eye burns. To remedy or ameliorate this hazard is a desideratum of long standing.

It is therefore an object of the present invention to provide new compositions containing an alkoxylated alkylamine surfactant.

Another object of the present invention is to provide such surfactant-containing compositions that can be used to prepare pesticidal compositions, particularly herbicidal compositions having significantly reduced eye irritancy.

Another object of the present invention is to provide new methods for the preparation of compositions containing an alkoxylated alkylamine surfactant and having reduced eye irritancy.

Another object of the present invention is to provide compositions of the herbicide glyphosate having agriculturally acceptable herbicidal efficacy and reduced eye irritancy.

Another object of the present invention is to provide new methods for controlling the growth of weeds and other vegetation.

Other objects of the present invention will become apparent from the following description.

SUMMARY OF THE INVENTION

The present invention is directed to a surfactant composition comprising a polyoxyalkylene alkylamine having at least about 2 moles of an alkylene oxide group and reduced eye irritancy. An important embodiment of this invention is a surfactant composition comprising a polyoxyalkylene alkylamine containing at least about 2 moles of an alkylene oxide group and any of a range of eye irritation reducing compounds, such as sulfated polyoxyalkylene alkylphenol; alcohol sulfates; polyoxyalkylene alcohol sulfates; mono- and dialcohol phosphates; mono- and di- (polyoxyalkylene alcohol) phosphates; mono- and di- (polyoxyalkylene alkylphenol) phosphates; polyoxyalkylene alkylphenol carboxylates or polyoxyalkylene alcohol carboxylates, said eye irritation reducing compounds containing up to about 60 moles of an alkylene oxide group and alkyl and alcohol groups having from about 8 to about 20 carbon atoms.

A glycol can be present in the surfactant composition in order to improve the solubility of the surfactant composition. The glycol can be formed in situ during the preparation of the polyoxyalkylene alkylamine, or the glycol can be added to the amine or the surfactant composition.

Also the present invention contemplates pesticidal compositions, particularly herbicidal compositions, comprising a pesticide such as a herbicide and the aforedescribed surfactant composition. These compositions are readily dispersible in water so as to prepare aqueous compositions useful for the control of weeds, insects, fungi and the like.

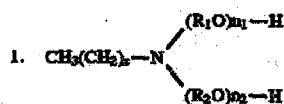
In accordance with a preferred embodiment of the present invention an aqueous solution is provided which comprises a herbicidally effective amount of a glyphosate herbicide, either in the acid or salt form, whose herbicidal effectiveness is enhanced by the presence of a potentiating effective amount of a oxyalkylene alkylamine surfactant, and whose eye irritancy caused by the presence of said alkylamine surfactant in the solution is reduced by incorporating an eye irritation reducing amount of an anionic surfactant.

DETAILED DESCRIPTION OF THE INVENTION

The surfactant compositions of the present invention comprise a polyoxyalkylene alkylamine having at least about 2 moles of an alkylene group, said surfactant composition having an eye irritancy lower than the eye irritancy of said polyoxyalkylene alkylamine.

One method for reducing the eye irritancy of the polyoxyalkylene alkylamine is to blend it with an effective amount of an eye irritation reducing compound. Examples of compounds useful for this purpose are sulfated polyoxyalkylene alkylphenol; alcohol sulfates; polyoxyalkylene alcohol sulfates; mono- and dialcohol phosphates; mono- and di- (polyoxyalkylene alcohol) phosphates; mono- and di- (polyoxyalkylene alkylphenol) phosphates; polyoxyalkylene alkylphenol carboxylates or polyoxyalkylene alcohol carboxylates, said eye irritation reducing compounds containing up to about 60 moles of an alkylene oxide group and alkyl and alcohol groups having from about 8 to about 20 carbon atoms.

The present invention more specifically provides an aqueous or water soluble composition comprising one or more salts of glyphosate in a herbicidally effective amount. The composition contains an amine surfactant having the chemical structure



wherein x is a number from 7 to about 19, n_1 and n_2 are numbers independently selected from 1 to about 30, the average sum of n_1 and n_2 is greater than 2, and R_1 and R_2 are C_2 - C_4 alkylene radicals. The amine surfactant is present in an amount sufficient to potentiate the glyphosate herbicidal activity. Also present in the composition is an acidic compound having the chemical structure



wherein R_3 is C_8 - C_{20} alkyl or C_8 - C_{20} alkylphenyl, R_4 is a C_2 - C_4 alkylene radical, m is a number from 0 to about 60, and X_1 is selected from the group consisting of carboxylate, sulfate and phosphate radicals. The acidic compound is present in a sufficient amount to reduce the eye irritancy of the composition caused by the presence of the amine surfactant component to an acceptable level.

The present invention is directed to a surfactant composition comprising a polyoxyalkylene C_8 - C_{20} alkylamine surfactant having at least about 2-4 moles of a C_2 - C_4 alkylene oxide group and reduced eye irritancy. An important embodiment of this invention is a surfactant composition comprising a polyoxyalkylene alkylamine surfactant containing at least about 2-4 moles of an alkylene oxide group and an effective amount of at least one eye irritation reducing compound, such as sulfated polyoxyalkylene alky-

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ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 271997

DATOS DEL SIGNO

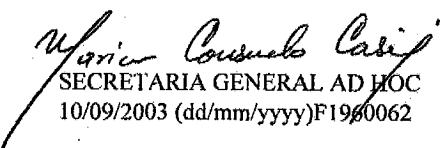
Marca nominativa KPMG

PARA DISTINGUIR EDUCACION, FORMACION, ACTIVIDADES CULTURALES.
Servicios comprendidos en la clase 41 de la Octava Edición de la Clasificación Internacional de Niza.

Vigencia Desde 14/08/2003 Hasta 14/08/2013

Titular KPMG INTERNATIONAL

Domicilio ZURICH
 SUIZA
 LIMMATQUAI 3 8001


SECRETARIA GENERAL AD HOC
10/09/2003 (dd/mm/yyyy)F19#0062

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

lphenol; alcohol sulfates; polyoxyalkylene alcohol sulfates; mono- and dialcohol phosphates; mono- and di- (polyoxyalkylene alcohol) phosphates; mono- and di- (polyoxyalkylene alkylphenol) phosphates; polyoxyalkylene alkylphenol carboxylates or polyoxyalkylene alcohol carboxylates, said eye irritation reducing compounds containing up to about 60 moles of a C₂-C₄ alkylene oxide group and alkyl and alcohol groups having from about 8 to about 20 carbon atoms.

A glycol and/or polyalkylene glycol can be present in the surfactant composition in order to improve the water solubility of the surfactant composition and to suppress gelation of the surfactant composition in concentrated form. The glycol or polyglycol can be formed in situ during the preparation of the polyoxyalkylene alkylamine, or the glycol or polymeric glycol can be added to the amine or the surfactant composition.

Also, the present invention contemplates pesticidal compositions, particularly herbicidal compositions, comprising a pesticide, such as a herbicide and the afore-described surfactant composition having reduced eye irritancy. These compositions are readily dispersible or soluble in water so as to prepare aqueous-based compositions useful for the control of weeds, insects, fungi and the like.

In soaps, detergents and abrasives used for cleansing the skin on various portions of the body, anionic surfactants when used in such compositions are known to be adsorbed and thereby remain on the skin surface to cause dryness and scaling of the epidermis, or skin chapping and roughness.

With the alkoxyalkylated alkylamine surfactants known to cause eye irritation in glyphosate-containing aqueous solutions and with the just discussed known drawbacks of anionic surfactants on skin, it is surprising and unexpected that the addition of an effective amount of anionic surfactants to the aqueous solutions of alkoxyalkylated alkylamine surfactant would ameliorate the eye irritation thereof.

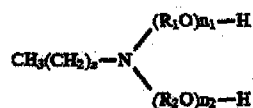
In accordance with the present invention, one method for reducing the eye irritancy of the polyoxyalkylene alkylamine is to blend such amine with an effective amount of an eye irritation reducing compound. Examples of compounds useful for this purpose are sulfated polyoxyalkylene alkylphenol; alcohol sulfates and polyoxyalkylene alcohol sulfates; mono- and dialcohol phosphates; mono- and di- (polyoxyalkylene alcohol) phosphates; mono- and di- (polyoxyalkylene alkylphenol) phosphates; polyoxyalkylene alkylphenol carboxylates and polyoxyalkylene alcohol carboxylates, including mixtures thereof, said eye irritation reducing compound containing up to about 60 moles of an alkylene oxide group and alkyl and alcohol groups having from about 8 to about 20 carbon atoms.

In many but not all embodiments of the present invention, both components of the surfactant composition are polyoxyalkylene derivatives. Such materials are often referred to as an alkoxyalkylated product or an alkylene oxide product. Often these alkylene oxide products are mixtures of compounds containing different numbers of alkylene oxide groups, of which one may predominate, being accompanied by smaller proportions of products containing larger and smaller numbers of the alkylene oxide groups in the polyoxyalkylene portion of the molecule.

The polyoxyalkylene alkylamine surfactants are commercially available materials, being used as surfactants for the preparation of pesticidal compositions, particularly herbicidal compositions wherein the alkylamine enhances the activity of the herbicide. Glyphosate is one example where the alkylamines notably enhance or potentiate the herbicidal

activity thereof. These amine surfactants can be prepared by reacting under suitable conditions, preferably in the presence of a catalyst, an alkylene oxide, preferably ethylene and/or propylene oxide with a long chain alkylamine, preferably an alkylamine containing from about 8 to about 20 carbon atoms. The oxyalkylated moiety can be a random or block copolymer of ethylene and propylene oxide units. These C₈-C₂₀ alkyl primary amines may be derived from naturally occurring products such as tallow, coconut, soybean or cotton seed oils and as such are mixtures of amines. A preferred amine is tallowamine. The polyoxyalkylene derivatives thereof are prepared by reacting alkylene oxide with the selected alkylamine at elevated temperatures and pressure. Procedures for carrying out these reactions are known to those skilled in the art.

A generalized structural representation of the polyoxyalkylene alkylamines is depicted as follows:



wherein x is a number from about 7 to about 19; n₁ and n₂ are numbers independently selected from 1 to about 30, and the average sum of n₁ and n₂ is 2 or greater and may be as high as 60; and R₁ and R₂ are independently selected from lower alkylene, having from 2 to about 4 carbon atoms, preferably 2 carbon atoms. The amount of alkylamine surfactant will be sufficient to potentiate the activity of the selected pesticide.

The amount of alkylene oxide used in the preparation of this component of the surfactant composition varies with the ultimate use of the surfactant composition. Normally, up to about 60 moles of oxyalkylene groups in the polyoxyalkylene alkylamine are satisfactory, with from about 4 to about 20 moles being preferred, and from about 8 to about 13 moles of oxyalkylene groups being most preferred.

Sulfated polyoxyalkylene alkylphenols can be prepared by first alkoxyating an alkylphenol and then reacting the alkoxyalkylated alkylphenol with a suitable quantity of sulfur trioxide. One procedure for such preparation is to contact a mixture of air and sulfur trioxide with the selected alkoxyalkylated alkylphenol in a falling film reactor. Other procedures that may be used include reactions with oleum or with chlorosulfonic acid. This reaction will cause the formation of sulfate groups as a terminal group on the alkoxyalkylated portion of the molecule and often some sulfonate groups substituted on the phenyl moiety. The preparation of the sulfated polyoxyalkylene alkylphenol can produce product having from 0 to 30 or more weight percent of the sulfated polyoxyalkylene alkylphenol having sulfonate groups on the phenyl moiety. For many purposes it is preferred that at least about 3 weight percent of the sulfated polyoxyalkylene alkylphenol be sulfonated.

In the acid form the sulfated polyoxyalkylene alkylphenols are inherently unstable under normal conditions. The adverse effects of such instability can be avoided by mixing the sulfated polyoxyalkylene alkylphenols shortly after their production with the alkylamine surfactant. The mixing results in the formation of a stable salt of the two components. If it is desired to mix the two components at a time significantly later than the production of the sulfated polyoxyalkylene alkylphenol, a stable composition can be made and can be stored for some time before mixing. For example, alkali metal salts and amine salts of the sulfated polyoxyalkylene alkylphenol surfactants are more stable as compared to such surfactants in acid form.

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Expediente 2 114966

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 271998

DATOS DEL SIGNO

Marca mixta COLBONCITO (LAS DEMAS EXPRESIONES IRAN COMO EXPLICATIVAS)

Colbón
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PARA DISTINGUIR PAPEL, CARTON Y ARTICULOS DE ESTAS MATERIAS NO COMPRENDIDOS EN OTRAS CLASES; PRODUCTOS DE IMPRENTA; ARTICULOS DE ENCUADERNACION; FOTOGRAFIAS; PAPELERIA; ADHESIVOS (PEGAMENTOS) PARA LA PAPELERIA O LA CASA; MATERIAL PARA ARTISTAS; PINCELES; MAQUINAS DE ESCRIBIR Y ARTICULOS DE OFICINA (EXCEPTO MUEBLES); MATERIAL DE INSTRUCCION O DE ENSEMANZA (EXCEPTO APARATOS); MATERIAS PLASTICAS PARA EMBALAJE (NO COMPRENDIDAS EN OTRAS CLASES).
Productos comprendidos en la clase 16 de la Octava Edición de la Clasificación Internacional de Niza.

Vigencia Desde 25/08/2003 Hasta 25/08/2013

Titular TECNOQUIMICAS S.A.

Domicilio CALI, VALLE DEL CAUCA
COLOMBIA
CALLE 23 NO. 7-39

María Consuelo Casip
SECRETARIA GENERAL AD HOC
10/09/2003 (dd/mm/yyyy)DD093C2A

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

A generalized structural representation of the predominant component of the sulfated polyoxyalkylene alkylphenol optionally containing ring sulfonation is as follows:



wherein m is a number up to about 60, preferably less than 10 and more preferably about 4, R is alkylene having from 2 to about 4 carbon atoms, preferably 2, and R^1 is alkyl having about 8 to about 20 carbon atoms, preferably 9-15 carbon atoms. The amount of sulfated polyoxyalkylene alkylphenol compound in the composition should be sufficient to reduce the eye irritation of the alkylamine surfactant. It is preferred that at least 3% of the sulfated polyoxyalkylene alkylphenol compound be ring sulfonated. The broken line in the above formula indicates that the ring sulfonation is optional and, if sulfonated, the sulfonate substituent normally is in the meta or ortho position with respect to R^1 . Eye irritation reduction can be obtained without the compound having been ring sulfonated.

The amount of alkylene oxide used in the preparation of this component of the surfactant composition varies with the ultimate use of the surfactant composition. Normally, there can be up to about 30 or more moles of alkylene oxide in the sulfated polyoxyalkylene alkylphenol. For certain agricultural applications it is preferred to have from about 4 to about 14 or more moles of the alkylene oxide units. For specific uses it is preferred that there be present less than 10 moles of alkylene oxide groups and preferably about 4 moles of alkylene oxide groups, most preferably about 4 moles of ethylene oxide in the sulfated polyoxyalkylene alkylphenol having at least 3% sulfonation.

The alkyl group in the alkylphenol moiety can comprise from about 8 to about 20 carbon atoms. A preferred alkyl is nonyl due to the availability and properties of surfactants having this moiety. It should be understood that for specific applications, alkylphenol moieties containing more or fewer carbon atoms can be used.

In order to obtain the desired results, of the total sulfated polyoxyalkylene alkylphenol preferably at least about 3 weight percent have sulfonate substituents. The sulfonated component can comprise up to 30 weight percent or more of the total alkylphenol. For certain applications the sulfated polyoxyalkylene compounds of which about 15 weight percent have sulfonate substituents can be effectively used in the present surfactant compositions.

Other eye irritant reducing compounds can also be used to reduce the eye irritancy of the polyoxyalkylene alkylamines. Alcohol sulfates and polyoxyalkylene alcohol sulfates having from about 8 to 18 carbon atoms and up to about 12 moles of alkoxyalkylene group are particularly useful. As with the sulfated polyoxyalkylene alkylphenol and the polyoxyalkylene alkylamines, it is preferred that the alkylene oxide groups in the polyoxyalkylene alcohol sulfates be ethylene oxide groups. Oxyalkylene groups from 2 to about 4 carbon atoms are often used. While there can be 30 or more moles of an oxyalkylene group in the polyoxyalkylene alcohol sulfate, polyoxyalkylene alcohol sulfate preferably contains about 3 moles of alkylene oxide groups, preferably 3 moles of ethylene oxide groups.

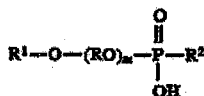
Mono- and dialcohol phosphates; mono- and di-(polyoxyalkylene alcohol) phosphates; mono- and di-(polyoxyalkylene alkylphenol) phosphates; polyoxyalkylene alkylphenol carboxylates and polyoxyalkylene alcohol carboxylates are additional eye irritant reducing compounds

that can be used to reduce the eye irritancy of the polyoxyalkylene alkylamines.

These compounds can contain from about 8 to about 20 carbon atoms in their alkyl and alcohol groups and up to about 30 moles of alkylene oxide, preferably ethylene oxide, in each polyoxyalkylene alcohol or polyoxyalkylene alkylphenol group. As with the sulfated polyoxyalkylene alkylphenol, it is preferred that the polyoxyalkylene alkylphenol phosphates and carboxylates be polyoxyethylene nonylphenol phosphates and polyoxyethylene nonylphenol carboxylates.

These carboxylate and phosphate components are available materials which can be readily prepared by methods known in the art. As one example of such a procedure, the phosphates can be obtained by reacting a suitable polyoxyalkylene alkylphenol with phosphorus pentoxide or polyphosphoric acid. The selection of the exact components and their amounts depends on the identification of the desired phosphate. By varying the components used in the preparation of the phosphate, it is possible to maximize the presence of mono- or diester. Often the phosphates are mixtures of the mono- and diesters. The preference for the mono- or diester of phosphoric acid depends upon variables such as the ultimate use of the surfactant composition, the identity of the pesticide, the intended use of the pesticide composition and other factors. U.S. Pat. No. 4,313,847 describes the preparation of the phosphates.

The mono- and dialcohol phosphates, mono- and di-(polyoxyalkylene alcohol) phosphates and the mono- and dialcohol phosphates, (polyoxyalkylene alkylphenol) phosphates useful in accordance with the present invention are represented by the following general formula.



wherein R^1 is C_8-C_{20} alkyl or C_8-C_{20} alkylphenyl; R is an alkylene having from 2 to about 4 carbon atoms, usually ethylene or propylene, m is zero or a number up to about 60, preferably less than 10 and more preferably about 4, and R^2 is hydroxyl or the $R^1-O-(RO)_m$ radical wherein R^1 , R , and m are as just indicated. If R^2 is hydroxyl, then the compound is a monoester. If R^2 is a $R^1-O-(RO)_m$ radical, then the compound is a diester. Mixtures of monoesters and diesters are also useful, together with the polyoxyalkylene alkylamines.

Certain of the eye irritant reducing components of the present surfactant compositions are commercial materials. For example, nonylphenol phosphate containing 4 moles of ethylene oxide, C_8-C_{10} alcohol phosphates and sulfated nonylphenol containing 4 moles of ethylene oxide have been marketed by Witco Corp. under the names EMPHOS CS-121, EMPHOS PS-400, and WITCONATE D-51-29, respectively. (EMPHOS and WITCONATE are trademarks of Witco Corp.)

More particularly, the phosphate mono-esters of polyoxyethylene alkylphenol and the phosphate di-esters of the polyoxyethylene alkylphenol useful for reducing the eye irritancy of the selected polyoxyalkylene alkylamine surfactant in accordance with the present invention, respectively, have the following chemical structures

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 2 74288

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 271999

DATOS DEL SIGNO

Marca mixta BIMBO (LO DEMAS IRA COMO EXPLICATIVO)



PARA DISTINGUIR SERVICIOS CIENTIFICOS Y TECNOLOGICOS ASI COMO SERVICIOS DE INVESTIGACION Y DISEÑO RELATIVOS A ELLOS; SERVICIOS DE ANALISIS Y DE INVESTIGACION INDUSTRIAL; DISEÑO Y DESARROLLO DE ORDENADORES Y PROGRAMAS DE ORDENADOR (SOFTWARE).
Servicios comprendidos en la clase 42 de la Octava Edición de la Clasificación Internacional de Niza.

Vigencia Desde 25/08/2003 Hasta 25/08/2013

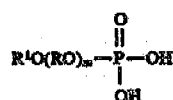
Titular CENTRAL IMPULSORA S.A. DE C.V.

Domicilio MEXICO (D.F)
MEXICO
PROLONGACION PASEO DE LA REFORMA NO. 1000, 4 PISO COL. DESARROLLO SANTA FE

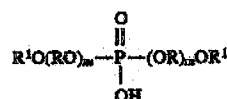
Maria Consuelo Casip
SECRETARIA GENERAL AD HOC
10/09/2003 (dd/mm/yyyy)17122B79

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

Mono-ester



Di-ester



wherein m is zero or a number up to about 60, preferably 9-15, R is C_2 - C_4 alkylene, preferably ethylene and R^1 is C_8 - C_{20} alkyl or C_8 - C_{20} alkylphenyl. The amount of phosphate compound in the composition should be sufficient to reduce the eye irritation of the polyoxyethylene alkylamine surfactant. Mixtures of monoester and diester are also useful. Normally, the diester to the mono-ester is present in a weight ratio of 5:95 to 50:50.

In general the surfactant composition comprises a major amount of polyoxyalkylene alkylamine component and an effective amount of the selected eye irritation reducing compound. The eye irritation reducing compound is present in the surfactant composition in an effective amount sufficient to reduce the eye irritation properties of the polyoxyalkylene alkylamine. When the eye irritation reducing compound is a sulfated polyoxyalkylene alkylphenol, preferred surfactant compositions can contain from about 50 to about 95 weight percent, preferably about 80 to about 85 weight percent, of the polyoxyalkylene alkylamine and from about 5 to about 50 weight percent of the eye irritation reducing component. The optimum amount of each component in the surfactant blend depends on variables such as the identity of the eye irritation reducing compound, the identity of the pesticide, the type of application of the pesticide composition, storage and transportation of the surfactant and pesticide compositions, the conditions of use of the pesticidal compositions, etc. When a water soluble salt of glyphosate is the pesticide and sulfated polyoxyalkylene alkylphenol is the eye irritation reducing component, it has been found desirable to use a composition which comprises about 85 weight percent of the polyoxyalkylene alkylamine and about 15% by weight of the sulfated polyoxyalkylene alkylphenol. Other ratios may also be useful.

The surfactant composition of the present invention can contain optional components to improve the water solubility of the surfactant composition and suppress gel formation. The need for such components will depend upon several factors, especially the identity of the surfactants comprising the composition. Among compounds useful for improving the water solubility of the surfactant composition are glycols and polyglycols. Glycols are of particular use for this function due to their solubility in water. The readily available glycols, ethylene glycol, propylene glycol, polyethylene glycol and polypropylene glycol are satisfactory for this function although other glycols can also be used. Other organic compounds with high water solubility will also be useful in certain instances. The antigellation additive preferably is polyethylene glycol having an average molecular weight of about 200 to about 1000.

While the glycol can be added to the surfactant composition with mixing, its use therein is independent of the method of its introduction into the surfactant composition. Thus, for example, it can be introduced into the surfactant composition with the polyoxyalkylene alkylamine compo-

nent. This is often a preferred method since the glycol and/or polymeric glycol can be made during the manufacture of the polyoxyalkylene alkylamine component as a byproduct of the alkoxylation reaction. Other procedures for obtaining and introducing the optional glycol component can be used.

Most of the individual components discussed above are liquids at room temperatures. However, in the case of those materials containing a large polyoxyalkylene chain, some of the materials may be waxy at room temperature and if this is the case, the materials can be heated to liquefy the same prior to mixing. The surfactant compositions of the present invention can be prepared by blending the components in a conventional manner. Any suitable equipment, such as a conventional mixer, may be used. The order of adding the materials to the composition generally is not critical and thus they may be blended in any convenient order. As mentioned above, the amounts of the individual components utilized can be varied somewhat depending upon a variety of factors, particularly the ultimate application of the composition.

Surfactant compositions of the present invention are especially useful in the preparation of pesticidal compositions designed to be delivered by spraying, particularly sprayable herbicidal compositions. The term "pesticide" includes chemicals and microbial agents used as active ingredients of products for control of crop and lawn pests and diseases, animal ectoparasites, and other pests in public health. The term also includes plant growth regulators, pest repellants, synergists, herbicide safeners (which reduce the phytotoxicity of herbicides to crop plants) and preservatives, the delivery of which to the target may expose dermal and especially ocular tissue to the pesticide. Such exposure can arise by drift of the pesticide from the delivery means to the person performing the application of the pesticide or being present in the vicinity of an application.

In general, a herbicidal composition known as a concentrate is first prepared. This composition in essence contains a herbicide and a surfactant mixture. Often it includes a minor amount of solvent, such as water. Alternatively, the concentrate composition may be in dry form with or without an inert solid carrier, for example, as a water soluble or water dispersible granular formulation. The ratio of herbicide to surfactant will depend on many factors, including but not limited to the identity of the components and the ultimate use. Usually the surfactant will comprise from about 5 to about 25 weight percent of this composition. The concentrate can then be diluted with water to form an aqueous herbicidal composition ready for use by spraying. The present herbicidal compositions are not limited to a particular herbicide or mixture of herbicides. They may be used with a variety of pesticides, including but not limited to herbicides in any of their water soluble salt forms. Among such herbicides are glyphosate and acifluorfen (5-(2-chloro-4-(trifluoromethyl)phenoxy)-2-nitrobenzoic acid), chloramben (3-amino-2,5-dichlorobenzoic acid), 2,4-D ((2,4-dichlorophenoxy) acetic acid), endothal (7-oxabicyclo (2,2,1)heptane-2,3-dicarboxylic acid), mecoprop (2-(2-methyl-4-chlorophenoxy) propionic acid), picloram (4-amino-3,5,6-trichloropyridine-2-carboxylic acid), 2,4,5-T ((2,4,5-trichlorophenoxy)acetic acid), benzac (2,3,6-trichlorobenzoic acid), dicamba (3,6-dichloro-o-anisic acid), MCPA (4-chloro-o-toloxycetic acid), dalapon (2,2-dichloropropionic acid), dichlorprop (2-(2,4-dichlorophenoxy)propionic acid), MCPB (4-(4-chloro-o-toloxo)butyric acid), bialaphos (L-2-amino-4-(hydroxy) (methyl) phosphinoyl) butyryl-L-alanyl-L-alanine), glufosinate ((3-amino-3-carboxypropyl) methylphosphinate), imazethapyr (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-5-ethyl-3-

192
184

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 2 114968

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 272000

DATOS DEL SIGNO

Marca mixta CURE BAND ADVANCED



PARA DISTINGUIR CINTAS ADHESIVAS PARA LA MEDICINA.
Productos comprendidos en la clase 5 de la Octava Edición de la Clasificación Internacional de Niza.

Vigencia Desde 28/08/2003 Hasta 28/08/2013

Titular TECNOQUIMICAS S.A.

Domicilio CALI, VALLE DEL CAUCA
COLOMBIA
CALLE 23 NO. 7-39

María Consuelo Casaj
SECRETARIA GENERAL AD HOC
10/09/2003 (dd/mm/yyyy)B785E7E8

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

pyridinecarboxylic acid), imazaquin (2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-quinolinecarboxylic acid), mixtures thereof and the like. Preferred results, however, are obtained with the herbicide glyphosate whose activity is derived from N-phosphonomethylglycine. Glyphosate is normally formulated from water soluble salts thereof. U.S. Pat. No. 3,853,530 discloses the use of glyphosate and its derivatives as herbicides.

Since glyphosate in acid form has limited water solubility (about 1.2%) the water soluble salts of glyphosate are normally used for most applications. Among the water soluble salts of glyphosate are the trimethylsulfonium salt, the ammonium salt, the isopropylamine salt, and the alkali metal salts, such as sodium and potassium. These compounds due to their solubility in water are the agriculturally acceptable glyphosate-containing compounds generally used in commerce.

It is known to use mixtures of glyphosate and one or more of its water soluble salts. Previously mentioned European Patent 290,416 discloses the use of such mixtures which have the advantage of a higher concentration of glyphosate in the final product. However, the low solubility of the glyphosate in acid form limits the amount of it in the total composition. This amount will depend in general on the solubility of the water soluble salt used in the combination.

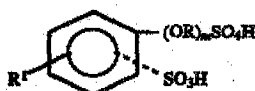
The pesticidal compositions previously described can be diluted with water to form an aqueous pesticidal composition which can be sprayed or otherwise applied to the desired area. Glyphosate-based herbicides are applied to the foliage of the vegetation to be controlled.

The relative amounts of herbicide, water and surfactant in the aqueous herbicidal compositions of this invention will vary depending upon many factors including but not limited to the identity and properties of the herbicide, method of application, locus to which the herbicide is applied, etc.

The weight ratio of glyphosate expressed as acid equivalent to surfactant composition is normally in the range of 1:1 to 5:1.

Stable aqueous concentrate compositions of the present invention can be made with glyphosate salts at a concentration from about 5% to about 50%, preferably about 35% to about 45%, surfactant composition at a concentration of about 5% to about 25%, preferably about 10% to about 15%, and water making up the balance to 100%. Dry water soluble granular (WSG) or water dispersible granular (WDG) compositions of the present invention can be made with glyphosate salts at a concentration from about 10% to about 85%, preferably about 50% to about 80%, surfactant composition at a concentration of about 5% to about 30%, preferably about 10% to about 25%, and optionally inert ingredients making up the balance to 100%. All percentages above are understood as being by weight.

It is to be noted that in accordance with the preferred practice of the present invention, a multicomponent surfactant composition is provided. One component is a polyoxyalkylene alkylamine surfactant as defined above. A second component present in an eye irritancy reducing amount is an anionic sulfated polyoxyalkylene alkylphenol surfactant having the following chemical structure which preferably contains a minor amount of ring sulfonation.



wherein R^1 , R and m are defined as above. In other words, of the total polyoxyalkylene alkylphenol in the surfactant composition the mole percent of phenol compound having a sulfonate substituent to phenol compound having no sulfonate substituent is preferably in the range of 3-50. The amount of the second component is an amount sufficient to result in an effective reduction of tissue irritation due to the presence of the amine surfactant component in the surfactant composition. The $-\text{SO}_3\text{H}$ substituent on the phenyl moiety and R^1 are normally separated by one ring carbon.

It is also to be noted that in accordance with another preferred practice of the present invention, a multicomponent surfactant composition is provided wherein one component is a cationic polyoxyalkylene alkylamine surfactant as defined above and wherein a second component present in an eye irritation reducing amount is a phosphate ester having one or both of the following chemical structures:



wherein m is zero or a number up to about 60, preferably 9-15, R is $\text{C}_2\text{-C}_4$ alkylene, preferably ethylene and R^1 is $\text{C}_8\text{-C}_{20}$ alkyl or $\text{C}_6\text{-C}_{20}$ alkylphenyl.

The surfactant composition of the present invention is normally soluble in water and thus can be used in a water based formulation or water soluble dry formulation for delivering such as by spraying a pesticidally effective amount of the selected pesticide to the point of desired application.

In one preferred embodiment of the present invention the surfactant composition comprised of the amine surfactant component and the sulfated polyoxyalkylene alkylphenol having sulfonate substituents in the phenyl moiety and/or phosphate ester as above defined can effectively be used to formulate glyphosate. Glyphosate is the widely recognized common name for N-phosphonomethylglycine, the biologically active entity of which is the acid form and may be used in the form of an ester but is normally used in the form of water soluble salts. Water soluble salts include alkali metal salts of glyphosate, and organic salts of glyphosate including onium salts such as ammonium, sulfonium and phosphonium salts of glyphosate. The most preferred salts include ammonium, isopropylammonium and trimethylsulfonium salts of glyphosate.

The surfactant composition of the present invention, in addition to the amine surfactant component and the anionic eye irritation reducing surfactant component, may contain about 1-10 weight percent polyalkylene glycol, preferably polyethylene glycol (PEG) having a molecular weight of about 200-1000 to increase the water solubility of the two other components. Instead of or in addition to the polyethylene glycol (PEG), one may include in the surfactant composition of the present invention ethylene glycol and propylene glycol to further increase the water solubility of the amine surfactant component and the eye irritation reducing component, if desired.

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 2 77209

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 272001

DATOS DEL SIGNO

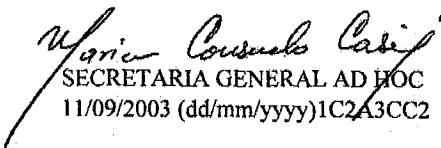
Marca nominativa MANI-MAN

PARA DISTINGUIR CAFE, TE, CACAO, AZUCAR, ARROZ, TAPIOCA, SAGU, SUCEDANEOS DEL CAFE; HARINAS Y PREPARACIONES HECHAS DE CEREALES, PAN, PASTELERIA Y CONFITERIA, HELADOS COMESTIBLES; MIEL, JARABE DE MELAZA; LEVADURAS, POLVOS PARA ESPONJAR; SAL, MOSTAZA; VINAGRE, SALSAS (CONDIMENTOS); ESPECIAS, HIELO.
Productos comprendidos en la clase 30 de la Octava Edición de la Clasificación Internacional de Niza.

Vigencia Desde 31/07/2003 Hasta 31/07/2013

Titular SOCIETE DES PRODUITS NESTLE S.A.

Domicilio FUENTE DE ORO, META
COLOMBIA
AVENUE NESTLE 55 CH-1800


SECRETARIA GENERAL AD HOC
11/09/2003 (dd/mm/yyyy)1C2A3CC2

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

13

These following examples represent compositions tested to demonstrate the unexpectedly mild eye irritation properties provided by the present invention. All compositions contained the monoisopropylamine salt of glyphosate as the herbicide. Tables 1 and 2 contain the results of these tests. The following test procedure was used in these experiments.

These examples were performed in accordance with Pesticidal Assessment Guidelines, Subdivision F. Hazard Evaluation: Human and Domestic Animals, U.S. Environmental Protection Agency (EPA) Publication, EPA 540/9-84-014, November, 1984. Studies were conducted in compliance with EPA Good Laboratory Practice Standards (Federal Register, Vol. 48, Nov. 29, 1983).

Unless otherwise indicated in each of the following examples, an aqueous solution of the isopropylamine salt of glyphosate containing 61.3 weight percent of such glyphosate salt was used as the herbicidal component and is referred to as "glyphosate solution". A mixture of about 70 weight percent polyoxyethylene tallowamine containing from about 8 to 13 moles of ethylene oxide groups and about 30 weight percent polyethylene glycol (MW=600) which may be abbreviated as PEG-600 was used as a component of the surfactant composition and is referred to as "ethoxylated tallowamine" or abbreviated as "ETA".

All parts and percentages in the following examples are given on a weight to weight basis unless otherwise indicated.

Examples 1 and 2 are experiments performed with a glyphosate composition containing ethoxylated tallowamine as its only surfactant component.

EXAMPLE 1

Example 1 was performed with a test material prepared by mixing glyphosate solution (69.3 grams), ethoxylated tallowamine (13.0 grams) and water (17.7 grams).

EXAMPLE 2

Example 2 was performed with a test material prepared by mixing glyphosate solution (69.3 grams), ethoxylated tallowamine (15.4 grams) and water (15.3 grams).

Examples 3-13 are experiments performed with a surfactant composition containing ethoxylated tallowamine and a sulfated ethoxylated nonylphenol.

EXAMPLE 3

Example 3 was performed with a test material prepared by mixing glyphosate solution (69.3 grams); water (15.3 grams) and surfactant composition (15.4 grams) having a pH of 7.5 and containing ethoxylated tallowamine (13.1 grams) and sulfated polyoxyethylene nonylphenol (2.2 grams) having 4 moles of ethylene oxide groups and about 3 weight percent sulfonate.

EXAMPLE 4

Example 4 was performed with a test material prepared by mixing glyphosate solution (69.3 grams); water (15.2 grams) and surfactant composition (15.4 grams) containing ethoxylated tallowamine (13.5 grams) and sulfated polyoxyethylene nonylphenol (1.9 grams) having 2 moles of ethylene oxide groups and about 6 weight percent sulfonate.

EXAMPLE 5

Example 5 was performed with a test material prepared by mixing glyphosate solution (69.3 grams), water (15.3 grams) and surfactant composition (15.4 grams) containing ethoxylated tallowamine (13.5 grams) and sulfated polyoxyethyl-

14

ene nonylphenol (1.9 grams) having 2 moles of ethylene oxide groups and about 15 weight percent sulfonate.

EXAMPLE 6

Example 6 was performed with a test material prepared by mixing glyphosate solution (2.94 grams), water (96.39) grams and surfactant composition (0.67 grams) containing JETCO ethoxylated tallowamine (0.57 grams) and sulfated polyoxyethylene nonylphenol (0.10 grams) having 4 moles of ethylene oxide groups and about 6 weight percent sulfonate.

EXAMPLE 7

Example 7 was prepared by mixing glyphosate solution (2.94 grams), water (96.39 grams) and surfactant composition (0.67 grams) containing ARMAK ethoxylated tallowamine (0.57 grams) and sulfated polyoxyethylene nonylphenol (0.10 grams) having 4 moles of ethylene oxide groups and about 6 weight percent sulfonate.

EXAMPLE 8

Example 8 was prepared by mixing glyphosate solution (69.3 grams), water (15.3 grams) and surfactant composition (15.4 grams) containing ethoxylated tallowamine (13.1 grams) and sulfated polyoxyethylene nonylphenol (2.3 grams) having 4 moles of ethylene oxide groups and about 6 weight percent sulfonate.

EXAMPLE 9

Example 9 was prepared by mixing glyphosate solution (69.3 grams), water (15.3 grams) and surfactant composition (15.4 grams) containing ethoxylated tallowamine (13.1 grams) and sulfated polyoxyethylene nonylphenol (2.3 grams) having 4 moles of ethylene oxide and about 13 weight percent sulfonate.

EXAMPLE 10

Example 10 was prepared by mixing a glyphosate solution (69.3 grams), water (15.3 grams) and a surfactant composition (15.4 grams) having a pH of 6.5 containing ethoxylated tallowamine (13.1 grams) and sulfated polyoxyethylene nonylphenol (2.3 grams) having 4 moles of ethylene oxide and about 85 weight percent sulfonate.

EXAMPLE 11

Example 11 was prepared by mixing a glyphosate solution (69.3 grams), water (15.3 grams) and a surfactant composition (15.4 grams) having a pH of 7.1 containing ethoxylated tallowamine (13.8 grams) sulfated polyoxyethylene nonylphenol (1.5 grams) having with 4 moles of ethylene oxide and about 85 weight percent sulfonate.

EXAMPLE 12

Example 12 was prepared by mixing a glyphosate solution (69.3 grams), water (15.3 grams) and a surfactant composition (15.4 grams) having a pH of 7 containing ethoxylated tallowamine (13.1 grams) and sulfated polyoxyethylene nonylphenol (2.3 grams) having 10 moles of ethylene oxide groups and about 6 weight percent sulfonate.

EXAMPLE 13

Example 13 was prepared by mixing a glyphosate solution (69.3 grams), water (15.3 grams) and a surfactant

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 99 58182

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 272002

DATOS DEL SIGNO

Marca nominativa MILLENIUM ENERGIST

PARA DISTINGUIR JABONES; PERFUMERIA; ACEITES ESENCIALES; COSMETICOS; COLONIAS AGUAS DE TOCADOR; SPRAYS O ROCIADORES PERFUMADOS PARA EL CUERPO; ACEITES; CREMAS Y LOCIONES PARA LA PIEL; ESPUMA PARA LA AFEITADA, GELS PARA LA AFEITADA, LOCIONES PARA ANTES Y - DESPUES DE LA AFEITADA, POLVOS DE TALCO; PREPARACIONES PARA EL BANO Y LA DUCHA; LOCIONES PARA EL PELO; DENTRIFICOS; ENJUAGUES BUCALES NO MEDICADOS; DESODORANTES; ANTIPERSPIRANTES PARA USO PERSONAL; PREPARACIONES DE TOCADOR NO MEDICADAS.
Productos comprendidos en la clase 3 de la Séptima Edición de la Clasificación Internacional de Niza.

Vigencia Desde 31/07/2003 Hasta 31/07/2013

Titular UNILEVER N.V.

Domicilio ROTTERDAM
HOLANDA - PAISES BAJOS

María Consuelo Castiblanco
SECRETARIA GENERAL AD HOC
11/09/2003 (dd/mm/yyyy) 4602498

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

composition (15.4 grams) containing ethoxylated tallowamine (11.9 grams) and sulfated polyoxyethylene nonylphenol (3.5 grams) having 10 moles of ethylene oxide groups and about 6 weight percent sulfonate.

Examples 14 and 15 are experiments performed with a surfactant composition containing ethoxylated tallowamine and an alcohol sulfate.

EXAMPLE 14

Example 14 was prepared by mixing a glyphosate solution (69.3 grams), water (15.3 grams) and a surfactant composition (15.4 grams) containing ethoxylated tallowamine (13.1 grams) and alcohol sulfate (2.3 grams) from a mixture of alcohols having from 8 to 10 straight chain carbon atoms.

EXAMPLE 15

Example 15 was prepared by mixing a glyphosate solution (69.3 grams), water (15.3 grams) and a surfactant composition (15.4 grams) containing ethoxylated tallowamine (13.9 grams) and alcohol sulfate (1.5 grams) from a mixture of alcohols having from 8 to 10 carbon atoms.

In Tables 1 and 2 below data are provided showing the average eye irritation of six rabbits exposed in individual tests to each of the compositions of Examples 1-15 using the EPA test referenced above. The data in Table 1 were obtained where the composition was not washed out of the eyes. The data in Table 2 were obtained where the composition was washed out of the rabbits' eyes after being applied to the eyes. Observations are made after 1 hour, 1 day, 2 days, etc. after initial instillation. The average score is an indication of the eye irritation potential of the composition under test.

TABLE 1

Average Irritation Scores (Non-Washed Eyes)											
EXAM-	DAYS AFTER TREATMENT										
PLE	1 hr	1	2	3	4	7	10	14	17	21	
1	18.0	15.2	19.0	14.0	11.8	10.5	7.0	5.3	3.8	4.0	
2	20.7	19.3	17.2	15.3	12.3	4.7	6.3	6.5	5	3.5	
3	17.2	10.2	10.8	9.2	7.6	6.4	6.4	9.5	6.5	9	
4	15.3	21.2	13	9.2	8.2	5.3	4.3	4.5	5	3.2	
5	19	19.2	10.2	6	4.3	1.7	0.7	0.7	0.7	0.3	
6	4	2.3	1	0	0	—	—	—	—	—	
7	4.7	1.7	1	0	—	—	—	—	—	—	
8	12	12.7	8.6	5.2	3.6	0.8	0	—	—	—	
9	12	14.8	8.2	5.3	4.7	1.7	0.3	0	—	—	
10	17.2	8.2	6.5	4.8	3.3	1.7	0.7	0	—	—	
11	17.3	10.5	7	4.7	3.7	1.3	0.7	0	—	—	
12	15.8	13.8	9.7	8.3	5	3	2.7	1	0.3	0.3	
13	17.7	12.3	10	6	4	2.3	2.3	2.2	0	—	
14	12.7	2	0.7	0	—	—	—	—	—	—	
15	17.7	14.7	8.3	6.5	7.7	2.3	3.2	1.3	1.3	1.3	

TABLE 2

Average Irritation Scores (Washed Eyes)											
EXAM-	DAYS AFTER TREATMENT										
PLE	1 hr	1	2	3	4	7	10	14	17	21	
1	17.3	13.3	6.0	3.3	3.3	2.0	1.3	0.7	0.7	0.7	
2	21	17.7	13.7	11.3	8.7	4.7	4	8.7	5	3.7	
3	15	10	7.3	6	5.5	1.3	0.7	0	—	—	

TABLE 2-continued

Average Irritation Scores (Washed Eyes)											
EXAM-	DAYS AFTER TREATMENT										
PLE	1 hr	1	2	3	4	7	10	14	17	21	
4	15	6.7	4	2.7	2	0	—	—	—	—	
5	19.7	11.7	6.7	6	4.7	3.3	2	1.3	0.7	0.7	
6	11.7	4	1.3	0.7	0	—	—	—	—	—	
7	5.3	1.3	1.3	0	—	—	—	—	—	—	
8	15	6.7	5.3	4.7	3.3	0.7	0	—	—	—	
9	12.7	12.7	9.3	6	4	2	0	—	—	—	
10	19.3	7.3	4.7	2.7	1.3	0.7	0	—	—	—	
11	12.7	6.7	4.7	4.7	3.3	2	0	—	—	—	
12	19.7	14	10	8	9	5.3	4	3.7	2	0	
13	19	11	7.7	4.7	3.3	2.1	1.3	0	—	—	
14	9.7	0.7	0	0	—	—	—	—	—	—	
15	16.3	9.3	6.0	4.0	2.0	0.7	0	—	—	—	

The test materials were rated and classified into toxicity categories by the following system:

Rating	Maximum Average Score	Definition
Non-Irritating	0.0-0.5	To maintain this category, all scores at the 24-hour reading must be zero; otherwise increase category one level.
Practically Non-Irritating	Greater than 0.5-2.5	To maintain this category, all scores at the 24-hour reading must be zero; otherwise increase category one level.
Minimally Irritating	Greater than 2.5-15.0	To maintain this category, all scores at the 72-hour reading must be zero; otherwise increase category one level.
Mildly Irritating	Greater than 15.0-25.0	To maintain this category, scores at the 7-day reading must be zero; otherwise increase category one level.
Moderately Irritating	Greater than 25.0-50.0	To maintain this category, scores at the 7-day reading must be less than or equal to 10 for 60% or more of the animals. Also, the 7-day mean score must be less than or equal to 20. If the 7-day mean score is less than or equal to 20, but less than 60% of the animals show scores less than 10, then no animal among those showing scores greater than 10 can exceed a score of 30 if category is to be maintained; otherwise increase category one level.
Severely Irritating	Greater than 50.0-80.0	To maintain this category, scores at the 7-day reading must be less than or equal to 30 for 60% or more of the animals. Also, the 7-day mean score must be less than or equal to 40. If the 7-day mean score is less than or equal to 40, but less than 60% of the animals show scores less than or equal to 30, then

REPUBLICA DE COLOMBIA
SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO

Expediente 2 95773

ASIGNACION DE NUMERO DE CERTIFICADO

Certificado No. 272003

DATOS DEL SIGNO

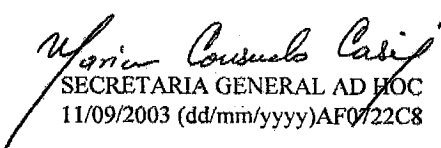
Marca nominativa CANIVEX

PARA DISTINGUIR PRODUCTOS FARMACEUTICOS Y VETERINARIOS; PRODUCTOS HIGIENICOS PARA LA MEDICINA; SUSTANCIAS DIETETICAS PARA USO MEDICO, ALIMENTOS PARA BEBES, EMPLASTOS, MATERIAL PARA APOSITOS; MATERIAL PARA EMPASTAR LOS DIENTES Y PARA IMPRONTAS DENTALES; DESINFECTANTES; PRODUCTOS PARA LA DESTRUCCION DE ANIMALES DANINOS, FUNGICIDAS, HERBICIDAS.
Productos comprendidos en la clase 5 de la Octava Edición de la Clasificación Internacional de Niza.

Vigencia Desde 14/08/2003 Hasta 14/08/2013

Titular LABORATORIOS ZOO LTDA

Domicilio BOGOTA D.C.
 COLOMBIA
 CALLE 30C NO. 3A-36


SECRETARIA GENERAL AD HOC
11/09/2003 (dd/mm/yyyy)AF0722C8

El presente documento corresponde a una información sobre la asignación de número de certificado del signo respectivo. Por lo anterior, a efectos de establecer su titularidad y vigencia, deberá estarse a lo dispuesto en los actos administrativos que hayan concedido el derecho, notificados de conformidad con la ley, y en las certificaciones expedidas por la Superintendencia de Industria y Comercio.

196
188

**SUPERINTENDENCIA DE INDUSTRIA Y COMERCIO
DIVISIÓN DE NUEVAS CREACIONES**

2020
Bogotá, D.C.,

Doctor:

Oficio N°

7793

Ramiro Castro Duque

REFERENCIA:	Radicación No.	00-68272.
	Trámite	002.
	Evento	001.
	Actuación	430.
	Folios	005.

Realizado el examen de patentabilidad de la presente solicitud según el artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, **"art. 45.- Si la oficina nacional competente encontrara que la invención no es patentable o que no cumple con alguno de los requisitos establecidos en esta Decisión para la concesión de la patente, lo notificará al solicitante. Este deberá responder a la notificación dentro del plazo de sesenta días contados a partir de la fecha de la notificación. Este plazo podrá ser prorrogado por una sola vez por un período de treinta días adicionales.**

Cuando la oficina nacional competente estimara que ello es necesario para los fines del examen de patentabilidad, podrá notificar al solicitante dos o más veces conforme al párrafo precedente.

Si el solicitante no respondiera a la notificación dentro del plazo señalado, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, la oficina nacional competente denegará la patente." se notifica el siguiente Concepto Técnico:

1. DOCUMENTOS ESTUDIADOS

- Para el presente estudio se tuvo en cuenta el capítulo descriptivo, folios 5 a 31 y reivindicaciones 1 a 17 y 24 a 32, folios 32 a 38 presentados originalmente y folio 47 correspondiente a las reivindicaciones corregidas 18 a 23.
- No se aceptó reivindicación de prioridad.

2. OBJETO DE LA INVENCION

- Respecto al título se debería precisar de acuerdo a la materia que se está reclamando como "Un método para mejorar la actividad herbicida de glifosato y la composición que contiene glifosato y un agente tensioactivo". Lo anterior con el fin de que el título esté acorde con la descripción y las reivindicaciones.
- La invención consiste en:

Reivindicaciones 1 a 14: Un método para mejorar la actividad herbicida del glifosato que comprende agregar a dicho herbicida de glifosato una mezcla de un primer tensioactivo y un segundo tensioactivo a una proporción en peso de tensioactivo total con respecto a ácido glifosato equivalente de 1:30 hasta 2:1 donde dicho primer tensioactivo tiene una estructura química que comprende un grupo amino catiónico o protonable y un grupo hidrocarbilo C₈₋₂₄ y dicho segundo tensioactivo tiene la fórmula química R-CO-NR'-(CR'₂)_n-COOM, donde R es un grupo hidrocarbilo C₇₋₂₃, n es 1 a 4, M es hidrógeno o un contra ión catiónico, y los grupos R' son cada uno independientemente hidrógeno, C₁₋₄ alquilo o un grupo

197
189

$(CH_2)_m-COOM$; la proporción en peso del primer con respecto al segundo tensioactivo es de 1:10 hasta 10:1.

Reivindicaciones 15 a 31: La composición herbicida que comprende a) un herbicida de glifosato; b) un primer tensioactivo que tiene una estructura química que comprende un grupo amino catiónico o protonable y un grupo hidrocarbilo C_{1-24} ; y c) un segundo tensioactivo que tiene la fórmula química $R-CO-NR'-(CR'_2)_n-COOM$, donde R es un grupo hidrocarbilo C_{7-23} , n es 1 a 4, M es hidrógeno o un contra ión catiónico, y los grupos R' son cada uno independientemente hidrógeno, C_{1-4} alquilo o un grupo $(CH_2)_m-COOM$; donde m es de 1 a 4 y M es como se definió arriba, teniendo en cuenta que no más de un grupo R' es un grupo tal $-(CH_2)_m-COOM$, la proporción en peso del primer con respecto al segundo tensioactivo es de 1:10 hasta 10:1, y la proporción en peso de tensioactivo total con respecto a ácido glifosato equivalente es de 1:30 hasta 2:1.

Reivindicación 32: Un método de matar o controlar malezas que comprende la aplicación al follaje de dichas malezas de una composición de la reivindicación 29 en un volumen de 25 hasta 1000 l/ha.

- ❖ La clasificación según la IPC correspondiente al objeto de la solicitud es A01N57/10, 25/30.

3. CLARIDAD DE LA SOLICITUD

- ❖ De acuerdo a la Decisión 486 de la Comisión de la Comunidad Andina en su Artículo 30.- *"Las reivindicaciones definirán la materia que se desea proteger mediante la patente. Deben ser claras y concisas y estar enteramente sustentadas por la descripción."*, se realizan las siguientes observaciones:

- La reivindicación independiente número uno falla en definir la materia que se desea proteger ya que no se indica el significado de "m" que aparece en el grupo sustituyente $(CH_2)_m-COOM$.
- Las reivindicaciones 29 a 31 resultan confusas porque no obstante se encabezan por "La composición de la reivindicación 15 ..." no precisan ni definen una característica de la misma sino las diferentes formas de presentación como son: la forma diluida, la forma concentrada y seca.
- La reivindicación 32 contiene unidades del sistema de medidas que no corresponden a las establecidas en el sistema de unidades internacional por lo que se deben corregir y expresarlas en la forma correcta.

4. DETERMINACIÓN DEL ESTADO DE LA TÉCNICA

- ❖ La fecha a partir de la cual se realizó la búsqueda de anterioridades corresponde al 11 de septiembre de 2000.
- ❖ Con base a lo anterior y la definición dada en el art. 16.- *"Una invención se considerará nueva cuando no está comprendida en el estado de la técnica. El estado de la técnica comprenderá todo lo que haya sido accesible al público por una descripción escrita u oral, utilización, comercialización o cualquier otro medio antes de la fecha de presentación de la solicitud de patente o, en su caso, de la prioridad reconocida."*

Sólo para el efecto de la determinación de la novedad, también se considerará dentro del estado de la técnica, el contenido de una solicitud de patente en trámite ante la oficina nacional competente, cuya fecha de presentación o de prioridad fuese anterior a la fecha de presentación o de prioridad de la solicitud de patente que se estuviese examinando, siempre que dicho contenido esté incluido en la solicitud de fecha anterior cuando ella se publique o hubiese transcurrido el plazo previsto en el artículo 40." se realizó la búsqueda de anterioridades en los archivos con que cuenta esta Oficina y se encontraron los siguientes documentos relacionados con la materia de la presente solicitud:

198
190

N°	DOCUMENTO	TÍTULO	FECHA DE PUBLICACIÓN
D1	WO 99/62338	N-acyl sarcosinates as glyphosate adjuvants	1999-12-09
D2	WO 99/21423	A herbicidal composition comprising glyphosate and N-acyl sarcosinate	1999-05-06
D3	US 5.683.958	Surfactants mixtures	1997-11-04

7. EVALUACIÓN DE LOS REQUISITOS DE PATENTABILIDAD

El artículo 14 de la Decisión 486 de la Comisión de la Comunidad Andina establece que: "Los Países Miembros otorgarán patentes para las invenciones, sean de producto o de procedimiento, en todos los campos de la tecnología, siempre que sean nuevas, tengan nivel inventivo y sean susceptibles de aplicación industrial."

En cumplimiento del artículo 14 de la Decisión 486, se procedió a evaluar los requisitos de novedad, nivel inventivo y aplicación industrial con el fin de establecer la patentabilidad de la invención reivindicada en la solicitud en estudio.

7.1 Evaluación del NIVEL INVENTIVO

De acuerdo al art. 18.- *"Se considerará que una invención tiene nivel inventivo, si para una persona del oficio normalmente versada en la materia técnica correspondiente, esa invención no hubiese resultado obvia ni se hubiese derivado de manera evidente del estado de la técnica."*, se conceptúa:

D1 afecta el nivel inventivo de la presente solicitud puesto que divulga en la sección de los antecedentes de la invención que los tensioactivos se incorporan en las formulaciones para mejorar la actividad del glifosato pero que sin embargo el término "tensioactivo" no necesariamente obedece a un único compuesto sino que puede ser una mezcla de compuestos. Esta anterioridad da a conocer que debido a la característica de irritante ocular severo de los tensioactivos de amina de sebo de etoxilatos existe la necesidad de formular el glifosato con otro tipo de tensioactivos. J. Crudden (inventor de D1) presenta como propuesta para superar los problemas de formulaciones irritantes, la formulación del glifosato con un adyuvante de sarcosinato de C₈₋₂₂ o sus sales la cual suministra una actividad efectiva. Crudden encontró en 1999 que los sarcosinatos son excelentes adyuvantes del glifosato porque exhiben una reducción de la tensión superficial extremadamente efectiva que permite el mejoramiento de la actividad herbicida del glifosato y, además presentan baja toxicidad en la piel y en los ojos.

Los hallazgos de Crudden ponen en evidencia que (ver páginas 3 y 4 de la anterioridad) la concentración final de sarcosinato en la formulación está entre 2 y 16% frente a un 41% de sal IPA de glifosato. Además, declaran que los sarcosinatos son compatibles con una gran variedad de tensioactivos catiónicos, no iónicos y anfótericos, los cuales podrían ser incorporados en las formulaciones para lograr varios efectos; entre los tensioactivos adicionales se encuentran los compuestos de amonio cuaternario.

D2 también afecta el nivel inventivo porque enseña composiciones que comprenden acil-sarcosinatos y glifosato. Tales composiciones exhiben una gran reducción de la irritación ocular al tiempo que mantienen su eficacia herbicida. También revela esta anterioridad que típicamente en el estado del arte se incorporan tensioactivos con el fin de mejorar la eficacia del glifosato, aún cuando algunos tensioactivos presentan un mejor incremento de la actividad herbicida que otros.

D2 publicó que Hampshire Chemical Corporation en 1997 encontró que las composiciones que contenían sarcosinato (ver fórmula estructural en la página 3 de D2) en concentraciones entre 0,1 y 3% en la formulación presentaba menor irritabilidad

199
191

ocular y toxicidad sin que se perdiera la eficacia de la composición de glifosato. También reconoce esta anterioridad que existen ciertos tensioactivos que actúan como activadores de la actividad del glifosato y entre ellos considera las aminas etoxiladas ampliamente conocidas en el estado de la técnica y los N-acil-sarcosinatos.

D3 revela una vez más la acción de los tensioactivos cuando se formula con el glifosato, donde se encuentra que dichos surfactantes tienden a mejorar la efectividad herbicida. Dentro de estos tensioactivos dice claramente que se pueden seleccionar las polioxialquilen- alquilaminas tal como la amina de sebo etoxilada.

La función que cumplen dichos tensioactivos es lógicamente la modificación de la actividad superficial y la colaboración en la formulación de suspensiones, emulsiones y soluciones de los herbicidas. En este campo es bien conocido que este tipo de tensioactivos potencian la actividad herbicida del glifosato, por ejemplo, las polioxialquilen-alquilaminas incrementan la actividad mientras resultan ser irritantes oculares. Frente a estos desarrollos, D3 propone una composición de glifosato con un tensioactivo de polioxialquilen-alquilamina que tiene grupos sustituidos con óxidos de alquileo que le permiten disminuir su carácter de irritante ocular.

Como se puede observar, el método para mejorar la actividad herbicida del glifosato que consiste en agregar un agente tensioactivo se deriva en forma evidente del estado de la técnica. Por su lado D1 revela categóricamente que los tensioactivos se incorporan en las formulaciones herbicidas para mejorar la actividad, más aún específicamente la del glifosato pero que sin embargo el término "tensioactivo" no necesariamente obedece a un único compuesto sino que puede ser una mezcla de ellos. Lo anterior pone en evidencia que la acción o única etapa del método reivindicado cual fuere agregar un agente tensioactivo que sea compatible y adecuado con las características del glifosato no involucra un salto en la formulación de la regla técnica por cuanto esto es precisamente lo que hacen los conocedores del arte técnico correspondiente.

Adicionalmente, D2 corrobora que típicamente en el estado del arte se incorporan tensioactivos con el fin de mejorar la eficacia del glifosato, aunque unos tensioactivos lo hagan mejor que otros.

Es claro que el objetivo que se persigue al adicionar los tensioactivos en las formulaciones de glifosato es el de potenciar su efecto herbicida. Vale decir que independientemente de la naturaleza del agente tensioactivo, esta única acción o etapa del método entonces resulta obvia y derivable a todas luces del estado de la técnica. Lo anterior puesto que, como es ampliamente conocido, las reivindicaciones de método no dependen del tipo de composición aplicada ni utilizada sino de la secuencia de pasos especiales y las condiciones de operación específicas bajo las cuales se realiza dicho método.

D3 también afirma que los tensioactivos mejoran la eficacia del glifosato puesto que, lógicamente y como su nombre lo indica, son agentes que influyen la tensión superficial mejorando las interacciones del ingrediente activo, en este caso el glifosato con la zona donde se aplica o ejerce su acción y por ello el aprovechamiento es mayor.

En cuanto a la composición que se reivindica tampoco tiene nivel inventivo porque D1 muestra claramente composiciones específicas de glifosato que contienen N-acil-sarcosinatos o sus sales y las cuales pueden además formularse con tensioactivos catiónicos, no iónicos y anfótericos, los cuales son ampliamente compatibles con los sarcosinatos y pueden ser incorporados en las formulaciones para lograr varios efectos. Así se considera que una persona medianamente versada en la materia podría a partir de esta publicación derivar la composición que se reclama teniendo en cuenta que la cantidad de tensioactivo total y la de glifosato en la composición de D1 puede solaparse con la reclama en la presente solicitud o puede también que no cambie drásticamente.

2002
112

Adicionalmente, bajo esta información de D1 acerca de la compatibilidad de los sarcosinatos con estos tensioactivos nombrados en el párrafo anterior, y con la información de D3 donde desde 1997 se conocen las formulaciones con polioxialquilenalquilaminas bien sea las anotadas en la sección de antecedentes o las modificadas que propone el inventor en D3, es a todas luces posible que la persona del oficio pueda llegar a través de ensayos convencionales de formulación al agente tensioactivo comprendido en la composición que se reclama. Se consideraría que no existe un salto en la formulación de la regla técnica que implique una actividad verdaderamente inventiva para alcanzar el privilegio solicitado.

En conclusión ni el método de mejorar la eficacia del glifosato ni la composición que se reclaman tendrían nivel inventivo a la luz de la discusión y el análisis realizado para este requisito.

En cuanto al método de matar o controlar malezas de la reivindicación 32 es importante anotar que tal como se presenta no define ninguna condición o etapa característica diferente a la forma comúnmente utilizada para aplicar un herbicida para que ejerza su acción, ya que, es obvio que si se quiere combatir malas hierbas lo más lógico es que se aplique un producto que tenga propiedades herbicidas ya que no se diferencian de los demás métodos convencionales de aplicación. Por lo anterior, carecerían de nivel inventivo. Es de anotar que el procedimiento no se caracteriza por las propiedades de la composición que se aplique sino por las etapas y condiciones de operación especiales bajo las cuales se realice.

En cumplimiento del artículo 45 de la Decisión 486 de la Comisión de la Comunidad Andina, se le indica que debe dar respuesta dentro del término de sesenta días contados a partir de la fecha de la notificación de la presente comunicación. **En caso de no dar respuesta al presente requerimiento, o si a pesar de la respuesta subsistieran los impedimentos para la concesión, se denegará la patente.**

Notifíquese el presente oficio conforme a lo dispuesto en el numeral 5.2, literal e), del capítulo quinto del título primero de la circular única No. 10 de 2001.

ALIX CARMENZA CÉSPEDES DE VERGEL
Jefe de la División de Nuevas Creaciones.

El anterior requerimiento fue notificado por fijación en lista, de fecha 21 Jul 2006

CONCEPTO TÉCNICO N° 1045 (2006-06-23)	EXAMINADOR TÉCNICO CÓDIGO 202001	EXAMINADOR JURÍDICO CÓDIGO
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