Campo Research Pte Ltd

ALPHA-CERAMIDEIN

CAMPO RESEARCH PTE LTD
Level 30, 6 Battery Road
Singapore 049909
Tel: (65) 63833203 Fax (65) 63833632
E-mail: sales@campo-research.com
Subsidiary of Campo Toyo Eisai Research Group, Japan

PRODUCT ANNOUNCEMENT

ALPHA CERAMIDEIN™

CAMPO RESEARCH PTE. LTD.,
SINGAPORE

This new development based on cell culture and hydroponics provides a simple, one-step answer to the problem of formulating clear AHA - ceramide systems for advanced skin care.

Ceramide RW is a biologically engineered ceramide complex identical to human skin ceramides, and L- (+)-lactic acid is produced from hydroponically grown tomatoes, where total control over nutrients and root temperatures optimizes lactic acid content. The two are brought together to form **ALPHA-CERAMIDEIN** - your one- step answer to the formulation of advanced skin care systems.

ALPHA CERAMIDEIN™

■ Background information

ALPHA HYDROXY ACIDS.....….

Facial cosmetics based on sour milk have been used since ancient Egyptian times, a period of some 5000 years. The main active ingredients are believed to be the alpha-hydroxy acids, predominantly lactic acid and its derivatives.

Alpha-hydroxy acids (Ahas) are naturally occurs substances isolated from a variety of sources, such as sour milk, sugar cane, tomatoes and other fruit. They perform a number of functions at the level of the stratum corneum on the skin's surface.

There are many different kinds of alpha-hydroxy acids, and some out- performs others - even low usage levels. Intensive research has identified lactic acids, particularly the L-form as one of the most effective forms of AHA. Perhaps not surprisingly, this occurs naturally in the body.

Campo's L-lactic acid is isolated from tomatoes cultivated by hydroponics using root temperature control to optimize yields of L-lactic acid.

..... And CERAMIDES

Ceramide(s) are found in human skin and comprise of 43-46% of the stratum corneum where they play a major role as a water retention barrier. They include sphingosine and fatty acids, and are generally linked with sugars to form structures called glycosphingolipids. Six kinds of ceramides have been identified in the human skin.

Clinical studies of the application of the materials on the forearms of ten healthy male volunteers confirm the augmentation of water-retention, cell-to-cell adhesion, and in the prevention of barrier changes.

Further clinical studies confirms that human ceramide levels decrease with increasing age, especially on the face, and in one third of individuals studied, on the hands as well.

Campo's Ceramide RW is a new complex of biologically engineered material, identical to human skin ceramide and is a spin-off from the P34 cdc2 (gene expression) research work on cellular signal transudation, especially in the area of skin cancer proliferation and down-regulation activities of certain natural products; conducted by Kampoyaki Research, Singapore.

AHA + CERAMIDES = ALPHA CERAMIDEIN™

We have considered the skin as a structure akin to bricks and mortar. The bricks are the stratum corneum cells of the surface skin, and the mortar the intercellular cement that holds the cells together. As skin ages, cells lose their shape, inter-cellular material loosens its grip and the cells slide apart. This gives the skin a slack appearance, it loses its tone and fine lines and wrinkles begin to appear.

Alpha-hydroxy acids work to restore the youthful appearance of the skin. However, they can only complete part of the job. They need the help of ceramides that act like a molecular mortar to reinforce the newer, smaller cells.

Since Elizabeth Arden's "Alpha-ceramide" 4 steps hit the market in the summer of the 1994, many cosmetic raw material suppliers have been trying to produce a clear, colorless, ceramide liquid based that is soluble in ethanol and water. These efforts have been unsuccessful except for a couple of vegetable ceramide powder types with poor stability. These turn into cloudy opaque liquids from which it is virtually impossible to formulate a clear, colorless, generic to the Arden product.

The answer is Campo™ Alpha **-Ceramidein!!!!!**

It has now become possible to super-charge AHA with ceramides, the moisture-enhancing lipids that support and hydrate young skin. Ceramides help to reinforce the skin's moisture barrier and generally improve the skin's condition creating a strengthened barrier upon which the AHA complex can work gently and effectively. The L-lactic acid complex works progressively as part of the alpha-ceramides unique step-by-step system and in this way, all skin types slowly adjust and acclimatize themselves to produce optimal results without the possibility of irritation.

Alpha-Ceramidein is a power-packed system to combat fine lines and wrinkles with L-lactic acid isolated from tomatoes and natural alpha-ceramides produced by cell culture.

Proposed CFTA name (USA)

	Lactic Acid (and) Ceramide III (Ceramide 3)
CFTA-Proposed Name	L-lactic acid (and) ceramide 3 complex
Color /odour:	Colorless, clear liquid with faint characteristic odour
Application	as an additive for emulsion and alcoholic lotions, Particularly suggested for addition in W/O and Non-inorganic emulsions
Application level	5 - 8%
Active Ingredients	L-lactic acid and ceramide.
Storage	Dark and cool in closed containers. Crystals which may Form due to long storage or low temperatures have no Effect on the quality of the product and can be dissolved. By heating and stirring

ALPHA-CERAMIDEIN was developed and is produced by CAMPO RESEARCH PTE. LTD of Singapore.

CAMPO CERAMIDE RW & L-LACTIC ACID COMPLEX

(ALPHA - CERAMIDEIN)

PRODUCT #94-01-33AC

SPECIFICATION

BIOLOGICAL COMPONENTS, CONCENTRATIONS AND THEIR KNOWN ACTIONS

(In the Bio-technologically produced Campo™ Ceramide RW Complex)

Dihydrosphingosine (sphinganine)	0.006%	Biosynthetic precursor of sphingosine: inhibits PKC, also directly inhibits phospholipase A2 and D (ref.#1)
N-sphingosine, N-acetyl (C2 ceramide)	0.00003%	Biologically active, cell permeable, but non-physiological ceramide analogue. Inhibits cell proliferation and induces mono-cystic differentiation of HL-60 cells. Stimulates a cytosolic serine/threonine protein phosphates in T9 cells at concentration as low as 100nM (ref. #2)
Sphingosine , N,N-diethyl	0.0000012%	Inhibits PKC and enhances src-kinases. Inhibits cell surface expression of selections that promote adhesion of leukocytes or tumor cells to platelets and endothelial cells. (Ref. #3)
Sphingosine, N-hexanoyl (C6 ceramide)	0.005%	Biologically active, cell-permeable, but non-physiological ceramide analogue. Stimulate cytosolic serine/threonine protein phosphates in T9 cells and induces phosphorylation on Thr-669 in A-431 cells by stimulation of ceramide-activated protein kinases (ref #4).
N-sphingosine, N-palmitoyl-		Abundantmolecular species of naturalceramide that stimulates cytosolic serine/threonine protein phosphates in T9 cells and induces phosphorylation on Thr-699 in A-431 cells by stimulation of ceramide-activated protein kinase.(see lit #5)
L-(+)-lactic acid, salt complex	5%	Cell rejuvenation, mildly exfoliating.

References:

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Ballou, L.R., et al., 1992 J. Biol. Chem. 267. 20044.

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Hanada K., ET al 1991 Biochemistry 30, 11682;
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#5 Matthias, S., et al, 1991 Proc. Natl. Acad. Sci. USA 88. 10009.

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CAMPO RESEARCH Pte Ltd
TECHNICAL SPECIFICATION

PRODUCT Name (Campo Research) Other Trade Names(CampoResearch)	**CAMPO™ ALPHA-CERAMIDEIN** *ALPHA-CERAMIDE COMPLEX*
CTFA TRADE NAME	ALPHA-CERAMIDE COMPLEX
Existing CTFA/INCI Name	L-Lactic Acid (and) Ceramide 3
Chinese Translation	乳酸 (LACTIC ACID) 神经酰胺 3 (CERAMIDE 3)
CAMPO PRODUCT # HS Code:	**94-01-33AC** 1302.19.0000
CTFA Monograph ID:	1399 – Lactic Acid 10447 – Ceramide 3
CAS# CAS# EU	50-21-5 / 79-33-4 – Lactic Acid 50-21-5 (EU) – Lactic Acid 72068-43-5 / 100403-19-8 – Ceramide 3 100403-19-8 (EU) – Ceramide 3
EINECS Number and Name EINECS# EU	200-018-0 (1) / 201-196-2 (1) – Lactic Acid 200-018-0 (EU) – Lactic Acid 277-140-6 (1) / 309-560-3 (1) – Ceramide 3 309-560-3 (EU) – Ceramide 3
EINECS Number and Name EINECS# EU European Commission–Health & Consumer Cosmetics–Cosing	Lactic Acid http://ec.europa.eu/consumers/cosmetics/cosing/index.cfm?fuseaction=search.details_v2&id=34809 Lactic Acid – 200-018-0 (EU) Ceramide 3 http://ec.europa.eu/consumers/cosmetics/cosing/index.cfm?fuseaction=search.details_v2&id=32498 Ceramide 3 – 309-560-3 (EU)
BATCH/LOT #	**See COA Batch Lot**
PRODUCT DESCRIPTION	STANDARDIZED CELL & FRUIT EXTRACT
PARTS USED	TISSUE CULTURED CELL CERAMIDE COMPLEX < 1% TOMATOES FRUIT ISOLATE - L-LACTIC ACID & DERIVATIVES 5%
COMMENTS	This novel cosmetic ingredient is manufactured from totally organic cultivated raw materials from the Kampoyaki tissue culture labs and hydroponic raceways in the Far East. A Quality Management System, compliant to the International Standard ISO 9001,was used to manufacture and test this material ***Please take note that all specifications are liable to changes without prior notice.**

Specification Parameter Analysis	**Specification Range**	**Results**	**Methods**
Physical Form	Liquid	Conforms	Visual
Colour	Clear Colorless to Yellowish Tint	Conforms	Visual
Odour	Almost Odourless, with faint characteristic sweet aroma	Conforms	Olfactory

Specific Gravity(20deg.C)	1.010 - 1.200	See COA	USP XX IX/Paar,DMA35
Refractive Index(20deg.C)	1.355 - 1.370	See COA	USP XX IX/DGF IV C (52)
pH(20deg.C.) (100% concentrate)	3.50 - 6.50	See COA	USP XX IX/DGF H III (92)
Solvent	Purified Distilled Water, 94.0%	See COA	-
Saponification Value	-	-	-
Viscosity	-	-	-
Dry Residue (160deg.C/2hrs)	12.0 - 18.0%	See COA	2.5g - 105°CAMPO-15h
Preservation	None	Conforms	-
Pesticide Content	None	Conforms	Pflanzaniaschuttal 1989
Total Germs	<100 CFU/ml	Conforms	USP XX IX/Ph.Eur.2.6.12(97)
Total Yeast/Mold	<10 CFU/ml	Conforms	USP XX IX/Ph.Eur.2.6.12(97)
Heavy Metals(Total)As,Pb,Hg	<0.60 ppm	Conforms	USP XX IX/Ph.Eur.2.6.12(97)

CAMPO RESEARCH Pte. Ltd, SINGAPORE
CAMPO RESEARCH USA, INC SAN DEIGO CA 92111, & Manhattan, New York City, USA
CAMPO RESEARCH s.r.o., Brno, Czech Republic
CAMPO RESEARCH Pvt. Ltd, CHENNAI , INDIA
CAMPO RESEARCH CANADA LTD, TORONTO, CANADA

MATERIAL SAFETY & CONSUMER SAFETY TESTING LABS.
DIV. OF JTC KAMPOYAKI SINGAPORE
EMERGENCY MATERIAL SAFETY / ACCIDENTAL RELEASE CENTER Contact:
Emergency Tel.no: +(65)-63833202/63833631(24hours) /63228551/63228503
Emergency Fax No: +(65)-63833632(24hours),63824680, 63228558
EMAIL: msds911@campo-research.com

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