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CAMPO® Multi-Purpose Cosmetic Base Chemicals & Active Ingredients

INDEX

CAMPO BIOTECHNOLOGIC HERBS' ACTIVE EXTRACTS

BIOTECHNOLOGICAL PLANTS' EXTRACTS FOR SKIN & HAIR CARE PRODUCT INFORMATION

PPG Myristyl propionate **(isolated from mass-cultured coconut fruit cells)**

Pentaerythritol tetraisostearate **(isolated from Biotechnological olive fruit cells)**

Synthetic spermaceti NF equivalent **(isolated from mass-tissue cultured Malaysian Palm kernel fruit cells)**

Stearyl heptanoate **(isolated from Biotechnological olive fruit cells**

Propoxylated cetyl alcohol **(isolated from Biotechnological olive fruit cells)**

Propoxylated Stearyl alcohol **(isolated from Biotechnological olive fruit cells)**

Behenic acid

Oleic acid

Palmitic acid

Stearic acid

Fatty alcohols **(isolated from Biotechnological olive fruit cells)**

Oleyl alcohol **(isolated from Biotechnological olive fruit cells)**

Glycerine **(vegetable origin from mass-cultured coconut fruit cells)**

Sodium lactate **(isolated from Biotechnological tomato fruit cells)**

Acetamide MEA and Lactamide MEA **(isolated from mass-cultured coconut fruit cells)**

Polyethoxy (26) glycerol **(isolated from Biotechnological olive fruit cells)**

Vegetal Lanolin and Vegetal Lanolin Derivatives

Absorption bases **(isolated and refined by-products of Biotechnological olive fruit cells)**

Acetylated vegetal lanolin **(isolated and refined from Biotechnological olive fruit cells)**

Vegetal Cholesterol **(isolated from Biotechnological olive fruit cells)**

Vegetal Lanolin **(isolated and refined from Biotechnological olive fruit cells)**
YAKI-1, YAKI-2 and YAKI-3 Lanolin

Cosmetic grade vegetal lanolin (isolated and refined from olive fruit cells)

Liquid vegetal lanolin/isopropyl ester blends
(Isolated and blended material from Biotechnological herb sources)

Solubilized Acetylated Vegetal lanolin alcohol derivative
(Isolated and refined from Biotechnological olive fruit cells)

Isopropyl lanolate (vegetal) **(vegetal derived and refined from Biotechnological olive fruit cells)**

Acetyl esters of vegetal lanolin alcohols
(Vegetal derived and refined from Biotechnological olive fruit cells)

Liquid vegetal lanolin **(derived from Biotechnological olive fruit cells)**

Modified fraction of vegetal lanolin alcohols (**derived from Biotechnological olive fruit cells)**

Alkoxylated liquid vegetal lanolin **(derived from Biotechnological olive fruit cells)**

Propoxylated vegetal lanolin **(derived from Biotechnological fruit cells)**

Vegetal Lanolin acids

Vegetal Lanolin sterol **(Lanosterol generic)**
(Derived and refined from Biotechnogical olive fruit cells)

Polyethoxylated Vegetal Lanolic acids
Polyethoxylated vegetal lanolic acids 5, 10 and 20 (Campol 5, Campol 10 and Campol 20)

Vegetal Lanolin powder
(Isolated, refined and frizzed-dried from Biotechnological olive fruit cells)

Polyethoxylated lanolin alcohols 5,10,15, 20 & 40 **(CAM PolyLan 5,10,15, 20 & 40)**
(Derived and refined from Biotechnological olive fruit cells)

Hydrogenated lanolin **(derived and refined from Biotechnological olive fruit cells)**

Polyethoxylated lanolin E, Polyethoxylated lanolin E50, Polyethoxylated lanolin X

Vegetal Lanolin alcohols - X (Mega 1) and Vegetal Lanolin alcohols -Y (Mega 2)

(Derived and refined from Biotechnological olive fruit cells)

Carboxylic acid esters of vegetal sterols (CAES)

TEA - Lauroyl collagen amino acids (Campo FC)
(Derived and refined from Biotechnological coconut kernel cells)

Corn/Maize Gluten Amino Acids and Sodium Chloride (Campo AG)
—Mass-tissue cultured Corn/Maize cells' gluten amino acids and Sodium chloride

Soluble Vegetal collagen **(isolated and refined from Biotechnological Mexican Skin-Tree)**

Elastin **(Vegetal Elastin) (isolated from Biotechnological Mexican skin-tree xylem cells)**

(Vegetal) Hyaluronic acid/protein complex (vHPC)
Vegetal Hyaluronic acid/protein complex isolated from Biotechnological Mexican skin tree bark cells

Hydrolyzed animal-identical vegetal protein (HP)
—Hydrolyzed animal-identical vegetal protein, isolated from Biotechnological Mexican Skin-tree xylem cells

Polypeptides **(isolated from Biotechnological Mexican skin-tree bark cells)**

—**Functionalised polypeptides**. **(FP)**
Polypeptide L (Lauridimonium hydrolyzed vegetal collagen)
Polypeptide M (Cocodimonium hydrolyzed vegetal collagen)
Polypeptide S (Stearidimonium hydrolyzed vegetal collagen)

Vegetal Silk-identical proteins and amino acids
(Isolated and refined from Biotechnological Aloe Vera cells fibrous materials)

Collagen hydrolysates (vegetal) **(isolated from Biotechnological Mexican skin-tree bark cells)**

Vegetal Collagen Amino-Acids
(Isolated and refined from Biotechnological Mexican skin-tree xylems cells)

Vegetal Keratin amino acids (vKAA)
(Isolated from Biotechnological Aloe vera leaves fibrous materials)

Vegetal egg **(chicken egg-like vegetal protein)**
(Isolated and refined from Biotechnological Brazilnut kernel cells)

Quaternised vegetal collagen protein
(Isolated from Biotechnological Mexican skin-tree bark cells)

Soluble vegetal collagen and soluble vegetal Elastin (SSVCE)
(Isolated from Biotechnological Mexican skin-tree bark cells)

Hydrolyzed vegetal milk protein **(isolated from Biotechnological coconut kernel**)

Hydrolyzed almond protein **(isolated from Biotechnological almond kernels**)

Hydrolyzed vegetable protein **(VGP) (isolated from Biotechnological coconut kernel)**

Soluble vegetal keratin **(isolated from Biotechnological Aloe vera leaf fibres)**

Hydrolyzed vegetal reticulin **(isolated from Biotechnological Mexican skin-tree bark cells)**

Speciality Conditioners

Campo Vegetal Hair Conditioner (CVHC)

Quaternised Cellulose derivatives PL, PM & PS
(Isolated and refined from various Biotechnological vegetal sources)

Campestral EA

New Novel Exotic Herbs' Oils and Plant Butter

Surfactants (derived from various Biotechnological plant sources)

SMOT —Sodium N-methyl N-oleoyl taurate

SMCT - Sodium N-methyl-N cocoyl taurate

Campo Bath Oil Dispersant

Castor oil derived surfactants

Camponas —polyethoxylated castor oil

Campulet —polyethoxyiated hydrogenated castor oil

NEA 5000 —Nonionic emulsifying agent.

Campowax —Nonionic emulsifying waxes.

Campill and Campillon —Sorbitan esters and their polyethoxylated derivatives.

Cetyl diethanolamine phosphate.

Namos 2000

Namos 5000

Campopearl —Modified glycol esters

Camponix —N-lauroyl sarcosine and N-lauroyl sarcosinates.

Campones SFA —Sucrose fatty acid esters.

Kampdets and Kamprols —Polyethylene glycol esters.

Kempowex

Acyl lactates

CNSAA —Complex nonionic surface active agents.

Glyceryl monoesters **- (derived from various Biotechnological vegetal sources)**

GMS —Glyceryl monostearate.

Glyceryl monolaurate

Glyceryl monooleate

Glycol esters

Alkyl amidopropyl dimethylamines **(derived from Biotechnological coconut kernels)**

Amine oxides

Alkyl ammonium quaternaries

Alkyl amidopropyl betaines **(derived from various Biotechnological vegetal sources)**

K-wax D300 **(Vegetal Wax)**

K-wax A300 **(Vegetal Wax)**

K-wax N300 (Vegetal Wax NF equivalent)

Nonionic polyglycol ether **(derived from Biotechnological various vegetal sources)**

Alkyl polyglycol ethers **(derived from various Biotechnological vegetal sources)**

Powerwax **(derived from various Biotechnological vegetal sources)**

Water Dispersible Emollients

(Derived from various Biotechnological vegetal sources)

Kepoils —Ethylene oxide modified vegetable oils.

Polyethoxylated glyceryl monolaurates **(derived from Biotechnological coconut kernel)**

Alkoxylated cetyl alcohol **(derived from Biotechnological coconut kernels)**

IMPORTANT NOTICE

Specifications may change without prior notice. Information contained in this technical literature is believed to be accurate and is offered in good faith for the benefit of the customer. The company, however, cannot assume any liability or risk involved in the use of its natural products or their derivatives, since the conditions of use are beyond our control. Statements concerning the possible use are not intended as recommendations to use our products in the infringement of any patent. We make no warranty of any kind; expressed or implied, other than that the material conforms to the applicable standard specifications.

Ask about our Herbal Natural Products Chemistry Consultancy Services – Product Registration EEC/UK New Drug Development (NDA-US); Quasi-Drug Topicals (MOHW_Japan); Development of Standards, Analysis & Profiles of Phytochemicals; Literature searches, Cultivation of Medicinal Plants, Clinical-Trials, Development of new uses for Phytochemicals and Extracts; Contract Research and Development Work in Natural Products for Novel Drugs, New Cosmetic Active Ingredients for Active Topica/OTC Cosmetic with functionality and Consumer-perceivable immediate-results, New Food Ingredients for Nutraceuticals & Functional Foods.

Campo Biotechnologic Herbs' Animal-Identical Active Cosmetic Ingredients

Available only as exclusive custom basis

Alternative animal (or human) identical actives	**Biotechnological botanical sources**
AAI Retinoic acid & various derivatives	Matsutake (songyi) mushroom
AHSI 29-Hydroxymelissic acids (wax o/s*)	Corallina officinalis Alba
AHSI 29-Hydroxymelissic acids (wax w/s**)	Corallina officinalis Alba
AHSI 29-Hydroxymelissic acids (wax dual Ws/Os*)	Corallina officinalis Alba
AHSI Collagen water-soluble fraction	Mexican skin tree
AHSI Liver organ extract	Siddha Aloe indica
AHSI Sphingolipids extract	Olive fruit cells
AHSI Hyaluronic acid	Olive fruit cells
AHSI Elastin water-soluble fraction	Thulasi herb
AHSI Squaline extract	Mung beans
AHSI Glycos Aminoglycans w/s fraction	Thulasi herb
AHSI Conjugated Glycopeptides w/s fraction	Ashvini herb
AHSI Horny Layer Cephalins w/s fraction	Apple fruit cells
AHSI Glycogen deposits w/s fraction	Olive fruit cells
AAI Porcine skin Glycosaminoglycan w/s fraction	Thulasi herb
AHSI HL* Keratin binding saccharide isomerate	Mahakanni herb
AHSI Deproteinised serum w/s fraction	Thulasi herb
AHI Placental cells extract w/s fraction	Mexican skin tree
AHSI glycoprotein w/s fraction	Mexican skin tree
AHSI glycoprotein o/s fraction	Mexican skin tree
AAI Calf thymus extract w/s fraction	Aloe vera herb
Biotechlogical HSI ceramides (In various forms - waxes, liquids, crystal etc)*	
AAI Sheep wool identical (Non-allergenicity and non-irritation potential) - AAI - Lanolin*	
AHSI sebum oil (HSI lipids) o/s fraction	Olive fruit cells
AHSI sebum liquid (HSI lipids) w/s fraction	Olive fruit cells
AHSI sebum oily liquid (HSI lipids) w/s fraction	Olive fruit cells
AHSI sebum soft wax (HSI lipids) o/s fraction	Olive fruit cells
AHSI Cholesterol crystalline powder	Olive fruit cells
AHSI Cholesterol soft-solid	Olive fruit cells
AAI Tallow non-ionic self-emulsifying wax	Olive fruit cells

*** functions (in cosmetics) available on request
** oil-soluble fractions
* water-soluble fraction
Dual = both oil and water-soluble functionality as single action as it occur in human physiology
AHSI = Alternative Human Skin-Identical
AAI = Alternative Animal-Identical
H = Human

Technical Literature and Samples

Contact:

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Ask about our Herbal Natural Products Chemistry Consultancy Services – Product Registration EEC/UK New Drug Development (NDA-US); Quasi-Drug Topicals (MOHW_Japan); Development of Standards, Analysis & Profiles of Phytochemicals; Literature searches, Cultivation of Medicinal Plants, Clinical-Trials, Development of new uses for Phytochemicals and Extracts; Contract Research and Development Work in Natural Products for Novel Drugs, New Cosmetic Active Ingredients for Active Topica/OTC Cosmetic with functionality and Consumer-perceivable immediate-results, New Food Ingredients for Nutraceuticals & Functional Foods.

1. Campo Biotechnological HERBS' ACTIVE EXTRACTS

Alternative Animals-Identical Cosmetic Ingredients from Biotechnological Herbs

Campo Biotechnological herbs' active cosmetic ingredients are extracted and isolated from Biotechnological botanical sources. The selection of the original botanical sources is based on their cell biology extrapolation expediency and for their historical safe use in personal hair and skin care, decorative cosmetics and in quasi-drug topical treatment products.

The genetic materials (DNA) are from the most-exploited animal sources, which are like-wise used in cosmetics as in the above case of the original botanical sources. Both sources, animal and botanical, are genetically-manipulated to produce a short-term harvest; and uniform gradient of functional properties – **BIOTECHNOLOGIC BOTANICALS**; and while the State of Art - Extraction, Isolation and Electrophoresis & In-Vacuum Magnetic Field Preservation(s) techniques expertise produces a superior range of Green Animal-Identical Ingredients which even the original animal source ingredients could not match in comparison with "the new green biotech-kids on the block".

As animal source ingredients are falling out favor in the cosmetic industries, due to demands made by the **Green Consumer Public*** for "**CRUELTY FREE***" ingredients in the personal care products. The viable alternative to animal source ingredients are still an enigma to the industry, as supply of uniform viable alternatives from vegetal natural sources are non-existent or unpredictable in assuring supplies if it exists or not identical in the specific functions.

The explosion of biotechnology derived products are the true, safe and viable alternatives to enigmatic vegetal alternatives and their unpredictable supplies structure.

Campo has systematically researched into the viability of producing a very safe (in voluntary compliance of the Federal CFR 340 regulations); a truly functional animal identical end raw materials as viable Green Biotechnologic Alternatives to Animal Ingredients** - from Biotechnologic Botanical Sources.

These Biotechnologic herbs' animal-identical active ingredients are functional and totally compatible as their animal-counterparts in any given cosmetic re-formulary, which originally has used 1 or more animal ingredient(s).

As most of these Biotechnologic herb animal-identical alternatives are viably in mass-production as living plants in aerobic or hydroponics environments or as cell-cultures in industrial biotechnology vats; the supplies are assured and viable- (while the prices are cost-effective with negligible premium compared to the animal-ingredients prices).

We invited you to sample our new Animal-Identical Biotechnological Herb Ingredients, please make your request to the Booth attendees. We will send you the requested samples and data and the formularies guidelines.

We will also accept your request for new Biotechnological Herbs Alternative Animal-Identical Ingredients; which you may need as new alternative to reformulate your existing products.

* This information is available on the INTERNET -

Look or search for *FAQ* (FREQUENTLY ASKED QUESTIONS) under the subject:
rec.food.veg frequently asked questions (FAQ)

This FAQ contains a companion list (30 A4 Pgs of 2000) of Animal Derived Ingredients used in Cosmetic that needs boycott under the Title of the book Personal Care with Principle, published by National Anti-Vivisection Society, Spring 1992 Buffalo, NY.

FAQ companion list of Animal Derived Ingredients for cosmetics - available on request.

This FAQ has hits- approx. 18 million times a month and growing (hits = means users, from mainly USA)

** On Federal Regulations in the USA - USDA, EPA and FDA has no regulations yet on the regulating aspects of Biotechnological Plants Extract form or even Biotechnologic Plants/cells extrapolated with domestic animals or human DNA materials for cosmetic use under the 7CFR340 containing parts 0 to 9 with requirement of live biotechnologic plant material i.e.: seeds and seedlings which may be plant pest or biotechnologic plants genetic engineered with plant pest (for pest resistance food crop).

FDA is more concerned with Food Articles produced with biotechnologic plants with plant pest and no reference or future regulatory consideration given or hinted for cosmetic use of Biotechnologic plants ingredients.

Please surf the INTERNET and browse the Web Page of *Biotechnology Permits Home Page* and read more about US Federal 7 CFR 340 and (from here) click to *Biotechnology Information Center (BIC)* on FDA & EPA stand and status on biotechnologicplants and Animals

(To surf to this WEB Page use this URL (address) > http*://www.aphis.usda.gov/bbep/bp)*
Via this WEB Page - you can even send comments to the US Government on proposed rules change and be inform of current information on which genetically modified crop plants are officially exempted from further regulation & click-on to other WEB Sites or ask questions
E-mail: > *kreding@www.aphis.usda.gov* or *Phone (301) 734-8365 Keith Reding / James Lackey*.

Other WEB Site of relevance (has several nation-wide sites linked to this WEB Page) use
URL> *http://inform.udm.edu: 86/EdRes/Topic/AgrEnv/Biotech/. Www.html*

Contact Campo Research, Singapore for more WEB Sites, FTP, Gopher, E-Mail and Boards for Discussions/gossips of Biotech relevance.

All these information on regulation and Internet given by us are correct at OCTOBER 18th 1995.

CAMPO RESEARCH, SINGAPORE
OCTOBER 18TH 1995

Campo Research

biotechnologic herbs' extracts and actives of alternative human skin identical and alternative animal identical for novel functional cosmetics and personal care products.

Extract/active's name:
MUTHU-THULASI® AHSI (Biotechnologic botanical) Collagen w/s fraction extract

Biotechnologic botanical source:
Common & Latin name: *Mexican skin tree / Mimosa ternuiflora*

Biotechnologicorgan:
Leaf somatic cells and bark xylem cells manipulated with certain HS connective tissue fibers and fibroblast DNA script for optimal synthesize of complex sclera-proteins viz.: human skin identical collagen.

Biotechnologic line's age:
36th generation of determined to be totally free of antigenic determinant type somatic cell lines. (Human age equivalent 25 years)

Tolerance and toxicity:

LD_{50} Rats	> 10,000 g/bow Essentially non-toxic
Human Health and Safety Factor	> 100 (1=infectous-50=/non-antigen)

The active biotechnologic ingredients in this Biotech Botanical **AHSI Collagen w/s extract** are physiological substances.

Therefore, **AHSI Collagen w/s fraction extract** is very well tolerated by human skin and has no sensitizing properties. Repeated patch tests with this **AHSI Collagen w/s fraction extract** on healthy human volunteers revealed no signs of irritation or indications of sensitization. Alternative In-vitro *(differentiated human fibroblast cell culture)* tests for acute and oral toxicity showed no negative effects at all.

Ecotoxicity: Biodegradable and non-harmful to organisms in the Environment.

Description:
Sclero-proteins occurs in the connective tissue of the skin as fibres; Collagen forms the most import of these sclero-proteins; and is the structural forming element of the skin and provides (young-skin's) its characteristic properties. Collagen initially originated as synthesized Triple-helical peptide chains in the fibroblast (coetaneous cells) and migrates at maturation (at the chains in the fibroblasts) to the extracellular space in the skin where they aggregate to fibril, fibres, and develop at full maturation into plane flexible structures.

AHSI Collagen extract is a novel biotech botanical HSI young skin native form in a strong-hydrated, non-crosslinked pure soluble with high polarity and hydrophilic properties to bind a large quantity of water to the stratum corneum. The total net effect AHSI Collagen in the maintenance of the young skin - cosmetically is the penetrative nature; subsequent aggregation as well hydrophilic binding (Improved Hydration) in the extracellular spaces.

Properties and effect:
Aging cause increase of cross-links between collagen fibres and as such Human skin collagen is subjected to a continuous aging and deterioration process. This aging and deterioration process generates the young skin type collagen into tougher and increasingly looses its capacity to bind water which is essential for the turgor of the skin. When these occurred in the skin as a consequent looks older and flabby.

From its (collagen) application as a topical pharmaceutical, it is now known that soluble animal collagen accelerates the healing and spontaneous re-epithelization of the skin.

This has been the logic behind cosmetic use of animal collagen and Biotech Botanical AHSI Collagen w/s Fraction Extract helps in the regeneration to young skin as it promotes the process of de-cross-linking of the collagen fibres (reversal of already cross-linked fibres) which is a dual process combines with/to systemic skin re-hydration.

With **AHSI (biotech botanical) Collagen w/s fraction extract** in a skin care creams and lotion at 3-5%, a perceivable result can be obtain in 2-4 weeks of use.

Technical data:

Appearance	slightly turbid viscous liquid
PH	3.2 - 3.95
Dry residue	3.0 - 3.8 % w/w
Collagen content	
From sclero-proteins	0.5 - 11.4 % w/w
From hydroxyproline	10.0 - 11.1 % w/w
Hydroxyproline	10.12 - 11.4 % w/w
Chloride	max. 0.015 % w/w
Total nitrogen	0.15 - 0.21% w/w
Specific rotation	>-380`
Preservative	electrophoresis preservation
Microbiology	nil at packing

Preservation and microbiology:
This extract is preserved with one of the 2 new technique used in the food industry 'electrophoresis and in-vacuum magnetized field which are being used to replace the previous unpopular 'irradatition' technique.'

This extract is free of all specified pathogenic germs. The pathogenic microbial count is nil at packing in our facilities meets these guideline of less than 100 germs/ml.

Dosage and processing:
AHSI Collagen w/s fraction extract is soluble in acidic, aqueous, solution at low ionic strength. It is insoluble in oils, fats, and the usual organic solvents and it is incompatible with quats.

We recommend incorporating **AHSI biotech botanical Collagen w/s fraction extract** into a cosmetic formulation such as:O/W creams and lotions, Beauty Masks and other preparations.
The PH range of these formulations should be 3 - 5. For Skin care preparations, we recommend the addition of 3-5% or higher of **AHSI biotech botanical Collagen w/s fraction extract.**

Storage:
All AHSI OR AAI biotech botanical extracts should be stored in a clean, dark and cool place in the original, sealed containers. Once the containers are opened, handle with special care and use the contents at once to prevent contamination.

Remarks:
Although the above data and the information have been elaborated with the utmost possible care technically related deviations or changes may occur.

Campo Research

Biotechnologic herbs' extracts and actives of alternative human skin identical and alternative animal identical for novel functional cosmetics and personal care products.

Extract/active's name:
MUTHU-THULASI® AAI liver organ extract

Biotechnologic botanical source:
Common & Latin name: *Siddha aloe indica /aloe indica*

Biotechnologic organ:
Leaf somatic manipulated with connective tissues fibres and fibroblast DNA script for synthesizes of sclero-proteins viz.: liver organ extract.

Biotechnologic line's age:
36th generation of determined to be totally free of human antigenic determinant type somatic cell lines. (Human age equivalent 25 years)

Tolerance and toxicity:
The active ingredients in **liver organ extract** are physiological substances. Therefore, **liver organ extract** is very well tolerated by human skin. Immunological tests have shown that **liver organ extract** has no sensitizing properties. Repeated patch tests with **liver organ extract** on volunteers revealed no signs of irritation or indications of sensitization. Animal tests for acute and oral toxicity showed no negative effects at all.

Ecotoxicity: Biodegradable and non-harmful to organisms in the Environment.

Description:
Liver organ extract is a biological, highly purified, bovine liver fraction with specific antioxidant activities. GLYCOLIV contains a metalloenzyme, peptides and a polysaccharide in an exactly defined relation. Intensive studies of the oxygen free radical metabolism led to the development of **liver organ extract. Liver organ extract** is not an actual radical scavenger, but an inactivator of oxygen free radicals!

Effect:
Human skin is constantly exposed to acute and chronic environmental influences, phototoxic reactions as well as irritants, which may be contained, for example in industrial chemicals, household products and even cosmetics. As eventual consequences hereof, irritation, inflammation or accelerated aging of skin can be observed. With **liver organ extract**, it is possible to alleviate or prevent such skin reactions.

Technical data:

Appearance	translucent, mildly opalescent solution
PH	4.5 - 5.5
Dry residue	1.10 - 1.50 % w/v
Activity	4500-5500 piu/ml (pyrogallol autoxidation *i*nhibitor units)
Glycogen, qual.	positive
Copper, qual.	positive
Relative density (20°C)	1.000-1.010
Refractive index (25°C)	1.3340-1.3360
Preservative	0.25-0.4% w/v phenonip
Solubility	water

Preservation and microbiology:
Liver organ extract is preserved with 0.3% Phenonip (parabenes in phenoxyethanol). **Liver organ extract** is free of specified pathogenic germs. The pathogenic microbial count meets the guideline of less than 100 germs/ml.

Dosage and processing:

We recommend incorporating **liver organ extract** into a cosmetic formulation at below 60°C to prevent a relevant loss of activity. The concentration should be adapted to the intended use of the preparation.

For creams or lotions, for example, we recommend the addition of 2-5% of **liver organ extract**.

Storage:
Liver organ extract should be stored in a clean, dark and cool place in the original, sealed containers. Once the containers are opened, handle with special care and use the contents at once to prevent contamination.

Remarks:
Although the above data and the information have been elaborated with the utmost possible care technically related deviations or changes may occur.

Campo Research

Biotechnologic herbs' extracts and actives of alternative human skin identical and alternative animal identical for novel functional cosmetics and personal care products.

Extract/active's name:
MUTHU-THULASI® AHSI (Biotech botanical) Hyaluronic Acid

Biotech botanical source:
Common & Latin name: *Olive fruit cells JTC10*

Biotech organ:
Olive fruit cell JTC*10* manipulated with DNA script of certain proteins and Glycosaminoglycan, which are coupled with DNA of the novel form of low molecular weight Hyaluronic acid (this low m.w. Hyaluronic acid is made of ca. 20 to 100 disaccharide units) of human young skin connective tissues fibres.

This DNA engineering synthesize a novel form low m.w. Hyaluronic acid which is coupled to a complex of low m.w proteins and Glycosaminoglycan which are as a whole is penetrative into the skin on application due to the novel form of low molecular weight.

Biotech line's age :
33rd generation of determined to be totally free of human antigenic determinants type fruit cell lines. (Human age equivalent 25 years)

Description:
Hyaluronic acid is a high molecular weight substance belonging to the group of Glycosaminoglycan and having a molecular weight of 0.4-3 million. It is made up of ca.1000 to 10,000 disaccharide units consists of one molecule each of glucuronic acid and N-acetylglucosamine. It occurs as a physiological constituent of the intercellular ground substance of connective tissue, in the vitreous body of the eye and in the synovial fluid. In view of its very pronounced hydrophilic properties, low concentrations of it are sufficient to form highly viscous solutions having outstanding spreading and lubricant properties. In the intercellular ground substance, **Hyaluronic acid**, which is highly hydrated, fills the space between the collagen and elastic fibres and the cells. It is largely responsible for the visco-elastic properties of this tissue.

The physico-chemical characteristics of it suggest its use in cosmetics.
This Biotech botanical version AHSI Hyaluronic acid in low molecular weight coupled with a complex of similar low m.w. Proteins and glycoaminoglycans

Effect on the skin:
Owing to its low molecular weight, it is absorbed when applied to the skin and also it forms a thin, invisible, transparent, viscous-elastic surface film. This penetrative aspect replaces loss and reverse conditions which responsible for natural and actinic aging and this film fixes moisture on the surface of the skin in a similar manner as Regular **Hyaluronic acid** of Animal origin (which due to its high molecular weight does not penetrate into the skin) - does in the ground substance of the tissues. The Biotechnological Version helps to retain the most important characteristics of youthful, healthy skin, such as suppleness, elasticity and tone. The Hyaluronic acid film supports the natural protective mechanism of the skin. Since it has good water storing properties and is an ideal swelling agent and lubricant, its incorporation into cosmetics leads to a perceptible and visible improvement of skin condition. It is partly suitable for highly concentrated preparations since even small amount can be spread to form a long-lasting, extensive film over the skin and penetrative action in the replacement of the normal loss in an aging condition.

Particularly when used in intensive care preparations, it unfolds the entire range of its valuable biophysical skin care properties.

Technical data:

AHSI Biotech botanical Hyaluronic acid is presented in the **native form of low molecular weight** of very high purity.

Appearance	light amber liquid
PH	5-8
Total solids	min.15%
Low m.w Hyaluronic acid content	0.2 0.3% (based on carbazole test)
Nitrogen	2 -3%
Proteins	11 - 18.5%
Ash	5.0 % max.
Preservative	electrophoresis
Solubility	totally-water soluble
Microbial count	nil at packing
Biotech native-glucuronate content	51.2-53.9%*
Biotech native-hyaluronate content	95-100%*
(* based on the related dry residue)	

Tolerance and toxicity:
Hyaluronic acid is a physiological substance, which has long been used in medicine. It is known to be non-toxic. Immunological tests have shown that highly pure **AHSI** Biotech **botanical Hyaluronic acid** when was applied to volunteers, revealed no signs of irritation or indications of sensitization.

Dosage and processing:
AHSI Biotech botanical Hyaluronic acid, dissolves in water completely, but is affected by PH changes and will begin to precipitate at lower PH than 4.5. **AHSI** Biotech **botanical Hyaluronic acid** is a relatively heat stable compound which will not be denatured at temperatures used in cosmetic formulae compounding very much unlike its counterpart-the regular Hyaluronic acid.
The recommended dosage for use in skin care is 0.5 - 2%, such as: dermal rejuvenators, skin conditioners, sun-care, eye wrinkle, dry skin repair, eye wrinkle cream, face mask, and etc.

Storage:
It should be stored in a clean, dark and cool place in the original,
Sealed containers. The pronounced water-absorbing properties of it must
Be borne in mind when containers are opened. Bottles should therefore not be left open.

Remarks:
Due to technical reasons, changes of the given data & information may occur although they have been worked out with utmost care.

Campo Research

Biotech herbs' extracts and actives of alternative human skin identical and alternative animal identical for novel functional cosmetics and personal care products.

Extract/active's name:
MUTHU-THULASI® AHSI Sphingolipids extract

Biotech botanical source:
Common & Latin name: Olive fruit cells JTC1010

Biotechnologic organ:
Fruit cells manipulated with DNA script for synthesize of Sphingolipids viz.: human skin identical ceramides extract

Biotechnologic line's age:
36th generation of determined to be totally free of human antigenic determinants type fruit cell lines. (Human age equivalent 25 years)

Description:
AHSI Biotech botanical Sphingolipids extract is an aqueous dispersion of Sphingolipids mixture isolated and purified from the Biotechnological Olive Fruit Cells source. It contains a large quantity of those Sphingolipids, which are also found in the skin cells and in the intercellular spaces of the horny layer.

Effect:
According to the present state of knowledge, it can be said that **AHSI Biotechnologic botanical Sphingolipids extract** contributes to the swift regeneration of a damaged permeability barrier and to the rapid reconstitution of the lipid membranes in the intercellular spaces of the horny layer.

AHSI Biotechnologic botanical Sphingolipids extract supports the natural water-retaining property of the stratum corneum by reducing the Trans-epidermal water loss and thus maintaining optimal skin-hydration and physical flexibility of skin. This produces a pleasant, smooth and soft feel to the skin.
An oil-soluble version and Dual Version (both Water and Oil soluble) are also available.

Technical data:

Appearance	milky, opalescent, beige colored dispersion
PH	6.5-8.0
Odour	characteristic sphingolipidic
Dry residue	0-1.5% w/v
Relative density	0.950-1.050
Preservative	electrophoresis preserved
Solubility	water
Microbial count	nil at packing

Preservation and microbiology:
AHSI Biotechnologic botanical Sphingolipids extract is preserved by the Electrophoresis methodology. The pathogenic microbial count is, according to the recommendation of the WHO, max. 100 germs per ml of **Sphingolipids extract**. It is free of specified pathogens.

Dosage and processing:
AHSI Biotech botanical Sphingolipids extract should be incorporated into the finished mulsion at 35-40.c. Working at temperatures below 35.c is possible, but care should be taken not to exceed 40.c. It is suitable for incorporation into o/w as well as in w/o emulsions.
A particular easy distribution can be observed in both types of emulsions. For skin care preparation we recommend an addition of 3-6% **AHSI Biotech botanical Sphingolipids extract**. Higher concentration has no negative effects.

Tolerance and toxicity:
In oral toxicity experiments with **AHSI Biotech botanical Sphingolipids extract** on animals no negative effects could be observed. In skin irritation and sensibilization tests (allergen tests) on Humans, it has produced no signs of irritation, inflammation or allergic reaction on skin.

Storage:
It should be stored in a clean, dark and cool place in the original, sealed containers. Once the containers are opened, handle with special care and use the contents at once to prevent contamination.

Remarks:
Although the above data and the information have been elaborated with the utmost possible care, slight deviations or changes may occur due to technical reasons.

Campo Research

Biotechnologic herbs' extracts and actives of alternative human skin identical and alternative animal identical for novel functional cosmetics and personal care products.

Extract/active's name:

MUTHU-THULASI® AHSI Biotech botanical tyroinase inhibition enzyme extract

Biotechnologic botanical source:
Common & Latin name: Songyi Mycelium cells JTC100 /Trichloma Matsutake

Biotechnologic organ:
Mycelium cells manipulated with DNA script for synthesize of an enzyme which responsible for tyrosinase inhibition.

Biotechnologic line's age:
300th generation of determined to be totally free of human antigenic determinants type mycelium cell lines. (Human age equivalent 25 years)

Description:
AHSI Biotech botanical tyrosinase inhibition extract is an aqueous dispersion of this inhibition enzyme mixture isolated and purified from the Biotechnologic Songyi mushroom Mycelium Cells source. It contains a large quantity of these tyrosinase inhibitors, which are also found in the skin cells.

Effect:
According to the present state of knowledge, it can be said that **AHSI Biotech botanical tyrosinase inhibition extract** contributes to the swift lighten of the skin, minimize the skin tanning, freckles, liver spots, and age pigments.

This extract has the pronounced ability to reduce slow-down and prevent the skin tanning as a consequence of exposure to UV rays (Sunshine) by inhibition of the Tyrosinase at the very beginning of the process- Melanogensis.

Technical data:

Appearance	clear yellowish liquid
PH	6.0-7.0
Activity	> 100 tyrosinase inhibitor units/ml
Relative density	1.020-1.050
Refractive density	1.370 - 1.390
Total nitrogen	0.42 - 0.52 % m/m
Preservative	electrophoresis preserved
Solubility	water
Microbial count	nil at packing

Preservation and microbiology:
This novel **Skin-whitening Extract** is preserved by the Electrophoresis methodology. The pathogenic microbial count is, according to the recommendation of the WHO, max.100 germs per ml. It is free of specified pathogens.

DOSAGE AND PROCESSING:
This extract can be processed in either warm or cold and is to incorporate into the aqueous phase of the formula. It is suitable to be incorporate a sunscreen i.e.: songyi Acid; we recommend 2-5% addition levels.

Tolerance and toxicity:
In oral toxicity experiments with **AHSI Biotech botanical tyrosinase inhibition extract** on Humans - no negative effects could be observed. In skin irritation and sensibilization tests (allergen tests) on Humans, it has produced no signs of irritation, inflammation or allergic reaction on skin.

Storage:
It should be stored in a clean, dark and cool place in the original, sealed containers. Once the containers are opened, handle with special care and use the contents at once to prevent contamination.

Remarks:
Although the above data and the information have been elaborated with the utmost possible care, slight deviations or changes may occur due to technical reasons.

Campo Research

Biotechnological herbs' eextracts for alternative animal-identical & human-skin identical functionally active - cosmetic ingredients as true non-cruelty replacement for cruel animal-based cosmetic ingredients & raw materials.

Product Information **MUTHU-THULASI®** Range Biotechnological Herbs

Biotechnological HERBS and Plants under the **MUTHU-TRULASI®** range are novel State-of-Art Plants and Herbs, which are genetically manipulated with DNA and viable Genes from sources in Animal Kingdom.

The resultant Biotechnological hybrids are identical to the normal species of plants, but certain parts of these Biotechnological species exhibits the required necessary properties and functions which are previously possibly obtained only from 'cruelty to animal-sources' such as placental, Hyaluronic acid, lipids, collegians, fetal extracts, and many others.

Biotechnological Herbs Extract as an Alternative Animal-Identical and Human-Skin Identical Cosmetic Ingredients are a true novel replacement and alternative to the "Animal-Cruelty" soured functional cosmetic ingredients.

MUTHU-THULASI® Vegetal CHOLESTEROL Extracts which is VCE in short is extracted from Mexican Skin-Tree inner-bark cells which are genetically manipulated with BOVINE-WOOI-WAX & LIPIDS forming Cells'- DNA scripts (from genetic material that is responsible for the formation of the sterol).

As Mexican Skin-Tree (Mimosa ternuiflora) as a skin-and hair-regeneration traditional remedy is well known in catastrophic events of Mexican Gas Explosion in 1984 and Mexico City Earthquake in 1987. When in both cases, a million burn victims were treated for severe to light burn skin-conditions, as medical supplies were non- existent, in these 2 national disasters, with the Mexican Tepescohuite, which in Spanish simply means Skin-Tree.

The Biotechnological Mexican Skin-Tree cells are novelty which are more prolific and enhanced in its activity of re-generation of the cellular structures and contains a cocktail of sterols - high molecular weight alcohol characterised structurally by the presence of a saturated phenanthrene ring systems, having and additional five member ring fused at the 1,2 position.

The principal sterol being Cholesterol occurring in its free state and or as fatty acid esters, identical, in cholesterol formation and functions as to that presently found viable and exclusively only in the animal sources.

In general, these vegetal cholesterol are identical in its moisturising and emulsified water retention to the skin functions and in its many other characteristics as the animal soured cholesterol; which functions by holding emulsified water to the skin as a moisturiser in similar manner as the human-skin lipids.

Vegetal Cholesterol has the unique character to impart its property as above mention, to other waxes and fats in a formulary; apart from this moisturising, Vegetal Cholesterol aids in modifying the occlusiveness of the fatty and oily films, as the natural human-skin cholesterol functions does.

Vegetal Cholesterol is positively as known from various tests and assays is a natural Animal-Cruelty-Free and human skin-identical natural emollient and moisturiser of the skin.

Vegetal Cholesterol is water in oil emulsifying agent who may be used as a primary emulsifier in water in oil ointment, creams and lotions.

Vegetal Cholesterol is a primary non-irritant and can be safely recommended for reducing the irritation in action of soaps and detergents. Tests have shown that Vegetal Cholesterol in the soap lather in the emulsified form can readily penetrates the epidermis and imparts suppleness.

Vegetal Cholesterol can be used in "All Cruelty Free" skincare preparation, as an emollient moisturising additive, which exhibit unique surface activity, emollient, superfating properties and can be incorporated in as a functional additive for medicated and non-medicated shampoos, cleansing, cold, nourishing, moisturising hair preparation and other skin preparations for skin-softening and improving skin textures.

Therefore, the functional Alternative Animal-Identical and Human-Skin-identical Biotechnological vegetal sources novel active cosmetic ingredients of the MUTHU-THULASI® range presents a uniquely viable marketing strategy in an era of Anti-Animal Vissisection & Cruelty-Free and Vegan - & Green consciousness. VCE as active ingredients which are uniquely functional and active in formulations:

Anti-cellulite, body contour reflex, treatment of body-zones with weak connective tissues, massage formulations, facial skin re-generation, skin & bruises rapid healing, after-shaves, after-sun, anti-acne treatment, day & night moisturisers, insect-bite-anti-irritation; snow & sun chapped irritated skin, regeneration & reversing of aged skin; and baby-skin formulas.

Other non-specific functions are decrease in the water evaporation and increase in moisture-absorbency/retention rate of corny layer which is re-adjusted to a silky smooth surface instead hard, corny, unregulated, and uneven surface of the skin.

VCE can be manufactured to USPXXVII (NMMII) specification on custom-request.

CAMPO R&D
Biotechnological Cosmetic Ingredients Division
NOV.10TH 1995

Campo Research

Biotechnological herbs' eextracts for alternative animal-identical & human-skin identical functionally active - cosmetic ingredients as true non-cruelty replacement for cruel animal-based cosmetic ingredients & raw materials.

VCE Product Specification

USPXXII/NFXVII Specification

Product Name:	**MUTHU-THULASI®** Cholesterol 10 (USP/NF Equivalent)
Syn. Name:	Vegetal Cholesterol Extract (Bovine-Identical)
Generic Product INCI Name: Product #:	Cholesterol Extract Biotechnological Cholesterol 10USP/NF
Appearance (25°C) Solubility (1% in ETOH)	white crystalline powder no deposit or turbidity after
Melting point (By capillary)	147-150°C
Specific rotation (2% in dioxane)	-38 to -34 degree
Acidity (0.5M sulfuric)	0.3ml max
Loss on drying (1g)	0.3%
Sulfated ash	0.1%

Microbiological characteristic

Total aerobic bacteria	100 opg max
Yeasts & moulds	100 opg max
Gram-negative bacteria	not detected/nil
Shelf life:	approx. > 24 months

CAMPO R&D
Biotechnological Cosmetic Ingredients Division
NOV.10TH 1995

Campo Research

Biotechnological herbs' eextracts for alternative animal-identical & human-skin identical functionally active - cosmetic ingredients as true non-cruelty replacement for cruel animal-based cosmetic ingredients & raw materials.

VCE Product Specification

Specification

Product Name:	**MUTHU-THULASI®** Cholesterol 10 SE
Syn. Name:	Vegetal Cholesterol Extract (Bovine-Identical)
Generic Product INCI Name:	Cholesterol Extract
Product #:	Biotechnological Cholesterol 10SE
Appearance (25°C)	yellow viscous liquid
Odour (physical)	slight characteristic
Color (gardener)	2.5 max
Acid value (BS 684)	0.05 max
Saponification value (BS684 at 4 hours)	85 - 107.0
Hydroxyl value	5.00 max
Iodine value (WIJ's)	20.00 - 36.00
Volatile (%) (5g 105°C at 1 hour)	0.30% max
Ash %	0.100 % max
Heavy metal (ppm)	20 max
Arsenic (ppm)	2 max
Water content (Karl Fisher)	1-% max
Shelf life:	approx. > 24 months

CAMPO R&D
Biotechnological Cosmetic Ingredients Division
NOV.10TH 1995

Campo Research

BIOTECHNOLOGICAL PLANTS' EXTRACTS FOR SKIN & HAIR CARE

PRODUCT INFORMATION

Biotechnological Plant Extracts are a collective term of description for extracts from plants and herbs of which are genetically manipulated to inherited specific active functionalities and properties akin to the young skin and healthy hair. In this new novel range of functional cosmetic ingredients, a number of exotic functional Biotechnological extracts were already introduced viz.:

Mahakanni Self-Tanning Liposome Concentrate Extract
- (Ex Eclipta Alfa's Skin Eumelanin):

Mahakanni Self-Tanning Aqueous Concentrate Extract
- (Ex Eclipta Alfa's Skin Eumelanin):

Biotechnological Olive Fruit Cells' Hyaluronic Acid Extract
- (Ex Olive's Identical Cockscomb H-acid)

Campo Biotechnological Human Skin Ceramides (crystallisation liquids o/s & w/s)
- (Ex Olive Fruit Cells)

Campo Biotechnological Human Skin Ceramides
(Water-soluble Identical Skin Ceramide(s) waxes).

While in the process of being introduced are a number of other new Biotechnological Plant Extracts; which are originally sources from animal origins.

In this introduction sheet, Vegetable Placental Extract (VGPE and SUPER PLUS 10) which is totally identical to Human Placenta Extract in functionality and promoted as the ultimate replacement ingredient.

The Mexican Tepescohuite which is transliterate the Skin Tree in english (Mimosa ternuiflora), which inner bark's cell is genetically manipulated with strands of human placental DNA scripts to produce the cocktail of placental active ingredients which are responsible for the fine healthy hair and facial young skin regeneration in the pregnant mothers, and the prolific cell growth factors in the foetus.

In general, Vegetable Placental Extract (VGPE) is a novelty cosmetic ingredient as an active ingredient is suitable for formulation such as:

Anti-Cellulite, Body Contour Reflex Treatment of body-zones with weak connective tissues Massage formulations for re-generation of young skin conditions, skin wound healing, after-shaves, after-sun, anti-acne and acne-treatment, on irritated skin, immediate results perceivable and ageing reversible moisturisers as well as moisturisers for improving moisture content and elasticity of skin.

The Vegetable Placental Extract-Super Plus 10 has specific functionalities in addition to the functionalities stated in the above-mentioned Regular-low-cost version - Vegetable Placental Extract (VGPE), namely:

Specifically supports the formation of new cells and counteracts keratinisation of the skin.
Specifically activates the flow of body fluids to the epidermis, and consequently promotes circulation.
Adaptogenically metabolises and specifically flush-out the excessive fat cells (cellulite) and favourably influences the specific-formation of new fat tissues in a previously scaly and chapped skin conditions, and specifically counteracts seborrhoic and inflammatory changes of the skin and improves peripheral circulation.

In general, VGPE is a novelty cosmetic ingredient as well as True Animal Cruelty Free (claim-label) active ingredient which is uniquely functional and active in formulations:

Anti-cellulite, body contour reflex, treatment of body-zones with weak connective tissues, massage formulations, facial skin re-generation, skin & bruises rapid healing, after-shaves, after-sun, anti-acne treatment, day & night moisturisers, insect-bite-anti-irritation; snow & sun crapped irritated skin, regeneration & reversing of aged skin; and baby-skin.

VGPE specifically supports the formation of new cell and counters keratinisation of the skin, specifically activates the flow of the body fluids, to the epidermis, and consequently promotes circulation, adaptogenically metabolise and specifically flush-out the excessive toxic-fat cells (cellulite) and favourably influences the specific-formation of new fat-tissues in a previously scaly and chapped skin condition, and specific counteracts seborrhoic and inflammability changes of the skin and improves peripheral circulation.

Other non-specific functions are decrease in the water evaporation and moisture-absorbance rate of corny layer which is re-formation to a silky smooth surface instead corny and unregulated, uneven surface of the skin.

CAMPO R&D
Biotechnological Cosmetic Ingredients Division
NOV.10TH 1995

Campo Research

SPECIFICATION	VGPE	SUPER PLUS 10
Appearance	light yellow liquid	brown slightly foaming liquid
Odour	slight, characteristic Skin Tree	slight, characteristic Skin Tree
Specific density (20°C)	0.9990 - 1.060	1.04 - 1.06
Refraction index (20°C)	1.3300 - 1.450	1.370 - 1.40
PH value (20°C)	3 - 6.8	3 - 6
Dry residue (160°C)	7 - 28 %	20 - 40 %
Preservative	none	none
Microbiology	<100 cfu/ml Non pathogens	< 100 cfu/ml non pathogens
Medium of extraction	1,3-butylene glycol 3%* And water 97% dielectrophoresis	water-dielectrophoresis
Applications	all skin care and treatment products	all skin and hair care products
Dosage	3 - 10%	3 - 10%

* A 100% aqueous (water-dielectrophoresis) Extract (instead of 1,3-BG) is available on custom request.

CAMPO R&D
Biotechnological Cosmetic Ingredients Division

Campo Research

Biotechnological herbs' eextracts for alternative animal-identical & human-skin identical functionally active - cosmetic ingredients as true non-cruelty replacement for cruel animal-based cosmetic ingredients & raw materials.

Technical Specification

Product Name:	VGPE
Syn. Name:	Vegetal Placental Extract
Generic Product INCI Name:	Placental Extract
Product #:	002105
Appearance:	yellow brown liquid
Odour:	slight, characteristic
Specific density (20°C)	0.9990 - 1.600
Refraction index (20°C)	1.3300 - 1.4500
Dry residue (160°C)	7 - 38 %
Preservative	none
Microbiology	<100 cfu/ml non pathogens
Medium of extraction	1,3-butylene glycol 3%* And water 97% dielectrophoresis
Applications:	for incorporation in all skin, hair and treatment cosmetics and personal-care products
Recommended level of use:	3 - 10%
Comments:	A 100% aqueous version (100% Water-Dielectrophoresis) placental extract is available on custom-request

CAMPO R&D
Biotechnological Cosmetic Ingredients Division
Sept 10th 1995

Campo Research

Biotechnological herbs' eextracts for alternative animal-identical & human-skin identical functionally active - cosmetic ingredients as true non-cruelty replacement for cruel animal-based cosmetic ingredients & raw materials.

Certificate of Analysis

Product Name:	MUTHU-THULASI® VGPE 0109
Syn. Name:	Vegetal Placental Extract (Pork Identical)
Generic Product INCI Name:	Placental Extract
Product #:	Biotechnological Vegetal 0109
Batch Lot #:	PE09/010

Test	Specification	Results
Appearance	clears yellow viscous liquid	pass
Odour (physical)	slight	pass
Color (Gardener)	8 max	8.0 Gardener
Acid value (BS684)	1 max	0.55 mg KOH/g
Saponification value (BS684 at 4 hours)	6.0 - 15.0	9.4 mg KOH/g
Water content (Colormetric)	46-51%	51.09%
Q.C. Results:	Pass	
Shelf life from date of test:	24 months	

CAMPO R&D
Biotechnological Cosmetic Ingredients Division
Analytical Department
Nov 10th 1995

Campo Research

Biotechnological herbs' eextracts for alternative animal-identical & human-skin identical functionally active - cosmetic ingredients as true non-cruelty replacement for cruel animal-based cosmetic ingredients & raw materials.

Certificate of Analysis

Product Name:	**MUTHU-THULASI®** VGPE 901
Syn. Name:	Vegetal Placental Extract (Pork Identical)
Generic Product INCI Name:	Placental Extract
Product #:	Biotechnological Vegetal 901
Batch Lot #:	9-033-10

Test	Specification	Results
Appearance (25°C)	yellow was	Pass
Odour (physical)	slight	pass
Color (Gardener)	10 max	6.0 Gardener
Acid value (BS684)	2 max	1.24 mg KOH/g
Saponification value (BS684 at 4 hours)	8.5 - 11.0	10.3 mg KOH/g
Drop point BS684	52 - 54 deg C	54 deg C
Water content (Karl Fisher)	1-% max	0.57%
Q.C. Results:	Pass	
Shelf life from date of test:	18 months	

CAMPO R&D
Biotechnological Cosmetic Ingredients Division
Analytical Department
Nov 10th 1995

MUTHU-THULASI®

Campo *Biotechnological* herbs/plants active extracts as animal identical functionalities and animal alternative cruelty-free cosmetic generic base ingredients (low-cost novel premium product range)

All cosmetic formulation base ingredients stated below, can be labeled (in copy-pack composition listing) as vegetal derived alternatives of animal sources-based ingredients by their common accepted chemical definitions.

Lactic acid (isolated from Biotechnological tomato fruit cells)

Lactic acid occurs widely in nature. In has been estimated that the stratum corneum of the skin contains as much as 10% lactic acid, and its salts. These have been described as part of the skin's natural moisturizing factor.

Lactic acid is a useful acidulent for skin creams and astringent lotions. It is highly substantive to skin and hair. In a buffer solution with sodium lactate, it may be applied in substantial quantities. Lactic acid affects the texture of proteinaceous materials causing softening and swelling with increased elasticity.

Lactic acid is recommended as a moisturizing aid and conditioning agent in skin softening compositions. At high concentrations lactic acid has been employed in the treatment of corns, warts and callosities.

Butyl stearate (isolated from Biotechnological olive fruit cells)

A colorless liquid, Butyl stearate is a high quality ester developed for the cosmetic industry. It provides emollience without oiliness and may be employed as a partial replacement for mineral and vegetable oils in lotions, creams and salves.

Butyl stearate finds application as a plasticizer in hair sprays and nail varnish, where it also improves gloss. It can also be included in nail varnish removers where it aids varnish removal whilst helping to prevent severe defatting of the nail and cuticle. In lipsticks Butyl stearate modifies viscosity of the Vehicle, improving wetting of pigments and solubility of dyestuffs.

Cetearyl octanoate (isolated from Biotechnological olive fruit cells)

A selected blend of branch chain esters, Cetearyl octanoate is a colorless, low odour liquid, possessing a fine 'dry' emollience. It spreads quickly over the skin imparting a high degree of water repellency. Its chemical nature and ability in this respect simulates the property of the liquid fraction of the preen gland oil of aquatic birds - a natural oil known to consist of a high proportion of branch chain fatty esters.

Branch chain compounds of this type are also of biological significance due to their protective role of the skin. The natural skin protective fats (Sebum) help regulate the transmission of water vapor and certain gases from the skin. In normal healthy skin this process should not be impeded, with Cetearyl octanoate, the occlusiveness of other fatty films applied to the skin can be modified to simulate this property of Sebum.

Cetearyl octanoate is recommended for inclusion into all skin care and make-up preparations where it imparts a smooth after feel, promotes spreading and reduces stickiness and occlusivity.

Cetyl lactate (isolated from Biotechnological olive fruit cells)

Cetyl lactate is a creamy colored solid, possessing good solubility in aqueous alcoholic solutions. Although essentially lipophilic, it is soluble in a variety of polyols. It imparts a useful dry emollience to anhydrous make-up and skin care preparations. Cetyl lactate is also usefully employed in preparations packaged in polystyrene, since it does not attack this polymer.

Cetostearyl stearate (isolated from Biotechnological olive fruit cells)

Cetostearyl stearate is a white waxy solid, which imparts a dry emollience to cosmetic and pharmaceutical preparations. Its inclusion into emulsions produces increased viscosity and a dense white appearance. This ester is a successful substitute for spermaceti wax, which can be incorporated into virtually all creams and lotions. It is also useful for texture modifications and stability in anhydrous systems such as lipsticks and eye make-up.

Di-isopropyl adipate (isolated from Biotechnological lac tree twig cells)

Di-isopropyl adipate is a colorless liquid of low viscosity and neutral odour, soluble in both alcohol and aqueous alcohol. It is a good solvent for aromatic oils and perfumes, a super fatting agent for aqueous alcoholic lotions and a solvent for some lipstick dyestuffs. It is miscible with mineral oils, vegetable oils, synthetic esters, acetoglycerides and silicone oils of low viscosity. The excellent volubility of Di-isopropyl adipate in aqueous alcohol indicates its usefulness in cosmetic preparations such as after-shave lotions, colognes and skin fresheners. Di-isopropyl adipate is capable of dissolving 1.4-% eosin at 30°C and may be employed as a dyestuff solvent in lipstick.

The plasticising properties of Di-isopropyl adipate may be used to advantage in nail varnish and hair sprays. Di-isopropyl adipate is employed in skin and bath preparations to impart a fine emollient film. As a super fatting agent Di-isopropyl adipate may be included in shampoos and nail varnish removers.

Decyl oleate (isolated from Biotechnological olive fruit cells)

Decyl oleate is a pale yellow liquid, with a bland taste and mild characteristic odour. It is an excellent emollient, lubricant and penetrant. It spreads well over the skin, leaving a non-sticky film. It is compatible with most fatty materials employed in the manufacture of cosmetics and pharmaceuticals and is a useful vehicle for active medicaments. In lipstick, Decyl oleate can be used as a substitute for castor oil improving applicational properties of the stick,

2-ethylhexyl adipate (isolated from Biotechnological olive fruit cells)

2-ethylhexyl adipate is a fine non-occlusive. Materials of this type are frequently employed to reduce the occlusivity and lighten the texture of tatty films applied to the skin. 2-ethylhexyl adipate is recommended for application in skin and make-up compositions. It is a useful addition for inclusion into antiperspirant/ deodorants, bath oils and sunscreen preparations.

Isocetyl stearate (isolated from mass-tissue cultured biotechnologic Malaysian palm-kernel cells)

Isocetyl stearate is a fully saturated branch chain ester. It is a low viscosity colourless liquid setting at approx 0°C. Isocetyl stearate is recommended as an emollient, lubricant and spreading agent. Due to its low setting point it can be used to control viscosity and crystallisation. It is particularly useful in bath oils, skin creams and lotions and decorative cosmetics.

Isopropyl laurate (isolated from cultured Corallina officinalis cells)

Isopropyl laurate possesses similar properties to Isopropyl myristate acting as an emollient, plasticiser and co-solvent.

Isopropyl myristate (isolated from cultured Corallina officinalis cells)

Isopropyl myristate produced from highest quality myristic acid, Isopropyl myristate is an essentially odorless liquid. It is one of the most popular cosmetic esters, conferring spreading and emollient properties to preparations. It is also an effective vehicle and co-solvent.

Isopropyl myristate is often used as a diluent for mineral and vegetable oils to increase solvency promote spreading or lighten their texture. It is particularly useful in bath oils, aerosols, antiperspirants, deodorants, hygiene sprays, sunscreens, skin care, make up and hair care products.

Isopropyl palmetto (isolated from mass-tissue cultured Malaysian palm-kernel cells)

This material has similar properties and applications to Isopropyl myristate. The only significant difference is its higher setting point.

Isostearyl neopentanoate (isolated from Biotechnological olive fruit cells)

Isostearyl neopentanoate is a clear, pale yellow thin liquid with a faint characteristic odour. It is stable over a wide PH range (acid/base) as compared with straight chain carboxylic acid esters and is soluble in most organic solvents, Isostearyl neopentanoate is an excellent mild emollient and lubricant which imparts a smooth, rich, non-greasy texture to the skin. It is especially useful in neck and eye creams where an extremely fine emollience is preferred although it is also recommended for inclusion into all types of skin care creams and lotions.

Isostearyl neopentanoate does not attack high-density polystyrene. This material is also an excellent binding agent in compressed powders and is particularly effective in compressed eye shadows containing high levels of pearl/ lustre pigments, such as titanium coated mica.

Oleyl erucate (isolated from Biotechnological jojoba fruit cells)

In luxury creams and lotions there is a desire to incorporate natural products, particularly those of vegetable origin, Jojoba is a popular additive for inclusion into such preparations.

Oleyl erucate was developed as a substitute for Jojoba. It can be used as a total replacement for Jojoba oil to impart similar functional properties or, more frequently, as a diluent for Jojoba oil in order to retain both functionality and marketing claims but at a reasonable cost.

Oleyl erucate is a highly lubricating emollient and imparts a pleasant smooth texture to the skin.

Lauryl lactate (isolated from Biotechnological olive fruit cells)

Lauryl lactate is a colourless to pale yellow liquid with a faint, bland odour. It is an excellent emollient for a wide range of cosmetic preparations including antiperspirants; make-up, hair and skin care products,

Though essentially lipophilic, Lauryl lactate is soluble in polar materials such as glycols. It promotes good spreading and wetting characteristics and leaves a thin dry film on the skin and hair. In common with other lactates, it shows no tendency to attack polystyrene.

Myristyl lactate (isolated from Biotechnological olive fruit cells)

Myristyl lactate is a colourless to pale yellow liquid at normal temperatures setting to form a paste at approximately 1 3°C. It is essentially lipophilic but is also soluble in a variety of glycols and has good solubility in aqueous alcoholic solutions. Myristyl lactate does not attack polystyrene.
Myristyl lactate improves smoothness and gloss in lipsticks and is a useful emollient in antiperspirants. In hair care preparations it imparts a clean healthy sheen.

Myristyl myristate (isolated from mass-tissue cultured Malaysian palm-kernel cells)

Myristyl myristate is hard white waxy solid, manufactured from high quality myristic acid. It produces dense, white stable emulsions and a smooth dry emollience on the skin. It can be used in many of the applications described for Synthetic spermaceti NF.

2-ethylhexyl cocoate (isolated from Biotechnological olive fruit cells)

In common with Octyl palmitate, this material is a "porositone", and is used to modify the occlusivity of other cosmetic materials. Due to its extremely fine emollience, it also promotes spreading and reduces any tendency of tackiness of cosmetic preparation. It is suitable for use in all skin care, make up, hair care and toiletry compositions.

2-ethylhexyl hydroxystearate (isolated from Biotechnological olive fruit cells)

2-ethylhexyl hydroxystearate is recommended as a super fatting agent in skin and hair detergent cleansers. It counteracts the harsh degreasing effect of the detergent and conditions the hair to give a healthy sheen. In addition, the irritant effect caused by the stripping of natural lipids is significantly reduced.

2-ethylhexyl hydroxystearate does not impair the foaming capacity of detergent and soap-based systems. It is recommended as a super fatting agent in the production of gentle toilet soaps liquid body soaps and shampoos.

It may also be employed in skin creams, lotions and tonics where its high lubricity provides a pleasant and lasting emollience. 2-ethylhexyl hydroxystearate is an effective binder when used in compressed powder eye make up

2-ethylhexyl palmitate (isolated from Biotechnological olive fruit cells)

2-ethylhexyl palmitate is that recommended for use in all make-up, skin and hair care preparations. It is useful for modifying the occlusiveness of creams, ointments and oils.

Esters of this type do not impede insensible perspiration and skin respiration by balancing 2-ethylhexyl palmitate with other ingredients in skin care formulations; it is possible to simulate the properties of the natural skin lipids. It does not attack polystyrene.

Propylene glycol diester (isolated from mass-tissue cultured coconut fruit cells)

Propylene glycol diester of selected coconut fatty acids. This material is a clear liquid emollient having a faint bland odour. Being a liquid of low viscosity Propylene glycol diester offers excellent spreading properties, whilst imparting a pleasant, non-oily lubricity to the skin. Propylene glycol diester possesses a very low cloud point, which is an advantage in many cosmetic systems. It is particularly recommended for that use in bath oils antiperspirants, lipsticks and all skin and hair care preparations.

PPG Myristyl propionate (isolated from mass-cultured coconut fruit cells)

PPG Myristyl propionate is an alkoxylated emollient ester having a light, greaseless texture. It has a high spreading coefficient and forms a uniform, cohesive film. Recommended uses include creams, lotions and bath oils where the incorporation of PPG Myristyl propionate improves spreading and reduces the occlusivity and greasiness of other ingredients. The use of PPG Myristyl propionate in soap-free emulsions produces excellent rub-in properties and good texture on the skin.

PPG Myristyl propionate has been shown to possess a low order of comedogenicity and this, coupled with its extra light emollience, makes it an ideal choice for use in make-up and skin care compositions.

Pentaerythritol tetraisostearate (isolated from Biotechnological olive fruit cells)

Pentaerythritol tetraisostearate is a moderately viscous, pale yellow liquid cosmetic lubricant, it is not readily absorbed by the skin and remains at the skin surface to exert maximum emollient effect. Pentaerythritol tetraisostearate is recommended for use in sunscreen, massage and barrier preparations. It is particularly useful as a partial or total replacement for castor oil in make-up where it improves stability and gloss for both the stick and applied film. In skin care products, bath oils, etc. Pentaerythritol tetraisostearate used as a minor additive will impart a pleasant and persistent emollience.

Synthetic spermaceti NF equivalent (isolated from mass-tissue cultured Malaysian Palm kernel fruit cells)

Synthetic spermaceti NF equiv. is a mixture consisting of Myristyl. Cetyl, palmitoyl esters of myristic and palmitic acids it is an off white solid giving body and emollience to cosmetic and pharmaceutical formulations. Synthetic spermaceti NF equiv. produces white, stable creams, which impart a soft, feel to the skin. It is a useful replacement for spermaceti wax in hair creams, cold creams, cleansing creams and suppositories. It is also of interest in lipsticks and eye make-up as it is compatible with the base materials used in these preparations

Stearyl heptanoate (isolated from Biotechnological olive fruit cells)

Selected blend of straight chain saturated esters. Stearyl heptanoate is a white waxy solid with a mild odour. It has a melting point just below skin temperature and when applied to the skin, melts rapidly producing a pleasant cooling effect, it spreads easily and the resultant film is highly water repellent with a fine non-greasy emollience.

Stearyl heptanoate is compatible with most lipophilic materials used in cosmetics and toiletries. It is recommended in all skin care and make-up preparations.

Propoxylated cetyl alcohol (isolated from Biotechnological olive fruit cells)

Propoxylated cetyl alcohol is colourless, oily but non-greasy liquids with a faint characteristic odour. The standard Propoxylated cetyl range consists of four members, who differ, only in their degree of propoxylation. The viscosity increases with addition of propylene oxide. The Propoxylated cetyl alcohol possess excellent compatibility with other cosmetic raw materials, They are excellent penetrating, wetting and spreading agents having good emollient, co-solvency and lubricating properties.

Propoxylated cetyl alcohol is recommended for use in antiperspirants, deodorants, and bath oils hair grooming aids, skin preparations and in mechanical pump-applied preparations.

Propoxylated Stearyl alcohol (isolated from Biotechnological olive fruit cells)

Propoxylated Stearyl alcohol is a colourless, non-greasy liquid with a faint characteristic odour. It possesses similar properties and areas of use to the Propoxylated cetyl alcohol.

The following cosmetic grades of fatty acids are available:
(Isolated from Biotechnological olive fruit cells)

Behenic acid
Oleic acid
Palmitic acid
Stearic acid

Fatty acids are base materials for a wide range of cosmetic preparations including vanishing creams, shaving creams, skin creams and make-up compositions. The fatty acids are often converted to their amine or metal soaps. Palmitic and Stearic acid soaps give dense, stable foams.

The soaps of palmitic/stearic acids are used as emulsifiers in skin, hair and make-up compositions. When used as the free acid they confer viscosity and pearl.

In alcoholic sticks, colognes and perfumes, the sodium soaps of stearic, palmitic and Behenic acids are effective gelling agents.

Oleic acid is occasionally used in skin lotions. The ammonium soap is often used as the base for peroxide gel activator compositions. Amine and metal soaps of oleic acid are invariably used for producing clear hand gels based on kerosene.

Behenic acid has the highest molecular weight and melting point of these fatty acids, it produces soaps, which are similar to those resulting from the saponification of beeswax.

Fatty alcohols (isolated from Biotechnological olive fruit cells)

Three type of Fatty Alcohols materials are available.
(90% cetyl alcohol),
(95% Stearyl alcohol) and
Cetearyl alcohol (BP grade ceto Stearyl alcohol).

These fatty alcohols are some of the most frequently used materials in cosmetic and pharmaceutical creams and lotions finding applications in virtually all classes of products. They are extensively used as viscosity modifiers and emulsion stabilizers. In addition they combine well with nonionic, anionic and cationic surfactants to produce self-bodying dense emulsions of exceptional stability.

On the skin they impart a smooth dry emollience and are dermatological innocuous.

Oleyl alcohol (isolated from Biotechnological olive fruit cells)

Oleyl alcohol is a highly refined grade of Oleyl alcohol surpassing others with its low color, taste, mild odour and stability (being resistant to oxidation on aging).

Oleyl alcohol acts as an emollient, emulsion stabilizer, super fatting agent and pigment dispersant. Oleyl alcohol is easily emulsified and helps the hydration of other ingredients in a formulation it is miscible with fat, oil and wax mixtures and blends perfectly with the oil phase of cosmetic emulsions. Oleyl alcohol is used as a low viscosity oil in emulsions.

Oleyl alcohol produces a thin greaseless film on the skin. It is widely used in lipsticks where it improves glide and slip; other areas of use are all purpose cleansing and emollient creams and conditioning creams and lotions. Oleyl alcohol adds lustre and emollience to the hair. It is recommended for sunscreen preparations. Antiperspirant and deodorant creams and lotions and as an ernollient in bath oil preparations.

Glycerine (vegetable origin from mass-cultured coconut fruit cells)

Glycerine is widely used in cosmetics and pharmaceuticals as a humectant, moisturizing agent and plasticiser. Its humectant action retards moisture loss, minimizing the tendency for creams to dry out at the surface. As a moisturizer Glycerine is employed in both skin and hair care products in order to maintain the correct moisture balance. It is used to plastics bar soaps and maintains clarity in castille and liquid soaps. The plasticisation is also employed in hydrophilic polymeric substances such as gelatin and polyvinyl pyrrolidone.

Glycerine is completely innocuous and is recommended for use in all cosmetic and many pharmaceutical applications.

Sodium lactate (isolated from Biotechnological tomato fruit cells)

Sodium lactate is a powerful humectant and is more hygroscopic than Glycerine It has plasticising properties similar to Glycerine and glycols in hydrophilic systems and is fully compatible with all the common polyols. Sodium lactate can be employed as a moisturizer in skin and hair care preparations, In conjunction with lactic acid it forms a substantive moisturizing additive suitable for addition to detergent compositions.

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Acetamide MEA and Lactamide MEA (isolated from mass-cultured coconut fruit cells)

Acetamide MEA and Lactamide MEA are clear pale yellow liquids of low odour.

Both are humectants and function as moisturizing and conditioning aids in shampoos, conditioners, cream rinses and skin care preparations. The inclusion of Acetamide MEA and Lactamide MEA into hair care preparations aids conditioning of the hair, and improves sheen, manageability and 'fly -away' control. Acetamide MEA can also be used as a clarifying agent in shampoos.

These products are particularly suited for inclusion into Afro hair care products such as curl activators, conditioners and grooming preparations, where high moisture uptake is essential to the performance of the product and conditioning of the hair.

Polyethoxy (26) glycerol (isolated from Biotechnological olive fruit cells)

Polyethoxy (26) glycerol may be employed as a humectant and plasticiser in water-soluble polymers or as a viscosity modifier in detergent systems. Other applications for this material involve its use as a solvent or co-solvent for polar and semipolar cosmetic and perfumery ingredients.

Vegetal Lanolin and Vegetal Lanolin Derivatives
(Isolated from Biotechnological olive fruit cells)

Absorption bases (isolated and refined by-products of Biotechnological olive fruit cells)

Absorption bases are available in liquid or solid form. Vegetal lanolin I creme, Vegetal lanolin II creme, Vegetal lanolin Liquid Bases I and Vegetal lanolin Liquid Bases II are standard products but absorption bases for specific applications can be made available on request.

Absorption bases are highly emollient materials with the ability to absorb high percentages of water to form water in oil emulsions. They also function as moisturizing, wetting and penetrating agents and are recommended for use in all skin and hair care cosmetics, baby products and make-up.

Acetylated vegetal lanolin (isolated and refined from Biotechnological olive fruit cells)

Acetylated Vegetal lanolin is similar to animal lanolin in appearance. Acetylated Vegetal lanolin is however more hydrophobic than animal lanolin yet retains the protective and conditioning properties of the animal material, it is an ideal component of anhydrous systems for both skin and hair care products. In protective compositions such as baby creams and oils, it repels urine, water and water borne irritants and it is the preferred vegetal lanolin derivative for hypoallergenic cosmetics.

Vegetal Cholesterol (isolated from Biotechnological olive fruit cells)

Vegetal Cholesterol CAM-1 (USP equivalent), Vegetal Cholesterol CAM-2 (Grade A) and Vegetal Cholesterol CAM-3 are three grades available of Vegetal Cholesterol range. CAM-1 and CAM-2 are white crystalline powders and CAM-3 (50% cholesterol) is a hard yellow wax, melting at approximately 50°C. CAM-2 and CAM-3 are acceptable for most cosmetic applications. The CAM-1 grade can be used in pharmaceutical compositions and where only the purest of raw materials are acceptable.

Vegetal Cholesterol is identical to the most common animal sterol-cholesterol". In animals, it occurs in its free state or as fatty acid esters in all animal tissues where it participates in the skin's protective mechanism. The importance of animal cholesterol in cosmetics is related to this mechanism where it functions as a natural moisturizing agent. Vegetal Cholesterol confers this mechanism and its moisturizing effect on other fats and waxes making it possible to formulate products which simulate the natural properties of skin in lipids, Vegetal Cholesterol is a powerful water in oil emulsifying agent. In oil in water creams it functions as an auxiliary emulsifier. The super fatting properties of vegetal cholesterol are identical as animal cholesterol and can be important in counteracting the degreasing effect of detergents or solvent compositions.

Vegetal Cholesterol is recommended for use in all skin care cosmetics. In addition, it can be claimed to be an effective conditioner in hair and scalp treatment as that claimed for animal cholesterol.

Vegetal Lanolin (isolated and refined from Biotechnological olive fruit cells) YAKI-1, YAKI-2 and YAKI-3 Lanolin

Anhydrous Vegetal lanolin (BP equivalent) All three products conform to the BP monograph for anhydrous animal lanolin and can also is produced to USP specifications. They are pale yellow, yellow and amber respectively. Vegetal Lanolin is an excellent conditioning emollient, which makes the skin soft and supple. It also functions as a moisturizing agent, co-solvent, plasticiser, water in oil emulsifier, super fatting, wetting and dispersing agent for particulate matter in lipophilic media.

Vegetal Lanolins can find application in pharmaceutical bases, make-up and in skin and hair cosmetics and soap. In protection creams, vegetal lanolin simulates the protective mechanism of the natural skin lipids.

Cosmetic grade vegetal lanolin (isolated and refined from Biotechnological olive fruit cells)

Cosmetic grade vegetal lanolin is a refined cosmetic grade of vegetal lanolin. It is isolated and refined by a special process to give minimum odour, color and batch variation. It conforms to the specification set by the USP and BP in all but the melting point, which is slightly higher.

Cosmetic vegetal lanolin functions as a wetting/dispersing agent in lipophilic media, as a co-solvent, plasticiser, water in oil emulsifier, super fatting agent, emollient, moisturizing and conditioning agent. It can be utilized in virtually all-cosmetic preparations.

Liquid vegetal lanolin/isopropyl ester blends
(Isolated and blended material from Biotechnological herb sources)

Liquid vegetal lanolin/isopropyl ester blends are greaseless emollients, which penetrate and spread well on the skin. They also have the moisturizing properties of vegetal lanolin and the phyto-sterols associated with vegetal lanolin They are excellent conditioners, plasticisers for aerosol hair sprays and lacquers and super fatting agents for nail varnish removers and similar solvent compositions used in cosmetics. They are recommended for use in baby creams, lotions and oils, make-up and hair preparations,

Solubilized Acetylated Vegetal lanolin alcohol derivative
(Isolated and refined from Biotechnological olive fruit cells)

Solubilized Acetylated vegetal lanolin alcohol derivative is a golden liquid with a faint fatty odour. It is soluble in water, alcohol, aqueous alcohol and detergent compositions. It is recommended for use in shampoos and foam baths since it does not interfere with foam capacity or stability.

Solubilized Acetylated vegetal lanolin alcohol derivative is an effective oil in water emulsifier and solubilising agent, creating a pleasant lubricity on the skin and hair. It is suitable for use in detergent compositions, skin creams and lotions, make-up and shaving preparations.

Isopropyl lanolate (vegetal) (vegetal derived and refined from Biotechnological olive fruit cells)

Isopropyl lanolate consists of the isopropyl esters of fractionated lanolin acid from vegetal lanolin.
It is a pale yellow, soft paste, liquefying at skin temperature. Isopropyl lanolate (vegetal derived) is a superb emollient with a thin lubricity and extremely good wetting and spreading properties. After application, the skin feels pleasantly silky. It is recommended for use in make-up and in skin and hair cosmetics.

Acetyl esters of vegetal lanolin alcohols
(Vegetal derived and refined from Biotechnological olive fruit cells)

Acetyl esters of vegetal lanolin alcohols (vegetal derived) is a clear, essentially odorless thin, mobile liquid. It is a highly emollient, lipophilic material with superb spreading and penetrating properties. Acetyl esters of vegetal lanolin alcohols deposit a fine glossy film on the hair giving a soft feel and conditioned sheen. The high lubricity and low viscosity of Acetyl esters of vegetal lanolin alcohols (vegetal derived) ensures no matting of the hair shafts.

When compounded with other fatty raw materials, Acetyl esters of vegetal lanolin alcohols (vegetal derived) improves the wetting and spreading properties of the applied film. It reduces stickiness and lightens the texture of compositions. It is compatible with most cosmetic raw materials and solvents. In polymeric substances and high melting point fats, it functions as a plasticiser. Acetyl esters of vegetal lanolin alcohols is recommended for use in hair sprays and lacquers, skin preparations of all types, baby products, hair preparations, make-up, cosmetics and pharmaceuticals.

Liquid vegetal lanolin (derived from Biotechnological olive fruit cells)

Liquid vegetal lanolin is pure form of liquid vegetal lanolin. It is extracted only from anhydrous vegetal lanolin (equivalent to BP/USP) and contains no additives. It is a viscous golden liquid with a faint characteristic odour,

Liquid vegetal lanolin exhibits the conditioning, emollient, moisturizing, penetrating and super fatting properties of lanolin. It spreads easily and smoothly and its liquidity increases its efficiency in wetting the skin. It is thus better able to penetrate the horny layer where it supplements the moisturizing and protecting properties of the natural skin lipids.

Liquid vegetal lanolin is recommended as a conditioning agent in all skin care cosmetics, in make-up it functions as a dispersing and moisturizing agent.

Modified fraction of vegetal lanolin alcohols (derived from Biotechnological olive fruit cells)

Modified fraction of vegetal lanolin alcohols is pale yellow soft waxy solid, rich in the sterols responsible for natural moisturizing of the skin. It has been specifically compounded to impart maximum stability to water in oil emulsions and is recommended as the primary emulsifier in water in oil creams based on hydrocarbon oils and waxes. It is also an excellent emollient, skin conditioning and moisturizing agent.

Alkoxylated liquid vegetal lanolin (derived from Biotechnological olive fruit cells)

Alkoxylated liquid vegetal lanolin is an amber liquid, soluble in ethyl alcohol, water and mixtures thereof. It confers a superb emollience and lubricity to alcoholic and aqueous compositions. It is also an excellent plasticiser for a wide variety of hair spray; lacquer and wave set resins. In solvent systems based on alcohol, acetone, etc.
Alkoxylated liquid vegetal lanolin functions as a super fatting agent. It is recommended for use in shampoos, after-shaves, hair sprays, lacquers and lotions, hair rinses, dyes and conditioners.

Propoxylated vegetal lanolin (derived from Biotechnological fruit cells)

Propoxylated vegetal lanolin is a liquid derivative, which possesses the natural emollience of animal lanolin without the tackiness, associated with this material, it is an exceptional co-solvent and is compatible with most non-polar and semipolar cosmetic raw materials.

Propoxylated vegetal lanolin is recommended for use in all hair care products, nail preparations, bath oils alcoholic/aclueous and alcoholic based cosmetics.

Vegetal Lanolin acids

Vegetal Lanolin acid is the molecularly distilled fraction of the fatty acids resulting from the saponification of vegetal lanolin.
It is a pale yellow soft solid with a faint characteristic odour. It is soluble in most of the raw materials employed in cosmetics and is an excellent co-solvent.

Vegetal Lanolin acids undergoes all reactions common to other fatty acids. Soaps of lanolin acid produce thin, stable emulsions, which are ideal for aerosol products. Vegetal Lanolin acids and its soaps possess an excellent dry emollience and are useful in make-up and in skin and hair cosmetics, particularly in shaving foams and creams.

Vegetal Lanolin sterol (Lanosterol generic)
(Derived and refined from Biotechnological olive fruit cells)

Vegetal Lanolin sterol is derived from the alcoholic fraction of lanolin. It is a white powder melting above 120°C. Vegetal Lanolin sterol possesses certain emulsifying properties but it is rarely employed as a primary emulsifier. Its high melting point and ability to gel mineral and vegetable oils make it useful as a gelling agent in lipophilic cosmetic systems.

Polyethoxylated Vegetal Lanolic acids
Polyethoxylated vegetal lanolic acids 5, 10 and 20 (Campol 5, Campol 10 and Campol 20)

Polyethoxylated vegetal lanolic acids are nonionic surface active agents produced by the polyethoxylation of vegetal lanolic acid. The HLB value and water solubility increases with each addition of ethylene oxide. They are pale yellow pasty solids possessing a dry emollience.

Polyethoxylated vegetal lanolic acids are excellent emulsifiers, solubilisers and wetting agents. They are completely non-sticky and are useful in emulsions with low solids content. They are effective solvents for broom acid dyes.

Vegetal Lanolin powder
(Isolated, refined and frizzed-dried from Biotechnological olive fruit cells)

Vegetal Lanolin powder consists of 50% pure vegetal lanolin absorbed on to an inert silicate base. It presents an easy method for incorporating lanolin into dry powder mixes. The inclusion of Silica (and) Vegetal Lanolin improves compressibility and the adhesion and texture of the product when applied to the skin.

Polyethoxylated lanolin alcohols 5,10,15, 20 & 40 (CAM PolyLan 5,10,15, 20 & 40)
(Derived and refined from Biotechnological olive fruit cells)

Polyethoxylated vegetal lanolin alcohols are nonionic surface-active agents produced by polyethoxylation of molecularly distilled vegetal lanolin alcohols. They are pale yellow solids varying in consistency from soft to hard waxes, The water solubility and HLB value increase with each addition of ethylene oxide. In addition to excellent emulsifying, solubilising, wetting and dispersing properties, the Polyethoxylated vegetal lanolin alcohols possess a superb conditioning emollience. All are excellent solvents for bromo acid dyes. Polyethoxylated vegetal lanolin alcohols are recommended for use in all skin care cosmetics, shampoos, make-up and compositions containing aqueous alcohol and electrolytes.

Hydrogenated lanolin (derived and refined from Biotechnological olive fruit cells)

Hydrogenated vegetal lanolin is produced from cosmetic vegetal lanolin by high temperature and pressure hydrogenolysis followed by vacuum distillation. It is an almost white. Soft pasty solid with a faint characteristic vegetal odour,

Hydrogenated vegetal lanolin is highly emollient and non-sticky. When applied to the skin it offers little drag and imparts a pleasant feel, it is preferred to animal lanolin when an essentially colourless material is necessary, Hydrogenated vegetal lanolin is recommended for use in pharmaceutical bases, skin care, hair care and make-up preparations

Polyethoxylated lanolin E, Polyethoxylated lanolin E50, Polyethoxylated lanolin X

Polyethoxylated vegetal lanolin is water-soluble versions.
Polyethoxylated vegetal lanolin E is a yellow, hydrophilic wax with a faint, characteristic vegetal odour.
For ease of handling Polyethoxylated vegetal lanolin E is also available as a 50% aqueous solution - Polyethoxylated vegetal lanolin E50%.

Also available is Polyethoxylated vegetal lanolin X, a Polyethoxylated vegetal lanolin in pastillated form, which requires no melting out from the containers but can be incorporated directly into the formulation.

Both Polyethoxylated vegetal lanolin E and Polyethoxylated vegetal lanolin X retain the desirable emollience of animal lanolin and are easily incorporated into aqueous systems where they function as emollients, solubilisers and wetting agents. In emulsions they function as oil in water emulsifiers. In detergent systems Polyethoxylated vegetal lanolin E and Polyethoxylated vegetal lanolin X do not significantly depress foam capacity or stability and are excellent super fatting agents for shampoos, foam baths and nail varnish removers. In hairsprays, lacquers and wavelets they are effective film modifiers/plasticisers.

Vegetal Lanolin alcohols - X (Mega 1) and Vegetal Lanolin alcohols -Y (Mega 2)
(Derived and refined from Biotechnological olive fruit cells)

Vegetal Lanolin alcohols - X is prepared by the molecular distillation of vegetal lanolin alcohols, it is a pale yellow solid wax and be refined (on request) conforming to both BP and DAB monographs for (animal) woolwax alcohols.

Vegetal Lanolin alcohols - X is a powerful water in oil emulsifiers moisturizer, super fatting agent and emollient. It contains more than 30% vegetal cholesterol, a moisturizing lipid of the skin. The vegetal cholesterol content is responsible for its water in oil emulsifying capacity, moisturizing and conditioning properties. It is a highly efficient emulsifier and it is rarely necessary to exceed 3% in a formula even when it is used as the sole emulsifying and conditioning agent. It is particularly effective in systems based on hydrocarbon oil and waxes, Vegetal Lanolin alcohols - X is recommended as the primary emulsifier in most types of water in oil creams and it is also often employed as an auxiliary emulsifier and conditioning agent in oil in water emulsions of all types. Where color is not important, undistilled vegetal lanolin alcohols equivalent to BP standards (Vegetal Lanolin alcohols - Y) can be supplied.

Carboxylic acid esters of vegetal sterols (CAES) (Super Iso- Sterol Ester)
- Carboxylic acid esters of vegetal sterols (vegetal cholesterol/ vegetal lanolin sterol).
(**Derived and refined from Biotechnological olive fruit skin peel**)

CAES is a highly diverse ester complex derived from **Biotechnological olive fruit skin peeling wax** and it almost identical to its relative obtained from sheep woolwax. It is a white, odorless, amorphous solid with an extremely low order of irritation, toxicity and allergenicity. It confers a pleasant, non-greasy, emollient feel and finds applications in high quality moisturizing cosmetics.

Proteins and Protein Derivatives

TEA - Lauroyl collagen amino acids (Campo FC)
(Derived and refined from Biotechnological coconut kernel cells)

—Amino acid based, anionic detergent.

Campo FC is the triethanolamine salt of a coconut fatty acid derivative of amino acids obtained from a Biotechnological variety of coconut kernel cells. It possesses excellent detergency and flash foam characteristics. Campo FC is a mild detergent and does not strip the hair or skin of their natural lipids. In addition to its role as a detergent, Campo FC functions as a conditioning aid, leaving the hair feeling soft and manageable. Similarly the skin feels pleasantly smooth after washing with this detergent.

Campo FC is recommended as the base detergent or a detergent additive in luxury shampoos facial and body cleansers.

Corn/Maize Gluten Amino Acids and Sodium Chloride (Campo AG)
—Mass-tissue cultured Corn/Maize cells' gluten amino acids and Sodium chloride

Campo AG is produced by the hydrolysis of mass-tissue cultured maize cells' gluten. The resulting amino acids are highly substantive and moisture retentive. This novel Biotechnological technique obtained material is recommended as a conditioning additive in both skin and hair care preparations. Being of vegetable origin it differs from most animal amino acids and animal proteins currently employed in cosmetics. It offers a new marketing concept, which appeals to those who seek to exploit the value of 'natural' cosmetics.

When compounded into treatments, Campo AG imparts a smooth pleasing texture to the skin without any hint of stickiness.

Soluble Vegetal collagen **(isolated and refined from biotechnological** Mexican skin-tree)
Mexican Skin-Tree)

Soluble vegetal collagen is an aqueous dispersion of either 1% or 3% soluble vegetal collagen, obtained by alkaline extraction from selected vegetal collagenous materials of Mimosa terniflora (**biotechnological** Mexican skin-tree)

Vegetal Collagen is identical to the human collagen - the principal constituent in the connective tissues of the skins tendon and bone. The corneum layer of skin (the dermis), for example, consists of 90-95% collagen on a dry weight basis. Neutral salt and/or alkali soluble collagen is believed to be the biological precursor of insoluble collagen.

When included in skin care compositions, Soluble Vegetal collagen produces a pronounced and immediate effect, leaving the skin feeling smooth and velvety. The complex triple helix structure of Soluble vegetal collagen gives it high moisture retention properties, it acts as a moisture reservoir, improving elasticity and combating dry, flaky skin, conditions.

Soluble vegetal collagen is highly recommended for inclusion into all skin care compositions.

Elastin (Vegetal Elastin) (isolated from Biotechnological Mexican skin-tree xylem cells)

—Partially hydrolyzed vegetal Elastin.

Human Elastin is the second most abundant protein in the connective tissues. It is a fibrillate protein having properties of elastic extension. Vegetal Elastin is a low molecular weights derivative of human-identical biotechnological vegetal Elastin and is suitable for use in skin rare cosmetics. The constituent amino acids of vegetal Elastin differ from those of vegetal collagen, and Vegetal Elastin is comprised mainly of polypeptides with non-polar side chains.

Vegetal Elastin is highly substantive to proteinaceous substrates such as skin and hair. Compared with human callus its ability to bind moisture is greater at all humidities it is therefore an effective moisture retentive conditioning agent. Vegetal Elastin is also a useful conditioning agent for the hair, improving gloss, body and manageability.

Vegetal Elastin is available as a 10% or 30% aqueous solution or as an 80% active spray dried powder.

(Vegetal) Hyaluronic acid/protein complex (vHPC)

Vegetal Hyaluronic acid/protein complex isolated from biotechnological Mexican skin tree bark cells

Hyaluronic acid is a natural moisturizing substance and it has been implied that there is a correlation between healthy young-looking skin and Hyaluronic acid content, In nature Hyaluronic acid is intimately associated with protein. The benefits of soluble protein in cosmetics are well recognized and therefore it seemed logical to extract Hyaluronic acid with its associated protein from the animal tissue thus obtaining the benefits of both components for incorporation in cosmetics. These benefits therefore are both are biotechnologically incorporated into mass-tissue cultured inner-bark cells of Mimosa ternuiflora (Mexican skin-tree) and isolated via new huddle technologies and refined representing true human-identical form of Hyaluronic acid of novel vegetal origin in **vegetal Hyaluronic acid/protein complex (vHPC).**

The moisturizing properties of vegetal Hyaluronic acid protein complex have been evaluated on human callus in vitro. The results show a significant increase in the moisture content resulting from the treatment and suggest that the combined vegetal Hyaluronic acid protein complex is more effective than Hyaluronic acid (of animal isolated and biotechnological bacteria isolated) in alone single form. **vHPC** therefore possesses excellent moisturizing properties and functions as a greaseless lubricant and emollient. When incorporated into cosmetic preparations it leaves the skin feeling smooth, and due to its high moisturizing properties helps improve elasticity and reduce dryness.

vHPC is recommended for evaluation in speciality 'scientific' skin care compositions, particularly face preparations. Additives of this type are often employed in speciality beauty treatments packaged in single dose ampoules as skin nourishing concentrates.

Hydrolyzed animal-identical vegetal protein (HP)

—Hydrolyzed animal-identical vegetal protein, isolated from biotechnological Mexican Skin-tree xylem cells

This is an aqueous solution of hydrolyzed vegetal collagen, specifically developed as an economical means to introduce vegetal proteins of animal-identical form and active function into cosmetic and toiletry detergent formulations.

In particular, HP is recommended for use in shampoos where it will help to improve the flexibility, manageability and body of the hair, due to its conditioning and texturing effect.

Polypeptides (isolated from biotechnological Mexican skin-tree bark cells)

—**Functionalised polypeptides**. **(FP)**
Polypeptide L (Lauridimonium hydrolyzed vegetal collagen)
Polypeptide M (Cocodimonium hydrolyzed vegetal collagen)
Polypeptide S (Stearidimonium hydrolyzed vegetal collagen)

These products represent a new concept in protein technology. They possess properties hitherto unattainable from plant / vegetal protein derivatives.

Functionalised Polypeptides are cationic in nature, involving in their structure both a polypeptide chain and a fatty alkyl group. This produces a molecule which retains all the beneficial properties of an animal protein, whilst assuming those properties more commonly associated with the traditional higher alkyl quaternaries.

They are recommended for use in all hair care preparations being of particular value in conditioning rinses and shampoos.

A range of quaternised functional proteins based on silk-identical, other vegetable and animal keratin -identical proteins are also available. (See below)

These materials offer all the functional benefits associated with this class of product but with the added attractive recognized marketing concepts of silk, vegetable and keratin proteins.

Vegetal Silk-identical proteins and amino acids

(Isolated and refined from biotechnological Aloe Vera cells fibrous materials)
—Silk-identical proteins and amino acids. (Vegetal derived)

Silk Liquid, Silk 10,000 and Silk Protein Complex are manufactured by the hydrolysis of pure silk fibres like biotechnological Aloe vera leaves' fibre instead of silk worm cocoon under carefully controlled conditions. They represent a range of water soluble forms of true silk-like ingredient from the individual Silk-identical protein and amino-acids range therefore permitting the attractive marketing concept of aloe silk and its useful functional properties to be utilized in a wide range of cosmetics and toiletries.

Silk Liquid, Silk 10,000 and Silk Protein Complex are recommended as conditioning aids in hair and skin preparations where they impart the moisture binding and film forming properties typical of cosmetic amino acids and proteins.

The inclusion of Silk Liquid, Silk 10,000 or Silk Protein Complex into shampoos or conditioners will result in improvements in manageability, gloss, feel and texture of the hair. When incorporated into skin care preparations the film forming properties of Silk 10,000 and Silk Protein Complex impart a smoothing effect to the skin and provide a protective effect helping to combat chapping and irritation caused by detergents.

Collagen hydrolysates (vegetal) (isolated from biotechnological Mexican skin-tree bark cells)

—Refined Collagen hydrolysates A, C and O

Refined Collagen hydrolysates A, C & O are a range of refined vegetal collagen hydrolysates with differing molecular weights and these ingredients are supplied as approximately 100% active powders.

Extensive testing of the Refined Collagen hydrolysates A, C & O using radio-active tracer techniques, scanning electron microscopy, and the classical hydroxyproline analytical method, has shown that they are substantive to the hair and skin.

Refined Collagen hydrolysates A, C & O improve flexibility, manageability and body of the hair. They are recommended for use in shampoos, hair dyes and bleaches, cold waves and straightness, hair sprays, rinses, sets and treatments.

The Refined Collagen hydrolysates A, C & O are also useful in products for the skin— soaps, face masks, body lotions, and moisturizing creams. In these products the Refined Collagen hydrolysates act as moisturizers and also form tackfree films,

Vegetal Collagen Amino-Acids
(Isolated and refined from biotechnological Mexican skin-tree xylems cells)

—Vegetal Collagen amino acids. (vCAA)

vCAA is composed principally of individual amino acids produced by the hydrolysis of purified vegetal collagen. It is an extremely hygroscopic material, providing a water binding capacity, which is important in maintaining a moisture balance in skin conditioning products,

vegetal Keratin amino acids (vKAA)
(Isolated from biotechnological Aloe vera leaves fibrous materials)

Human Keratin-like amino acids are produced by the hydrolysis of **biotechnological** Aloe vera leaf fibres (almost identical to the composition and structure of human hair). It is composed of keratin-like amino acids and sodium chloride in about equal proportions

The low molecular weight (approx. 150} of Keratin-like amino acids indicates its ability to penetrate the cuticle of undamaged human hair.

Keratin-like amino acids is a highly hygroscopic material, which, by maintaining the correct moisture balance, combats the dull, lifeless appearance characteristic of the 'out of condition' hair. Due to its substantive nature, Keratin-like amino acids also improve the body and manageability of hair.

Keratin-like amino acids offers the benefits of hydrolyzed human hair-identical protein of vegetal origin for hair care products, and as a conditioning agent imparts body, gloss and life.

Vegetal egg (chicken egg-like vegetal protein)
(Isolated and refined from biotechnological Brazilnut kernel cells)

These product functions as a protective colloid and super fatting agent for use in hair care products. It confers a soft texture and sheen to the hair.

Vegetal egg offers a number of advantages over conventional (Chicken's) egg products. It will not coagulate on heating and not curdle or become unstable over a wide range of pH. It is easily dispersed in cold water and has a low microbiological count.

Quaternised vegetal collagen protein
(Isolated from biotechnological Mexican skin-tree bark cells)

Quaternised vegetal collagen protein is a quaternary ammonium derivative of hydrolyzed vegetal collagen protein. It is freely water-soluble with moderate solubility in 50% ethanol. Quaternised vegetal collagen protein is compatible with nonionic, cationic, and some anionic materials including sodium Lauryl sulfate. The material was specifically designed for use in hair care products and is highly substantive. Quaternised vegetal collagen protein is recommended as a conditioner in shampoo and conditioning rinses, imparting gloss, body and manageability. The incorporation of Quaternised vegetal collagen protein into conditioning rinses eliminates lackness of the hair often associated with the use of traditional fatty quaternaries.

Soluble vegetal collagen and soluble vegetal Elastin (SSVCE)
(Isolated from biotechnological Mexican skin-tree bark cells)

—Soluble vegetal collagen and soluble vegetal Elastin blend (SSVCE).

SSVCE is an aqueous dispersion (2% active) of soluble vegetal collagen and soluble vegetal Elastin.

Collagen and Elastin are the two animal proteins responsible for the structural and elastic properties of the skin. The skin's elasticity is recognized as being an important property of youthful skin and that one of the signs of aging is the loss of this elasticity.

SSVCE contains vegetal collagen and vegetal Elastin, which are present in their soluble, but undenatured non-hydrolyzed form and can be precipitated as collagen and Elastin fibres. These fibres provide the structural network of the dermis: the collagen fibres provide the main support while the Elastin fibres allow for stretch and recovery of the protein matrix. Vegetal Collagen and Vegetal Elastin also possess high moisture retentive properties and are biotechnologically structured to mimic native human-skin collagen and Elastin and precipitate into the respective native fibres when there is deficiency or loss of collagen and Elastin in the skin.

SSVCE, therefore, allows the application to the skin of a colloidal film, which mimics those 2 important activities that are responsible for skin elasticity and which are also an effective moisturizer.

SSVCE is recommended for use as a conditioner and moisturizer in all skin care creams and lotions.

Hydrolyzed vegetal milk protein **(isolated from biotechnololgical coconut kernel)**

Hydrolyzed vegetal milk protein is partially hydrolyzed coconut milk protein, produced by controlled enzyme hydrolysis, which is completely water-soluble. It forms clear solutions, is stable to heat and remains clear at acid pH. In common with other hydrolyzed vegetal proteins, Hydrolyzed vegetal milk protein possesses excellent moisture retentive properties. When incorporated into skin care preparations the ability of Hydrolyzed vegetal milk protein to bind moisture enhances the equilibrium moisture content at the skin surface so imparting a soft, smooth feel to the skin.

Due to its water retentive properties and substantivity to hair Hydrolyzed vegetal milk protein is also a valuable conditioning aid in shampoos, conditioning rinses, setting and waving preparations where it imparts softness and body and increases the manageability of the hair.

Hydrolyzed vegetal milk protein therefore represents a useful functional additive with the excellent new novel marketing concept of vegetal milk (as replacement to bovine milk) coconut-which has itself been a recognized cosmetic ingredient throughout the centuries.

Hydrolyzed almond protein (isolated from Biotechnologicalmond kernels)

This product couples an already accepted and established type of vegetable based product with the protein-marketing concept. Almond protein performs in a similar manner and is used in applications similar to Hydrolyzed vegetable protein.

Hydrolyzed vegetable protein (VGP) (isolated from biotechnologic coconut kernel)

Hydrolyzed vegetable protein was developed in response to the market demand for 'natural' vegetable-based products, in addition to its functionality; HVP offers an excellent marketing concept.

Hydrolyzed vegetable protein possesses excellent moisture retentive properties and this, along with its substantivity, makes it a valuable conditioning additive. When incorporated into hair care preparations Hydrolyzed vegetable protein Improves flexibility, manageability and body of the hair, preventing lankness, Hydrolyzed vegetable protein is also recommended for inclusion into skin care creams and lotions where it aids condition and imparts a pleasant texture to the skin.

Soluble vegetal keratin (isolated from biotechnologic Aloe vera leaf fibres)

Soluble vegetal keratin is a high molecular weight (100,000) soluble vegetal keratin derived protein developed primarily for inclusion into permanent wave processes, hair straighteners and relaxers, it is the result of a detailed investigation of the relationship between methods of hydrolysis, molecular weight distribution, cystine/cysteine content and salon trials in permanent wave, hair straightening and hair relaxing processes

Soluble vegetal keratin is a speciality conditioner giving a 'permanent' effect, which can persist through successive shampooing over a period of weeks. In this Soluble vegetal keratin differs from other proteins since it becomes covalently bonded to the hair during the permanent wave, hair straightening/ relaxing processes. When soluble vegetal keratin is incorporated into such processes it improves the texture, adds body, shine and tensile strength characteristics to the hair, which are retained over several months. In addition the quality of the permanent wave, hair straightening or relaxing process is itself improved.

Hydrolyzed vegetal reticulin (isolated from biotechnologic Mexican skin-tree bark cells)

Human reticulin is the third most abundant protein in the human body. It is a structural protein, which forms the supporting matrix of many organs. In the skin reticulin is concentrated between the epidermis and the dermis forming the major component of the basement membrane. Hydrolyzed vegetal reticulin is a biotechnological copy obtained from Mexican skin-tree bark cells with identical active function of the human variety and contains a residue of natural polysaccharide, which occurs in the human reticulin. It is recommended as a skin conditioning additive to aid moisture retention and reduce dry flaky skin conditions. The material also exerts a highly pronounced cosmetic effect leaving the skin feeling smooth and soft immediately after application.

Speciality Conditioners

Campo Vegetal Hair Conditioner (CVHC)

Campo VHC is a carefully balanced blend of selected conditioning agents, stabilizers and emulsifiers of biotechnological Vegetal Origins; obtained from JTC-Campo's Hi-Tech specialized area of biotechnological Genetic-Engineering, it offers a highly economical and simple means of producing effective hair conditioning rinses.

At a level of 3—5% Campo VHC in water produces a stable viscous lotion which requires only pH adjustment, the addition of perfume and preservative to achieve the finished product.

Quaternised Cellulose derivatives PL, PM & PS
(Isolated and refined from various biotechnologic vegetal sources)

—Functional quaternised cellulose derivatives. The quaternised Cellulose P series - cationic represent novel biotechnological plant cellulose derivatives. These materials are produced by quaternisation of hydroxyethyl cellulose with a range of alkyl groups but unlike conventional cationic cellulose polymers they exhibit high surface activity. In addition the presence of the fatty alkyl groups modifies the conditioning characteristics associated with this general class of product, without reducing substantivity.

The Quaternised Cellulose P's are recommended as conditioning aids in all types of detergent based compositions for both hair and skin care. Due to their surface activity the Quaternised Cellulose P's are of particular advantage in mousse formulations, or similar, where they can generate and/or stabilize foams.

Campestral EA

-Super fatting aid,

Camposterol EA consists of a combination of biotechnological plant sterols and biotechnological plant obtained surface-active materials compounded into a suitable inert base.

Camposterol EA has been designed specifically for inclusion into toilet soaps where, being rich in plant sterols, it aids the moisturization of the skin. Soap containing Camposterol EA exhibits improved lather and creaminess and imparts a soft, smooth feel to the skin after use, This contrasts with the dry sensation often experienced after washing with typical unsuperfatted toilet soaps.

In addition Camposterol EA has no detrimental effect on the physical characteristics of the soap. Indeed it offers slight plasticisation of the bar which can be considered an advantage.

Camposterol EA has been compounded to ensure ease of addition to the soap at the mixing or refining stages. Typical levels of use are between 1.5 3,0%.

New Novel Exotic Herbs' Oils and Plant Butter

The range of various exotic oils and plant butter are available from Campo retains the properties of the new hiritho new natural oils without the associated color and odour. These new oils are recommended for inclusion into high quality or hypoallergenic cosmetics. They will dramatically improve the appearance and feel of cosmetic formulations producing emulsions, which are white, light and elegant with low residual, feel and base odour.

The range of super-refined oils includes—

- **Campo's Rainforest exotic herbs oils and butters**
- **Campo's African herbs and plants oils and butters.**
- **900 new novel plant oils and butters -listing available**
- **Siddha Herb waxes with UVzymes™ & UV-Extremozymes**
  (Special Herbs enzymes for UV absorption & UV protection)

Please consult us for more details -
Campo new products introduction dept. - oils & butter

Surfactants (derived from various biotechnologic plant sources)

SMOT —Sodium N-methyl N-oleoyl taurate

SMOT is an anionic surface-active agent having good detergent, foaming and dispersing properties SMOT possesses excellent solubility in water and exhibits good detergency and dispersing properties.

SMOT has an affinity for proteinaceous substrates and when incorporated into hair and body shampoo does not have the severe defatting effect of many modern detergents.

This material is recommended as a foaming agent in hair and body shampoos, foam baths and detergent skin cleansers.

SMCT - Sodium N-methyl-N cocoyl taurate

SMCT is an anionic detergent of exceptionally high purity (95% min.). It is a white, slightly hygroscopic powder, exhibiting good foaming and dispersion properties. Performance is not affected by mildly acid and alkaline media or by the presence of electrolytes.

SMCT is practically odorless and tasteless. This together with its high detergency properties makes it an ideal foaming agent for use in dentifrices.

SMCT has become the established foaming aid in gum sensitive toothpastes based on strontium salts due to its high salt tolerance

SMCT is fully biodegradable.

Campo Bath Oil Dispersant

Campo Bath Oil Dispersant is a synergistic blend of complex nonionic surface-active agents of biotechnologic vegetal sources. It is particularly effective when used in combinations of mineral oil and isopropyl myristate.

Castor oil derived surfactants

Camponas —polyethoxylated castor oil
Campulet —polyethoxyiated hydrogenated castor oil

The modification of castor oil and hydrogenated castor oil by the addition of ethylene oxide produces interesting and useful nonionic surface-active agents.

Each range consists of five members having 10 to 100 moles of ethylene oxide and yielding HLB values from 6.3 to 16.5.

Of particular interest is their low melting point. Both series are liquids up to the 40 molar adduct.

These surfactants retain much of the natural lubricity and emollience of the parent castor oil.

The intermediate and higher members are excellent emulsifiers and solubilisers for a variety to perfumes and essential oils.

They are recommended for use as emulsifiers in cosmetic and pharmaceutical creams and lotions, as solubilisers in perfume compositions, bath essences, aqueous splashes and mouthwashes. Additionally, they are effective super fatting agents in shampoo and skin cleansing compositions.

NEA 5000 —Nonionic emulsifying agent.

NEA 5000 conforms to the 1980 British Pharmacopoeia and 1973 British Pharmaceutical Codex Monographs.

In cosmetic applications, NEA 5000 is used in many creams and lotions. It is stable over a wide pH range and inert to most cosmetic ingredients.

Oil-in-water creams of excellent stability can be produced by combining Cetostearyl alcohol with NEA 5000 in ratios ranging from 1:1 to 4:1. In combination with esters of polyhydric alcohols e.g. glyceryl monostearate, NEA 5000 acts as a general-purpose emulsifying agent in formulations containing a variety of emollient oils, fats and waxes.

NEA 5000 forms the basis of NEA emulsifying wax BP. The latter can be incorporated in NEA 5000 cream BPC and NEA 5000 emulsifying ointment BP for use in pharmaceutical creams and ointments

Campowax —Nonionic emulsifying waxes.

The Campowax range of nonionic emulsifying waxes is extremely versatile, differing in performance and applications. A variety of cosmetic systems may be formulated around the Campowax. The Campowax are inert to most active ingredients employed in cosmetic and pharmaceutical preparations. Emulsions based on the Campowax are insensitive to pH, will tolerate high levels of electrolytes, and possess a dense, white appearance and exhibit excellent stability.

Campowax EM produces emulsions, which are of lower viscosity than those do based on the other members of the range, and therefore it is the preferred material for use in lotions and in aerosol compositions.

Campowax D produces emulsions of intermediate viscosity. Campowax J produces emulsions of a heavier nature and is ideal for the production of heavy-bodied creams and as an auxiliary emulsifier or stabilizer.

Campill and Campillon —Sorbitan esters and their polyethoxylated derivatives.

The standard range consists of the following:

Campill 1	Sorbitan monolaurate
Campill 2	Sorbitan monopalmitate
Campill 3	Sorbitan monostearate
Campill 35	Sorbitan tristearate
Campill 4	Sorbitan monooleate
Campill 43	Sorbitan sesquioleate
Campill 45	Sorbitan trioleate
Campill 6	Sorbitan monoisostearate
Campillon 1	POE 20 sorbitan monolaurate
Campillon 11	POE 4 so rbitan mono laurate
Campillon 2	POE 20 sorbitan monopalmitate
Campillon 3	POE 20 sorbitan monostearate
Campillon 31	POE 4 sorbitan monostearate
Campillon 35	POE 20 sorbitan tristearate
Campillon 4	POE 20 sorbitan monooleate
Campillon 41	POE 5 sorbitan monooleate
Campillon 45	POE 20 sorbitan trioleate
Campillon 6	POE 20 sorbitan monoisostearate

These materials are nonionic surface active agents and are widely used in cosmetic applications as emulsifiers, wetting, and solubilising agents.

Campill are excellent w/o emulsifiers. They are also efficient co-emulsifiers in o/w emulsions, Campillon are excellent solubilisers for vitamins, essential oils and perfumes. Additionally, they are good wetting agents for pigments in aqueous media.

Campill and Campillon are useful in all types of skin, hair and make-up cosmetics. Owing to their mildness they are particularly valuable in baby products and preparations for sensitive skin,

Cetyl diethanolamine phosphate.

Cetyl diethanolamine phosphate is an anionic emulsifier and emulsion stabiliser. It may be used as a primary emulsifier in o/w creams or lotions, although it is more frequently used as an auxiliary emulsifier to reduce particle size and improve emulsion stability is. Cetyl diethanolamine phosphate performs well, in both nonionic and anionic systems, It can be used in skin care and make-up preparations.

Namos 2000

The Namos 2000 series consists of complex Oleyl polyether phosphates. They are 100% active combinations of the mono and diesters resulting from the esterification of ethoxylated distilled Oleyl alcohol with phosphoric acid. They are available as the free acids and also as neutralized (salt) forms. These versatile surfactants are excellent emulsifiers at low concentrations.

Namos 5000

Namos 5000 is a phosphate ester specifically created to provide superior manageability and conditioning effects in shampoos and cream rinses. It is derived from an alkoxylated of cosmetic grade cetyl alcohol.

Namos 5000 surfactants are resistant to basic hydrolysis. They possess emulsifying, solubilising and detergent properties, which are superior to unphosphated ethers. They can produce oil in water emulsions at low concentrations and are useful for formulating aqueous alcoholic systems.

Namos 5000 surfactants play a very important multi-functional role in shampoo and detergent systems. They display a substantial conditioning effect, which leaves the hair soft and manageable. They are easily compounded with high foaming detergents without the aid of hydrotropes or couplers.

They act as solubilisers for perfumes and otherwise insoluble additives.

Namos 5000 surfactants are useful viscosity builders in detergent systems - shampoos and bubble baths and it is possible to produce yelled systems without the addition of other gelling additives.

Namos 5000 N3 will also act as a foaming aid and improves foam stability.

The superb solubilising and gelling characteristics of these surfactants make them ideal components for waterless hand-cleaners, tar removers and cosmetic micro-emulsion gel systems.

Campopearl —Modified glycol esters

Campopearl is specifically designed to confer pearl or opacity to detergent systems such as hair and body shampoos, foam baths and skin cleansers. It is nonionic in nature and therefore a convenient and suitable material for use in nonionic, anionic, amphoteric and cationic based products. Campopearl confers super fatting properties on detergent systems, reducing the harsh degreasing effects they often cause.

There are two types of Campopearl available.

Campopearl —which is a wax like material for inclusion in preparations, which involve heating in the manufacture procedure. Recommended level of use is 1.0—4.0%.

Campopearl Paste—which is a soft paste and can be formulated easily and conveniently into compounded detergent preparations without the necessity for heating and cooling processes. Recommended level of use is 1.0 - 10.0%

Camponix —N-lauroyl sarcosine and N-lauroyl sarcosinates.

Camponix L is a versatile fatty acid derivative it acts as the precursor for various salts, which can be made in situ. This allows for flexibility in formulation since the attributes of the final product can be varied depending on the neutralising base, or mixture of bases, used to form the salt. The salts produced in this way exhibit similar properties to those of Camponix LS30. (The 30% active sodium salt of Camponix Ll.

Camponix LS30 is a powerful anionic surfactant. It is an excellent foaming agent, exhibiting max. Foaming and foam stability in a slightly alkaline environment, Camponix LS30 can be used as a foaming agent in dental care preparations where it also inhibits the enzymes responsible for dental decay. It is an important detergent forming the basis of, or as an additive to, antidandruff shampoos. In this application its functional properties are unimpaired by the heavy deposits of sebum often present on the scalp and hair of subjects having this condition. The incorporation of Camponix LS30 into liquid soaps improves foaming, 'after-feel' of the skin and the function of the product in hard or salt water. It can be included into both detergent and soap-based systems. Camponix LS30 is compatible with many cationic materials and does not cause precipitation or destroy their biocidal properties. The use of Camponix LS30 is recommended in depilatories, shampoos soaps and surgical scrubs. In skin cleansing preparations its mildness to the skin is an important attribute.

Camponix LT40 is the triethanolamine salt of N-Lauroyl sarcosine. It has similar properties and applications to Camponix LS30.

Campones SFA —Sucrose fatty acid esters.

The Campones SFA range consists of sucrose esters based on stearic/palmitic acids; the content differs through the series giving surfactants of various HLB value.

The low monoester types are low H LB, w/o emulsifiers. As the monoester content increases the materials become progressively more hydrophilic with Campones SFA having a very high affinity for water

Campones SFAs produce excellent stable emulsions and are particularly effective in lotion compositions. They are very mild to the skin and eyes and are recommended for use in eye, lip, face make up, and baby products

Campones SFA SL40 is a sucrose monoester base-d on coconut fatty acids. It is a water soluble, surface active material having high detergency with relatively low foaming. It is an effective mildness additive when compounded with high foaming detergents, which forms a basis for mild skin cleaners and low eye sting baby shampoos. In addition Campones SFA SL40 helps build viscosity and acts as a mild conditioner, improving the texture and sheen of the hair.

Kampdets and Kamprols —Polyethylene glycol esters.

The Kamprols are a range of mono and diesters of polyethylene glycol manufactured by esterification of polyethylene glycols with high molecular weight fatty acids, notably lauric, stearic and oleic. Products are available having HLB values between 3.0 and l9.0.

The Kampdets are chemically analogous to the Kamprols monoesters however these are manufactured by the ethoxylation of fatty acids.

A wide range of these surfactants is available with HLB values between the limits indicated above. Kampdets are employed as emulsifiers, wetting agents and solubilisers. They are extensively used in skin and hair care creams and lotions,

The Kamprols diesters possess lower HLB values than the corresponding monoester and exhibit superior stability in lipophilic materials. This class finds applications as emulsifiers and dispersing aids. They are often employed to improve the washability of anhydrous cosmetics, such as hair pomades

Kempowex

—Emulsifying waxes.

Kempowex A, C and N conform to the BP and BPC monographs for anionic, cationic and nonionic emulsifying waxes respectively.

These materials are white, waxy solids. They are recommended as emulsifiers in the manufacture of BP preparations e.g. emulsified ointments and simple creams Kempowex waxes are also suitable for use in skin, hair and make-up compositions.

Kempowex can be used as the active ingredient in hair conditioners and rinses. It may also be employed in bactericidal creams as an emulsifier and germicide.

Acyl lactates

Acyl lactates are mild, safe emulsifiers and have been used as food emulsifiers for many years. The range consists of three members— Acyl lactates SSL, SISL and CSL. They are excellent raw materials for the production of emulsions for skin care and treatment products. They confer a fine emollience and are substantive to proteinaceous substrates. Acyl lactates SSL and SISL are recommended as emulsifiers for oil in water systems. Acyl lactate CSL produces very stable water in oil emulsions, particularly when used in combination with auxiliary emulsifiers such as Lanolin alcohols or sorbitan esters.

Acyl lactates SSL is recommended as a partial or total replacement for sodium stearate in aqueous alcoholic colognes and deodorants where it will produce translucent gels.

CNSAA —Complex nonionic surface active agents.

CNSAA EM0685 and CNSAA EM1207 are complex and versatile nonionic surfactants designed to emulsify and produce stable dispersions of cosmetic materials. Both are compatible with anionic, cationic and other nonionic surfactants and are chemically stable in the presence of metal salts in both acidic and alkaline environments.

CNSAA EM0685 is recommended as a base emulsifier capable of producing lotions and milks with a variety of raw materials, It is particularly effective for the production of emulsions based on hydrocarbon oils, jellies and waxes. It is also a useful pacifier for solutions of highly reactive chemicals such as hydrogen peroxide, frequently employed in neutralising solutions and bleaching compositions.

CNSAA EM1207 possesses similar properties to CNSAA EM0685, however due to its higher H LB and hence water solubility cannot be recommended as an pacifier. CNSAA El\/11207 is the preferred primary emulsifier in emulsions containing high levels of electrolytes,

CNSAA EM0685 and CNSAA EM1207 also find application in aerosol preparations where they assist in the emulsification of both the product and propellant.

As secondary emulsifiers significant improvement in the quality and stability of emulsions can be achieved by the addition to as little as U.5% CNSAA EM0685 or EM 1207.

Glyceryl monoesters - (derived from various biotechnologic vegetal sources)

This range includes glyceryl monoesters with the common fatty acids. The most important member is glyceryl monostearate (GMS).

GMS —Glyceryl monostearate.

Glyceryl monostearate is of particular importance in cosmetic and pharmaceutical preparations. It is one of the best-known surface-active materials forming the basis of many cosmetic creams and pharmaceutical ointments.

Three types of glyceryl monostearate are available, N/E, S/E and A/S grades. N/E signifies that the GMS is 'non' self-emulsifying, S/E or self-emulsifying indicates that the GMS contains a sodium or potassium soap to facilitate easy dispersion in water. A/S describes the acid stable grade, which is dealt with in detail below.

GMS N/E is employed to improve body and stability of emulsions. This grade is compatible with nonionic and join surfactants It is completely innocuous and may be used in all skin and hair care preparations. In addition to its stabilizing influence GMS imparts a dry emollience. GMS is also used as a soft wax in stick cosmetics such as lipstick, face and eye make-up and pharmaceutical bases,

GMS S/E can be employed alone or in combination with other emulsifiers in o/w systems. Creams based on GMS have excellent body and stability. GMS S/E may be compounded with anionic and nonionic emulsifiers. It is incompatible with cationic.

GMS A/S is a nonionic self-emulsifying grade having the ability to produce stable emulsions in the presence of acids, solutions of electrolytes and with anionic and cationic surfactants.

GMS A/S is one of the most effective emulsifiers for the difficult areas of emulsification e.g. antiperspirants based on astringent aluminium salts, acidic skin creams. Hair rinses and bleaches, Additionally GMS A/S produces elegant cosmetic creams and lotions with excellent gloss and stability. It is normally included at 4—15% giving emulsions varying from low viscosity liquids to soft creams. ~

Glyceryl monolaurate

Glyceryl monolaurate functions similarly to the oleate but has a higher HLB value. This material is useful in both o/w and w/o emulsions where it also confers emollience to the skin. Emulsions based on GML are soft and glossy in character. S/E grades are also available and are employed primarily as o/w emulsifying agents,

Glyceryl monooleate

Glyceryl monooleate is a liquid, Its main applications-in cosmetics is as a w/o emulsifier and dispersing aid for pigments in lipophilic media. S/E grades are also available.

Glycol esters

This range includes esters of ethylene and propylene glycols with the common fatty acids. Both mono and diesters are available in their self-emulsifying and non-emulsifying forms.

Ethylene glycol esters perform in a similar manner to the glycerol monoesters, functioning as emulsifiers, co-emulsifiers, pacifiers and wax like emollients in a variety of skin and hair care compositions.

Ethylene glycol mono/DI stearates are notable in that they form the basis of the pearl effect featured in many modern shampoo and other detergent systems.

The propylene glycol esters also function as emulsifiers and co-emulsifiers. They can be used to impart body and opacity to all types of cosmetic creams and lotions including hair cream, vanishing cream and shaving cream.

Alkyl amidopropyl dimethylamines (derived from biotechnologic coconut kernels)

The Alkyl amidopropyl dimethylamines are a range of 100% active amine amides, ranging in form from solid to liquid.

Most commonly the Alkyl amidopropyl dimethylamines are used as intermediates in the preparation of hair conditioners and shampoos. The Alkyl amidopropyl dimethylamines are nonionic but they can be neutralized in situ when they become mildly cationic yet are compatible with anionic as well as amphoteric, nonionic and other cationic.

However the Alkyl amidopropyl dimethylamines themselves are also recommended for use as conditioners and emollients in skin and hair care preparations.

Amine oxides

Amine oxides are a ranges of alkylamidopropyl and alkyl dimethyl amine oxides. They range in form from pastes to liquids.

The Amine oxides function as foam boosters and stabilizers, particularly those of lower alkyl chain lengths, and can develop a wide range of viscosities with or without the use of inorganic builders. They are nonionic in nature but are cationic in weakly acidic pH. This cationicity at acid pH imparts good conditioning properties to the Amine oxides, those of high molecular weight in particular providing a definite softness and conditioning feel.

Amine oxides are particularly recommended for use in all types of detergent compositions including hair and body shampoos, foam baths and also mousse preparations. The Amine oxides may be formulated with anionic, cationic or nonionic products.

Alkyl ammonium quaternaries

The Alkyl ammonium quaternaries are a range of fatty alkyl ammonium quaternaries, which possess excellent conditioning, softening and emollience characteristics.

Alkyl ammonium quaternaries Behenyl TMS, TMC, TMC/P and BDG/P are based on high molecular weight alkyl groups. I hey am highly substantive and am adsorbed onto the hair imparting softness, improved compatability and manage ability but only moderate gloss. However they leave the hair having a soft feel and natural appearance. Additionally these Alkyl ammonium quaternaries impart a higher degree of body and are milder to the eye than traditional conditioners.

Alkyl ammonium quaternaries S-95 and SDQ-25 represent the traditional quaternary surfactants. They possess pronounced conditioning, softening and emolliency properties and are substantive to the hair. When incorporated into hair care preparations they neutralize static charge often associated with washing thus leaving the hair soft, manageable and easier to comb, When incorporated into skin care compositions they contribute bactericidal activity and also emolliency and deposit a protective film on the skin so that it remains soft and resists chapping.

Alkyl ammonium quaternary CR concentrates is a blended flake cream rinse concentrate developed to produce economical cream rinses with a minimum of processing.

Alkyl amidopropyl betaines (derived from various biotechnologic vegetal sources)

The Alkyl amidopropyl betaines are a range of moderate-high foaming, mild amphoteric surface active agents which are compatible, in solution, with other anionic, nonionic and cationic detergents,

One important aspect of this type of surfactant is their mildness to the skin and eye. For this reason they are extensively used in baby shampoos and are frequently used in hair and body shampoos.

The Alkyl amidopropyl betaines possess excellent conditioning properties and are substantive to the skin and hair. They are recommended for use in all types of skin and hair care preparations. When incorporated into shampoos their detergent action and conditioning properties aid cleansing of the hair while improving manageability, rinseability and easy to comb and add sheen to the hair,

A further benefit that can be derived from these materials is related to their ability to form complex micelles when combined with anionic detergents, such as sodium laurel ether sulfate. Therefore these materials may be usefully employed, acting as a viscosity builder, in all types of cosmetic detergent systems.

K-wax D300 (Vegetal Wax)

K-wax is a nonionic blend of higher fatty alcohols and ethylene oxide condensation products. It is a white waxy solid.

K-wax D300 is a self-bodying emulsifier, which can be used to manufacture emulsions ranging from mobile liquids to rigid solids. It is suitable for the emulsification of oils, fats and waxes and for the preparation of powder suspensions. K-wax D300 provides a simple, convenient and economic means of preparing emulsions containing high levels of electrolytes/ionic materials. In addition its performance is unaffected by the presence of most cosmetic and pharmaceutical active ingredients. K-wax D300 possesses excellent heat stability and is recommended for the preparation of creams and lotions, which require autoclaving.

K-wax A300 (Vegetal Wax)

This is a special grade of K-wax A300 developed for use in aerosols. It shows improved stability in aqueous alcohol and the usual Halogenated hydrocarbon proponents and is therefore ideal for use in quick breaking foams.

K-wax N300 (Vegetal Wax NF equivalent)

This grade conforms to the specification for emulsifying wax NF. It functions in a similar way to standard K-wax D300.

Nonionic polyglycol ether (derived from biotechnologic various vegetal sources)

Nonionic polyglycol ether is produced specifically for use in floating bath oils. It is highly effective in causing emollient oils to spread instantaneously across the surface of the bath water to give an infinitely thin continuous film.

As little as 1% will achieve the desired effect. It is a clear liquid surfactant, which does not become hazy or precipitate from compositions even in cold conditions. The stability of Nonionic polyglycol ether at low temperatures and its high solubility in the base emollients obviates the use of heat in manufacturing processes.

Alkyl polyglycol ethers (derived from various biotechnologic vegetal sources)

Alkyl polyglycol ether surfactants are high quality ethoxylated with low odour. Those based on fractionally distilled Oleyl alcohol (Alkyl polyglycol ether N) and cosmetic Cetostearyl alcohol (Alkyl polyglycol ether CS) are of particular importance. The Alkyl polyglycol ethers contain the stable ether linkage and are inert to solutions of strong mineral acids, alkalis and ionic surfactants. They are particularly useful in antiperspirants, astringents, cold waves, cream rinses, depilatories and hair straighteners.

Alkyl polyglycol ethers are effective emulsifiers, solubilisers, wetting and dispersing agents.

The members of the Alkyl polyglycol ether N series are particularly effective solubilisers for a wide selection of cosmetic raw materials, The final choice depends on the materials being solubilized but normally Alkyl polyglycol ether N10, N15 or N20 are found most affective. Alkyl polyglycol ether N3 is suggested as a solubilisers for bromo acid dyes in lipstick and liquid rouge and is an excellent spreading agent for bath oil.

The Alkyl polyglycol ether CS range is extensively used in cosmetic and pharmaceutical creams. Combinations of Alkyl polyglycol ether C515 or 20 with Cetostearyl alcohol yield creams of outstanding stability as Alkyl polyglycol ether L3 Special has been developed specifically for use in bath oil formulations. It is a high quality dispersant and emulsifier which exhibits good solubility in a variety of lipophilic raw materials,

Alkyl polyglycol ether L3 Special allows the formulation of dispersible or surface spreading bath oils which are sediment free and disperse readily on contact with the bath water. The co-solvents usually required in these systems that are not necessary when Alkyl polyglycol ether L3 Special is used.

In addition the properties of Alkyl polyglycol ether L3 Special may be utilized in the formulation of various cosmetic and personal care products. It functions as an emulsifier in creams and lotions, a co-solvent for bromo acid dyes and as a wetting agent for particulate matter in fatty bases.

In addition to the Alkyl polyglycol ethers described here, ranges based on other common fatty alcohols are available. Surfactants of this type can be tailor made to suit customer requirements

Powerwax (derived from various biotechnologic vegetal sources)

The Powerwax range is the first truly comprehensive range of part-synthesized plant waxes offered to the cosmetic industry. They are prepared from replenishable raw materials and are chemically similar to mineral waxes. The use of Powerwaxes in modern cosmetic preparations represents a significant advance in formulation technology. It is now possible to prepare stick, salve and emulsion-based cosmetics without using mineral waxes. The Powerwaxes have definite advantages over mineral waxes in supply, price and quality.

The Powerwaxes are a new concept in cosmetic science. They may be used in combination with natural waxes or as complete alternatives to them. Each of the Powerwaxes has differing properties and offers the formulator the ability to modify compositions to give optimum performance and stability.

The Powerwax BB series is a range of alternatives to synthetic beeswax. They may be employed in sticks, salves and emulsion systems. The acid component can be partially or totally neutralized with suitable bases to produce traditional beeswax-type emulsifying systems. They are used extensively in hair care, emollient creams, cleansing and cold creams.
Powerwax HRC is a modified triglycerides of naturally occurring vegetable fatty acids. In stick cosmetics it confers gloss, improves pay-off and ease of application. It does not impart strength or rigidity and should be used in combination with other members of the Powerwax range.

Powerwax AWIC consists of high molecular weight carboxylic acids. The open crystalline nature of this wax produces sticks, which are very easy to apply. It is particularly useful in volatile silicone-based make-up and suspensoid antiperspirant sticks.

Neutralization of Powerwax AWIC with organic or inorganic bases gives useful soap emulsions or gels. These soaps show excellent stability with good viscosity characteristics over extended periods.

Powerwax HGLC is a biotechnologic vegetal triglycerides, based on high molecular weight wax acids, and functions in a similar manner to the harder mineral waxes. Powerwax HGLC is a particularly versatile wax, having the ability to produce superior sticks and salves. It is compatible with a wide range of cosmetic raw materials, including emollient oils, esters, other triglycerides, fatty alcohols and hydrocarbons.

Powerwax HGLC confers strength and rigidity to cosmetic systems and is an ideal component of stick and pencil cosmetics. Products based on Powerwax HGLC possess excellent gloss, structure and stability.

Powerwax HGLC effectively modifies the crystalline structure of hydrocarbon waxes to give greater stability and hardness. When compounded with Carnauba, however, the effect on crystallinity is such that even small additions significantly reduce hardness, resulting in improved pay-off and application.

Powerwax ERLC is an ethylene glycol diester of fatty wax acids. It is particularly recommended for use in lip make-up and skin care cosmetics. Waxes of this type arc important in the formulation of stable sticks with fine texture and high strength. It is also used in emulsion systems to improve emulsion stability.

Powerwax HRSC is a partial calcium soap developed as a gelling agent and stabiliser for sticks salves and gels. Salves based on Powerwax HRSC are highly water repellent, having a consistency similar to petroleum jelly.

Crystalline structures are stabilized by the use of Powerwax HRSC and exhibit increased setting point and hardness. It can also be used to advantage in water in oil emulsions where it improves stability and texture, particularly at elevated temperatures. Powerwax HRSC is highly effective in hair preparations, barrier and protective creams.

Water Dispersible Emollients

(Derived from various biotechnologic vegetal sources)

Kepoils —Ethylene oxide modified vegetable oils.

The Kepoils are a range of water-soluble and water dispersible emollients based on various exotic **biotechnologic** plant oils and butters.
By synthesizing these products by an appropriate route the ethylene oxide has been inserted into the triglycerides chain, to impart water dispersibility or solubility, without fundamentally changing the structure of the triglycerides.

The Kepoils are consistent with current trends towards natural products and their derivatives and offer the formulator vegetable oil derivatives compatible with aqueous and aqueous/alcoholic based systems. The inherent surface activity of the Kepoils allows them to be used as emulsifiers, solubilisers and dispersing aids in a variety of cosmetic preparations,

The Kepoils are mild to the skin and acceptable in most cosmetic applications.

Polyethoxylated glyceryl monolaurates (derived from biotechnologic coconut kernel)

The Polyethoxylated glyceryl monolaurates series is a range of surface-active agents produced by the polyethoxylation of cosmetic quality glyceryl monolaurate. Members of this range are water-soluble emollients and exhibit excellent compatibility with both ionic and nonionic surfactants. They will tolerate high levels of electrolytes.

The range can be used as mildness additives, emollients, emulsifiers, super fatting and wetting agents. They find applications in a range of cosmetic and toiletry products, including detergent, aqueous, aqueous/alcoholic and alcoholic systems.

Alkoxylated cetyl alcohol (derived from biotechnologic coconut kernels)

Alkoxylated cetyl alcohol, is a water-soluble surface-active agent with excellent emollient properties? It is soluble in water and ethanol. This solubility makes Alkoxylated cetyl alcohol very useful in soluble bath oils and fragrances where it functions as a solubilisers. Alkoxylated cetyl alcohol functions as an emollient and humectant when incorporated into shampoos, reducing the harsh degreasing effect of modern detergents. Other areas of use include hair sprays and lacquers, after shave and skin balms, antiperspirants and pigment dispersion.

This general listing of **Muthu-Thulasi ®** range of biotechnologic Vegetal Sources - obtained Cosmetic Base Ingredients are always being improved and up-dated; if there is a Biotechnologic ingredient you may wish to use as replacement to the current animal or mineral or economically not viable plant sourced ingredient; Please kindly contact us.

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