

## ADDENDUM

### A

#### **ACNACIDOL™**

Acnacidol is a synthetic bio-mimetic version of a hydroxy acid naturally present in Royal Jelly. It is aimed at re-establishing the physiological balance in problem skin and provides excellent results for seborregulation.

#### **ACTIBIOME®**

Actibiome is a combination of various components providing a variety of nutrients to support the biodiversity and homeostasis of the skin microbiota.

#### **ACTINIC KERATOSIS**

(Also called “solar keratosis”) A pre-malignant condition of thick, scaly or crusty patches of skin, associated with those who are frequently exposed to the sun.

#### **ADAPTOGEN**

A raw material or ingredient which helps the cells to work better but the mechanism is not scientifically understood.

#### **ADIFYLINE®**

A powerful peptide that assists to visibly improve facial morphology and the appearance of volume in targeted areas of the face like the forehead and around the eyes and upper cheeks.

#### **ALCOHOL DENAT**

Ethyl Alcohol that has been

denatured. Denatured Alcohol is used in low doses to assist the product to dry quickly after application, therefore not leaving a sticky residue; and allowing it to evaporate quickly means it isn't on the skin for long enough to cause side effects.

#### **ALPHA-ARBUTIN**

Extracted from plants such as bearberries, blueberries, and cranberries, Alpha Arbutin is a skin brightening ingredient which helps to fade the appearance of pigmentation through tyrosinase inhibition.

#### **ALPHA HYDROXY ACIDS (AHAs)**

Natural, organic carboxylic acids found in nature - also known as Fruit Acids. See Lactic and Glycolic acid. The Hydroxyl is positioned on the Alpha Carbon.

#### **ALPHA LIPOIC ACID (THIOCTIC ACID)**

A powerful and versatile antioxidant. It is a co-factor in a key biochemical pathway responsible for energy production in the cells.

#### **ALGIN**

Algin is derived from alginate, a naturally occurring polymer obtained from brown algae (phaecophyceae). Algin's unique marine biological activities provide the skin with benefits, as well as skincare formulations with emulsifying properties.



## **ALPINIAWHITE**

Extract of the seeds of Alpinia Katsumadai (Ginger Lilies). Alpina White inhibits tyrosinase conversion and suppress melanogenesis by enhancing PLD1 activity.

## **AMMONIUM LACTATE**

The ammonium salt of Lactic Acid. An excellent humectant that alleviates dry and scaly skin conditions.

## **ANTIOXIDANTS**

A molecule that inhibits the oxidation of other molecules i.e. protect cells against the effects of free radicals. Free radicals can damage cells, and may play a role in heart disease, cancer, and other diseases. Antioxidants are used to counteract the effects of free radicals formed from sun exposure or from natural processes.

## **ARGIRELINE®**

A peptide solution is the first anti-wrinkle hexapeptide with a Botulinum Toxin-like mechanism of action. It reduces the depth of the wrinkles on the face caused by the contraction of muscles of facial expression, especially in the forehead and around the eyes by inhibiting the formation of the SNARE complex (presynaptic) as well as catecholamine release.

## **ARGIRELINE® AMPLIFIED**

This evolutionary all-in-one peptide shows an amplified efficacy in regulating the pre-synaptic mechanism behind expression wrinkles, but it also acts at the post-

synaptic level to produce softer muscle contraction and improved muscle relaxation after an expression. It targets the signs of fatigue and post expression muscle relaxation to visibly smooth and improve the signs of lines and wrinkles for a beautifully relaxed, serene-looking appearance.

## **ASIATIC ACID**

Sourced from a variety of plants, including Centella Asiatica, it is known to stimulate collagen production resulting in improved skin firmness, elasticity, and wrinkle reduction. In scientific studies, formulations containing Asiatic Acid also showed efficacy in improving skin moisture by increase of the skins surface hydration state and decrease in trans-epidermal water loss (TEWL) as well as anti-inflammatory properties.

## **ASCORBIC ACID (VITAMIN C)**

A water-soluble form of vitamin C (l-ascorbic acid) known for its powerful antioxidant properties. l-Ascorbic Acid is the biologically active form of vitamin C. All other forms of vitamin C are metabolised to l-Ascorbic Acid.

## **ASCORBYL GLUCOSIDE**

Ascorbyl Glucoside is a form of vitamin C stabilised with glucose. When creams and lotions containing Ascorbic Acid 2-Glucoside (AA2G™) are applied to the skin, an enzyme present in the skin, a-glucosidase, acts on the Ascorbic Acid 2-Glucoside (AA2G™) to slowly release the benefits of vitamin C.



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### **ASCORBYL PALMITATE (VITAMIN C)**

Ascorbyl Palmitate is a stable, lipid-soluble form of vitamin C that is used in skincare products for its ability to protect the skin from free radicals, stimulate collagen production, and reduce hyperpigmentation.

### **ASCORBYL TETRAISOPALMITATE (VITAMIN C)**

A stabilised, oil-soluble form of vitamin C. It has many functions including skin lightening, promoting collagen synthesis and inhibiting lipid peroxidation.

### **ASPALATHUS LINEARIS (ROOIBOS) LEAF EXTRACT**

Demonstrated to have anti-ageing properties due to the abundant presence of antioxidants. Indigenous to South Africa.

## **B**

### **BARLY SEED EXTRACT**

Antioxidant protection to help defend the skin against harmful free radicals.

### **BASAL LAYER (STRATUM GERMINATIVUM)**

The innermost layer of the epidermis; contains living and dividing cells. This is the layer from which all the epidermal cells grow from stem cells.

### **BASEMENT MEMBRANE**

The membrane on which the basal cells rest. This layer separates the epidermis from the dermis.

### **BENZOPHENONE**

Organic (absorbent) sunscreen providing UVB protection and slight UVA protection. Several variants are available.

### **BETA-CAROTENE**

The plant form of vitamin A which is a pre-cursor of vitamin A and belongs to the carotenoid group of chemicals. It has powerful antioxidant properties.

### **BETA HYDROXY ACIDS (BHAs)**

Beta Hydroxy Acids are like Alpha Hydroxy Acids except the hydroxyl group is on the beta carbon atom which makes the acid stronger than Alpha Hydroxy Acids. BHAs may also be derived from plants. See Salicylic Acid.

### **BETA-SITOSTEROL**

A plant type of cholesterol, an “adaptogen”, which improves growth and metabolism of cells and supports the immune system.

### **BHT**

Neutralises free oxygen radicals & prevents oxidation of organic materials (prevents rancidity of fats & oils), extends shelf-life.

### **BIOBENEFTY**

Extract from the leaves of the artichoke plant. Biobenefit inhibits melanocyte production or growth and therefore guards against pigmentation.



## BLUEBERRY EXTRACT

Blueberry Extract is a natural ingredient that is used for its potent antioxidant and skin-conditioning benefits. Blueberry contains several types of antioxidants known as polyphenolics that are particularly adept at shielding skin from damage that occurs when it's exposed to visible and infrared light.

## BUTYL

### METHOXYDIBENZOYLMETHANE

A sunscreen that provides sun protection by absorbing UVA rays. One of the most widely used UVA filters in the world, rigorously tested for safety and efficacy.

## C

### CALCIUM ASCORBATE (CALCIUM)

Is the Calcium Salt of Ascorbic Acid. Usually found in nutritional supplements.

### CAPRIC/CAPRYLIC TRIGLYCERIDE

Derived from environmentally sustainable coconut oil and glycerin, it's considered an excellent emollient and skin-replenishing ingredient. It's included in cosmetics due to its mix of fatty acids that skin can use to replenish its surface and resist moisture loss. This ingredient's value for skin is made greater by the fact that it's considered gentle.

## CAROTENOIDS

There are more than 600 different types of carotenoids which are pigments in plants, algae, and photosynthetic bacteria. These pigments produce the bright yellow, red, and orange colours in plants, vegetables, and fruits e.g. Lutein and Lycopene. Carotenoids act as a type of antioxidant for humans and some can turn into vitamin A e.g. Beta-Carotene.

## CERAMIDE 2

Ceramide 2 is an essential skin molecule that can capture and bind water required by the epidermis to remain supple, smooth and hydrated. It also fights against skin ageing to preserve the skin's youth.

## CETEARYL OLIVATE

Cetearyl Olivat is an oily, waxy ester of cetearyl alcohol and the fatty acids from olive oil. Combined with sorbitan olivate it forms a nonionic emulsifier that helps blend ingredients together in cosmetic formulas. It moisturises and softens the skin while giving products a smooth and luxurious feel.

## CHARCOAL

Charcoal powder (organic carbon) is a non-nano, highly porous material with effective absorbing, purifying and detoxifying properties.

### CIMIFUGA RACEMOSA ROOT EXTRACT (BLACK COHOSH)

A robust herbaceous plant traditionally used in Chinese medicine for its rejuvenating and curative properties. Rich in highly active anti-ageing molecules e.g. flavonoids and tannins.



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### **CO-ENZYME Q10**

A powerful antioxidant found in almost every cell in the human body.

### **CITRUS BIOFLAVONOID**

Bioflavonoids are a group of plant pigments that are responsible for the colours of many flowers and fruits. Thanks to its antioxidant properties, Citrus Bioflavonoids help to fight against free radicals, decreasing and preventing the oxidative stress.

### **CLAIRJU**

Extract from plum. Inhibits the uptake of melanosomes into the keratinocytes.

### **COCO-GLUCOSIDE**

Coco Glucoside is mainly used to build viscosity and increase the foaming capacity of liquid soap in hair and skincare products. It exhibits excellent cleansing characteristics on the skin and hair.

### **COLLAGEN**

The major protein comprising connective tissue in skin, bone, and cartilage. Collagen is responsible for your skin's structure, elasticity, texture, strength, and resilience. There are numerous sub-types of collagen.

### **COLOSTRUM**

The pre-milk substance produced by all mammals during the first 24 hours to 6 days of lactation, containing a combination of immune boosters and growth factors, vitamins and minerals. Bovine colostrum is similar to human colostrum — rich in vitamins, minerals,

fats, carbohydrates, disease-fighting proteins, growth hormones, and digestive enzymes.

### **COMEDONES**

Large “black heads”. Also used to describe “white heads”.

### **COMEDOGENIC**

A substance that tends to produce or aggravate acne.

### **CONNECTIVE TISSUE**

Fibrous tissue that functions as the supporting framework of the body; holds muscle to skin, muscle to bone, bone to bone etc.

### **COUPEROSE**

Dilatation of the blood vessels primarily on the cheeks and nose. Probably an early stage of rosacea.

### **CUTANEOUS**

Relating to the skin.

### **CYANOCOBALAMIN (VITAMIN B12)**

An essential co-enzyme that is destroyed by sunlight. Replacement therefore is necessary to help promote the growth of healthy skin cells. See Vitamin B12.

### **CYSTEINE**

Cysteine is an amino acid, a building block of proteins that are used throughout the body. Cysteine is converted into glutathione in the body - a powerful antioxidant.



## D

### DECYL-GLUCOSIDE

Decyl-Glucoside is a mild non-ionic surfactant used in cosmetic formularies including baby shampoo and in products for individuals with a sensitive skin. Many natural personal care companies use this cleanser because it is plant-derived, biodegradable, and gentle.

### DERMATOPOROSIS

Weakening of skin structure due to loss mainly of Hyaluronic Acid, with deficient glycosaminoglycans and under hydration of skin.

### DERMAXYL®

A peptide made up of a combination of amino acids. Independent scientific research has shown that it helps to 'plump' up skin thereby reducing the appearance of fine lines and giving the skin a visibly smoother texture.

### DETOXOPHANE

Detoxophane is a purified extract of Swiss garden cress sprouts that contains sulforaphane, which is a well-known activator of phase II detoxification enzymes. It is known to enhance the resistance of skin cells against environmental pollutants and intrinsic reactive molecules. It both cleans off and protects skin cells against dangerous molecules.

### DERMIS

The lower layer of skin, beneath the epidermis.

### DESQUAMATION

The natural sloughing off of cells from the surface of the skin.

### DIATOMACEOUS EARTH

Diatomaceous Earth is rich in minerals and assists to restore collagen for a youthful elasticity as well as a detoxifying agent that leaves the skin feeling refreshed and healthy looking.

### DIMETHYLMETHOXY

#### CHROMANOL (LIPOCHROMAN-6)

A synthetic vitamin E analogue. A high potency antioxidant and free radical scavenger that inhibits lipid peroxidation.

### DNA

A storehouse of genetic code usually found in the nucleus of the cell but also found in mitochondria. The master template of protein synthesis. Mitochondrial DNA is only inherited from the mother.

### DYSCHROMIA

Means pigmentation abnormality.

## E

### ELASTIN

The major connective tissue protein of elastic structures such as skin and large blood vessels.

### ELASTOSIS

White nodules seen in sun damaged skin. A degenerative change in elastic



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tissue, mostly due to excessive sun exposure. The elastic fibres have snapped and rolled up into little bundles.

## ENZYME

A protein which acts as a catalyst to cause or speed up (by thousands or even billions times faster) a chemical reaction during which the enzyme itself is not changed.

## EPIDERMIS

The outer layer of the skin based on the basement membrane.

## ERYTHEMA

Redness of the skin often associated with inflammation.

## ETHYLHEXYL METHOXYCINNAMATE

Organic UVB absorber.

## EUMELANIN

A brown-black pigment; true melanin.

## EXFOLIATION

The removal of corneocytes from the surface of the epidermis. It is normally invisible but can be made very noticeable by peeling treatments or manual exfoliation.

## F

## FATTY ACID

The basic unit of lipids, palmitic and stearic are the most common fatty acids in the body.

## FIBROBLAST

The major cell of the dermis. A cell capable of synthesising collagen, elastin and glycosaminoglycans.

## FITZPATRICK SKIN TYPES

A classification of skin types, determined by their tanning ability.

## FOLIC ACID

Part of the B-vitamin complex; helps the body produce and maintain new cells.

## FREE RADICAL

An unstable atom or molecule with an unpaired electron in the outer shell. They cause oxidative damage to cells.

## FROSTING

A white appearance on the surface of the skin due to the damage to proteins by acid. The whiter the appearance, the deeper the peel. This deep level of peeling is not indicated for skincare professionals.

## G

## GALVANIC CURRENT

Continuous current that is used to disassociate certain ionisable molecules into ions to aid their penetration into the skin.

## GERANIUM ROBERTIANUM EXTRACT (PRINCESS CARE)

Prevents the generation of stagnant melanin by inhibiting tryptase activity (used as a marker for mast cell activation)

INGREDIENT SCIENCE



## **GLUCOSAMINE SULPHATE**

Made from glucose and the amino acid Glutamine. Glucosamine is needed to produce Glycosaminoglycan, a molecule used in the formation and repair of cartilage and other body tissues.

## **GLYCERIN**

A humectant and skin protectant.

## **GLYCOLIC ACID**

AHA derived from sugar cane.

## **GLYCOSAMINOGLYCANS**

An important part of the natural moisturising factors of the skin. This is a gel-like substance that can “hold” vast amounts of water. It is a major constituent of the ground substance of the dermis in which components of the dermis are embedded. Hyaluronic Acid is an important example.

## **GLUTATHIONE**

Glutathione is one of the most important antioxidants naturally found in the body. It is a co-factor for the enzyme Glutathione Peroxidase and helps to reduce Homocysteine. Glutathione has many important activities and can only be produced in the body. It is essential for re-cycling vitamin C when vitamin C becomes a free radical after detoxifying a more aggressive free radical. It cannot be supplied topically or by mouth and the only other way to encourage the formation of Glutathione may be by supplying the pre-cursor, n-acetyl cysteine.

## **GRANULAR**

Composed of, or resembling granules.

## **GRAPE SEED EXTRACT**

Derivatives from whole grape seeds (pips) that have a great concentration of antioxidants.

## **GREEN ROOIBOS TEA EXTRACT**

Unfermented Rooibos Tea Extract with more powerful antioxidant properties than fermented Rooibos Tea.

## **GREEN TEA EXTRACT (EPIGALLOCATEHIN GALLTE)**

Unfermented tea leaves contain EGCG, the active ingredient in Green Tea. One of the most powerful antioxidants that prevents lipid peroxidation and restores epidermal glutathione and glutathione peroxidase, which are very important antioxidants within the cell. It cannot be supplemented by mouth or by topical applications. Assists in reducing the appearance of sun damaged skin.

## **GROWTH FACTORS**

Special signalling molecules which are required for the growth of cells. Several growth factors may work in harmony to produce the desired result. These are the chemicals secreted by various cells of the body which cause growth of cells.

Environ does not add growth factors as separate ingredients, but research has shown that vitamin A, vitamin C and Colostrum in particular, stimulate the production of growth factors.



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## **GUARANA**

Activates blood circulation.

*H*

## **HOLOCRINE**

A gland whose secretion consists of disintegrated cells of the gland itself e.g. a sebaceous gland.

## **HONEYBUSH LEAF EXTRACT**

Powerful antioxidant properties. Indigenous to South Africa, this is a virtually caffeine and tannin-free tea known for antioxidant activity that exceeds Rooibos and is close to Green Tea.

## **HUMECTANT**

A chemical/raw material which promotes moisturisation of the skin and prevents products from drying out.

## **HYACARE\*50**

Hyaluronic Acid with a a very low molecular weight. It is a breakthrough in anti-aging properties with increased permeation through the skin compared to high molecular weight Hyaluronic Acid. It rejuvenates the skin by improving its viscoelastic properties and significantly decreases the appearance of deep wrinkles.

## **HYALURONIC ACID**

The major water retaining chemical in the skin. It can hold up to 1000 times its own weight in water and is known to

play a vital role in the ageing process once natural levels are depleted in the skin because skin cells only function optimally when there is enough water in the cells. See Sodium Hyaluronate.

## **HYDROGENATED PALM OIL**

An emollient, emulsifier and skin conditioner.

## **HYDROGENATED POLYCYDENE**

An emollient and skin-softening agent. A non-occlusive film for added skin barrier protection.

## **HYDROLYSED KERATIN**

A hair conditioning agent.

## **HYDROLYSED OATS**

A humectant used to increase hydration.

## **HYDROQUINONE**

A melanocyte toxin that inhibits melanin production. Banned for use in many countries.

## **HYDROVITON**

An advanced moisturising system to enhance overall feel of the skin.

## **HYPER-KERATOTIC**

The over production of keratin layers due to sun damage, constant abrasion, and can be pre-malignant.



## **HYPER-PIGMENTATION**

An excessive production of melanin.

## **HYPERPLASTIC SCAR**

A raised thick scar which looks like a keloid that restores to a flat scar.

## **HYPO-ALLERGENIC**

The term means that the ingredient is unlikely to cause irritation or allergy. Not to be trusted, but commonly claimed.

## **HYPO-PIGMENTATION**

Deficiency of melanin pigment in the skin, usually associated with burn scars.

*I*

## **IBR URBIOTECT®**

Inula Helenium is a herb, cultivated for centuries as a medicinal plant and a common remedy for sicknesses in the middle ages. Known for its skin barrier strengthening, anti-oxidative and anti-inflammatory capacity, it is the perfect multifunctional active to help protect the skin from multiple urban pollutants and blue light damage for a healthy and radiant-looking skin.

## **INFRAGUARD®**

InfraGuard® combines organic sunflower shoots and powerful antioxidants from the Tara Tree to efficiently protect the skin against the harmful effects of infrared (IR) and

high energy visible (HEV) light, also known as blue light which is emitted by mobile devices and computer screens and generates reactive oxygen species (ROS) in the skin.

## **INTENSLIM®**

Fights against fat predominantly accumulated in the stomach area and promotes the synthesis of desnutrin, a key enzyme in lipolysis activation.

## **INORGANIC SUNSCREENS**

Zinc Oxide and Titanium Dioxide are examples of inorganic sunscreens. They prevent the penetration of sunlight/UV rays by reflecting them away from the skin. They are often referred to as 'physical' filters, as compared with 'chemical' filters, which are organic compounds.

## **IONTOPHORESIS**

A word derived from Greek meaning the transport of electrically charged chemicals called ions. This technique is used to deliver ionisable molecules into the skin.

## **IONISABLE MOLECULES**

Consists of a combination of negative and positive ions which are electrically stable when combined and have no charge, but when they separate (ionise), they break up into a positive and a negative component. Electric current facilitates ionisation.



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## ISOMERS

The word isomer is used to define chemicals that have the same chemical formula, but which are different in their physical characteristics and physical shape/structure e.g. l-ascorbic acid or d-ascorbic acid.

## J

### JOJOBA SEED OIL

An odourless, golden-coloured liquid wax, which is produced from the seeds of the jojoba plant. Because the structure of Jojoba Oil is very similar in composition to the natural human skin oils, it is an excellent moisturiser and is ideal for all skin types without promoting acne or any other skin problems.

### JUVINITY®

Complex lipid which improves the integrity of the skin and has been shown to delay cellular senescence, reduce oxidative stress and limit telomere (DNA) shortening to ensure optimal cell differentiation (keeps the cells younger for longer).

## K

### KAOLIN

Kaolin clay is a soft, fine white clay used to draw out impurities from the skin without removing natural oils while simultaneously exfoliating, cleansing, and stimulating circulation.

## KELOID

Thickened, raised scar tissue. Almost indistinguishable from a hyperplastic scar.

## KERATIN

A protein found in skin, hair and nails.

## KERATINOCYTE

The predominant cell type in the epidermis that makes up the stratum granulosum, stratum spinosum and eventually its destiny as the corneocyte that protects the skin.

## KERATOLYTIC

A substance that removes the horny layer of the skin by dissolving keratin.

## KERATOSES

Excessively thickened horny layer of the skin because of disordered skin cell maturation “in situ”.

## KOJIC ACID

Derived from mushrooms and other plant materials, Kojic Acid is a common ingredient in skin lightening/fading products. Used in Japanese Sake production.

## L

## LACTIC ACID

An Alpha Hydroxy Acid (l-lactic acid) that has a slightly larger molecule than Glycolic Acid. Usually found



in milk but can be produced by fermentation of sugar cane.

### **LANGERHANS CELL**

An important migrant immune cell that can travel between the dermis and the epidermis. Responsible for skin immunity by recognising foreign proteins etc. It is easily damaged by sunlight.

### **LANOLIN**

A unique natural emollient, able to augment the functions of human skin lipids to maintain skin barrier function. It is an effective emollient ingredient due to its ability to penetrate the stratum corneum, hold water and reduce the skins tendency to 'crack'.

### **LAURYL BETAINE**

A hair and skin conditioner and mild surfactant.

### **LAVANDULA ANGUSTIFOLIA (LAVENDER) OIL**

An essential oil, antioxidant, anti-septic and constituent of perfume.

### **L-CYSTINE**

An amino acid.

### **LEUPHASYL®**

A penta-peptide that mimics the natural path of enkephalins, attenuates muscle contraction and prevents the formation of lines, especially in the forehead area and around the eyes.

### **LIPOCHROMAN®**

A bio-inspired, synthetic vitamin E antioxidant with detoxification properties. Improves photo-damage and has a depigmentation action on the skin.

### **LUTEIN**

See Xanthophyll. A carotenoid that absorbs the energy of blue light and appears yellow. Derivative of Marigolds.

### **LYCOPENE**

A bright red carotene and carotenoid pigment found in tomatoes and other red fruits and vegetables. Natural Lycopene derived from tomatoes contains Phytoene and Phytofluene – both of which have skin lightening effects and offer anti-inflammatory protection against UV, blue light and oxidative damage, providing antioxidant protection for the skin.

## **M**

### **MAGNESIUM ASCORBYL PHOSPHATE (VITAMIN C)**

A water-soluble, stabilised form of vitamin C. Improves skin elasticity, decreases wrinkles by stimulating collagen synthesis and suppresses melanin formation.

### **MALACHITE**

A mineral extract rich in trace elements and copper with powerful antioxidant properties. It protects



against environmental aggressions and pollution.

### **MANDELIC ACID**

An acid extracted from the bitter almond and is the largest AHA. Works on two levels; as a mild exfoliant and as an antibacterial ingredient.

### **MAST CELL**

A cell that releases histamine, causing the redness and swelling of a wound.

### **MATRIXYL® 3000**

A combination of seven natural amino acids, which when compared to retinol, acts just as effectively, but has the advantage of not inducing skin irritations or reactions. It stimulates the DNA of the fibroblasts in the skin to create collagen I and III, and builds up more elastin fibres in the dermis.

### **MATRIXYL® MORPHOMICS™**

A hard-working peptide that smooths the appearance of frown lines, marionette lines and crow's feet by assisting to re-establish vital skin connections. It rebuilds an optimum functioning skin network by re-establishing and rebooting the skin connections between the fibroblast, nucleus and the ECM.

### **MATRIXYL® SYNTHÉ' 6®**

Stimulates up to 6 structural fibres e.g. various collagens and structural proteins of the skin matrix and the dermal-epidermal junction (DEJ). Ensures an optimal architecture of the skin tissue.

### **MAT-XS™ CLINICAL**

MAT-XS™ Clinical is a synthetic molecule called Sarcosine that reduces all signs of oily skin in 28 days. It inhibits 5α-reductase type 1, and reduces the production of sebum as well as imperfections linked to hyper seborrhoea.

### **MED (MINIMAL ERYTHEMAL DOSE)**

This is the time for UV radiation to cause skin to start becoming pink.

### **MĚIRITAGE™**

A blend of 3 root extracts used in traditional Chinese medicine. It targets three signs of ageing: dehydration, wrinkles and hyperpigmentation. It restores the epidermis integrity, stimulates collagen synthesis, and counteracts melanogenesis and oxidative stress from UV and pollution.

### **MELANIN**

A pigment found in the skin which is responsible for the skin colour. Found as red (phaeomelanin) or brown/black (eumelanin).

### **MELANOCYTE**

A cell which produces the pigment melanin.

### **MELANOSOME**

Melanin granules made in the melanocyte and deposited in surrounding keratinocytes, then called melanophores.



## MELASMA

Usually symmetrical irregular areas of pigmentation most often seen on the cheeks, temples, and peri-oral area (butterfly pattern) due to an increase in melanin in the basal layer and in the dermis. Common in women and associated with hormonal changes.

## METHYLSULFONYLMETHANE (MSM)

An organosulfur compound with anti-inflammatory benefits. Provides Sulphur which supports many vital biochemical processes in the body.

## MINERAL OIL

One of the safest chemicals known, purified form of petroleum, mineral oil is not merely a by-product of petroleum but a specifically isolated and prepared fraction of petroleum with highly specialised product applications, among others, in food, cosmetics and pharmaceuticals. It acts as a sebum solvent, penetrant enhancer and promotes hydration. Noncomedogenic.

## MITOCHONDRIA

Small structures within the cell cytoplasm which are "powerhouses" for cellular energy and essential activities of the cells. They have bacterial-like DNA which is different to standard DNA.

## MITOSIS

The process of dividing cells.

## MIXED TOCOTRIENOLS

Water-soluble tocotrienols are reported to have superior antioxidant activity compared to tocopherol and has been proven to have anti-aging properties. Tocotrienols exist in four different forms: alpha-, beta-, gamma-, and delta-tocotrienols and seem to have many different effects in the body.

## MOIETY

One of the portions into which something is divided. A component of something more complex.

## MULTIFRUIT EXTRACT

Mulberry, sugar cane, orange, lemon and sugar maple are a natural source of Alpha Hydroxy Acid as well in vitamins, minerals, flavonoids and other phenolic components. They help to even out skin tone, improve skin texture and minimises the appearance of scars by improving skin exfoliation and cell renewal.

## N

## NEEM LEAF LIQUID

Extract of Neem Tree Leaves, shown to assist in the prevention of pigmentation.

## NEUROPHROLINE™

A rapid, responsive calming neuropeptide derived from Wild Indigo Seed extract (Tephrosia Purpurea). Works to transform the appearance of dullness into youthful luminosity. It's scientifically shown to control the negative effects of stress hormones in the skin.



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## NEUTROPHIL

A particular type of white blood cell involved in defence against bacterial infections.

## NIACINAMIDE (VITAMIN B3)

Niacinamide is one of the water-soluble B-complex vitamins. It helps control pigmentation, increases hydration and energy production, reduces problem skin, promotes cell growth, and speeds up skin renewal. Also known as Niacin or Nicotinic Acid.

## NUCLEUS

The oval or rounded part of a cell (distinct from the cytoplasm) which contains the DNA and divides to reproduce the cell.

## NUTRIENTS

A nourishing substance.

*O*

## OCTOCRYLENE

One of the most popular molecules included in sunscreens. It provides photostable, broad spectrum photoprotection for the skin from UV-A and UV-B radiation. It also increases the stability and efficacy of other chemical sunscreen ingredients.

## OLIVE OIL ESTER

A water-soluble lipid used to provide moisturising and softening properties.

## OMEGA 3 OIL

Essential unsaturated fatty acids. Essential fatty acids are molecules that cannot be synthesised by the human body but are vital for normal metabolism.

## OPTIM-HYAL™

Restores the optimal level of Hyaluronic Acid by stimulating neosynthesis and by sustaining its renewal. It smooths out wrinkles, moisturises skin surface and depth, and increases skin suppleness and resistance.

## ORGANIC SUNSCREENS

These are molecules which are structurally like those made by living organisms and generally have a more complex chemical nature. Virtually all organic chemicals are based on carbon, hydrogen and, but not always, oxygen. Organic sunscreens are made from chemicals with this type of complex structure and hence have complicated names, e.g. Ethylhexyl Methoxycinnamate. They trap the energy of UV rays and change their own molecular structure.

## OXIDATION

Oxidation = the loss of an electron. A chemical reaction that transfers electrons from a substance to an oxidising agent. Oxidative reactions can produce free radicals. Often oxygen is added to a molecule, e.g. carbon can be oxidised to carbon monoxide or carbon dioxide.



## P

### **PANTHENOL (PRO-VITAMIN B5)**

Panthenol is the more stable alcohol form of Pantothenic Acid. When applied topically, Panthenol is absorbed by the skin where it is converted into Pantothenic Acid. It has very good moisturising, anti-inflammatory and soothing properties.

### **PAPILLARY DERMIS**

The upper layer of the dermis consisting of the dermal papillae. These are projections of the dermis that fit into the reciprocal indentations of the epidermis.

### **PENTAVITIN**

A highly effective moisture regulator that functions where traditional moisturising agents and humectants lose their effectiveness and provides instant hydration that may last for up to 72 hours.

### **PERMEABLE**

Able to penetrate.

### **PHAGOCYTOSIS**

The process by which white blood cells “swallow up” or destroy bacteria etc. Free radicals are released in this activity.

### **PHOTO-AGEING**

Most outward signs of ageing skin resulting from cumulative frequent sun exposure.

### **PHOTO-DAMAGE**

Light damage.

### **PHYTOFUSE RENEW®**

Phytofuse Renew soothes the skin and provides benefits such as moisturisation and protection. Designed to intensely repair and renew damaged skin. This probiotic ingredient is created by fermenting *Lactobacillus Bulgaricus* cells in a unique media supplemented with soy and chicory derived prebiotic components. These conditions encourage the production of synergistically active compounds which have shown the ability to enhance cellular renewal, promote collagen synthesis and deeply moisturise the skin.

### **PHYTOSONIC**

Stops oxidative stress involved in cellulite.

### **PHYSICAL SUNSCREENS**

See Inorganic sunscreens.

### **POLLUSTOP®**

Pollustop forms a non-occlusive film on the skin surface. This product builds a protective barrier against 3 types of pollution: atmospheric pollution (carbon particles, particulate matter and heavy metals), UV, and urban pollution.



ADDENDUM

## **POLYURETHANE-34 (BAYCUSAN)**

A film former with excellent sensorial properties and UV boosting effects.

## **PYRIDOXINE (VITAMIN B6)**

An essential co-enzyme.

*Q*  
*R*

## **REPROAGE™**

A peptide born from research in epigenetic science. It assists to improve and revive the properties of a more youthful skin.

## **RESVERATROL**

A powerful antioxidant that is produced by plants to protect against free radical damage. Sources are blueberries, skin of peanuts, red grapes, cranberries, and pomegranate. Said to inhibit cancer.

## **RETINOIC ACID (RETIN A)**

The acid form of vitamin A which is the metabolically active form of vitamin A on DNA. (medical form of vitamin A)

## **RETINOLIDS**

The family of chemicals related to vitamin A. Easily degraded by exposure to light, heat, air, and moisture.

## **RETINOL (VITAMIN A)**

This is vitamin A in an alcohol form and is also the form used for transport of vitamin A in the blood. Less irritant than retinoic acid. Toxic in high doses.

## **RETINYL ACETATE (VITAMIN A)**

Vitamin A ester, a milder form of vitamin A than Retinol on the skin, but more actively absorbed than retinyl palmitate. It is metabolised to Retinol, then Retinaldehyde and eventually Retinoic Acid.

## **RETINYL PALMITATE (VITAMIN A)**

Vitamin A ester; milder form of vitamin A than Retinyl Acetate and more easily tolerated by skin. It is metabolised to Retinol, then Retinaldehyde and eventually Retinoic Acid. Photo-protective.

## **RETINYL PROPIONATE**

A more photostable vitamin A ester; milder form of vitamin A than Retinyl Palmitate. It is metabolised to Retinol, then Retinaldehyde and eventually Retinoic Acid.

## **REVIDRATE**

Stimulates the entire NMF production pathway and recreates the skins own natural moisture by supporting the water and lipid balance in the epidermis.

## **RIBOFLAVIN (VITAMIN B2)**

Supports the growth of skin, nails and hair.



## **ROSACEA / ACNE ROSACEA**

A chronic reddening of the skin in the areas where one normally blushes. Affects mainly the face, cheeks and nose but can occur on the chest. Sometimes associated with inflamed spots like acne (but not associated with comedones). Can cause rhinophyma - a thickened "potato-nose".

## **ROSEMARY LEAF EXTRACT**

A powerful natural antioxidant that has antibacterial properties.

**S**

## **SAKURA EXTRACT B**

Extract from the Japanese flowering cherry. Inhibits histamine release which is known to stimulate melanocytes to produce melanin.

## **SALICYLIC ACID**

A BHA which acts as an exfoliant.

## **SEBACEOUS GLAND**

A holocrine gland that usually opens into a hair follicle and secretes sebum.

## **SEBUM**

An oily, semi-fluid substance that helps prevent skin and hair from drying out.

## **SELENIUM**

Selenium is a co-enzyme in a chemical process that is important for removing free radicals. It is not easily absorbed

by skin when applied topically and is generally used as a dietary supplement. It has been shown that skin cancer is more common in people who have a low dietary intake of selenium.

## **SEPICALM™**

Reduces the sensation of discomfort in the skin by combatting the inflammatory process, helping to ensure comfort and protection.

## **SHEA BUTTER**

Shea butter is fat that's extracted from the nuts of the Shea Tree. It's solid at warm temperatures and has an off-white colour. Shea butter has been used as a cosmetic ingredient for centuries. Its high concentration of vitamins and fatty acids, combined with its easy-to-spread consistency, make it a great ingredient for smoothing, soothing, and conditioning skin.

## **SEPI-WHITE™ MSH**

Sepi-White™ MSH is an alpha-melanocyte-stimulating hormone (MSH) receptor antagonist with excellent skin lightening and brightening effects, suitable for all skin types and ethnicities, promotes a more uniform and radiant complexion.

## **SODIUM ASCORBYL PHOSPHATE (VITAMIN C)**

A stable, ionisable form of vitamin C.



## **SODIUM HYALURONATE**

A glycosaminoglycan distributed widely throughout connective, epithelial, and neural tissues. A molecule that can hold up to 1000 times its own molecular weight in water. Helps to promote hydration.

## **SODIUM LACTATE**

One of the Natural Moisturising Factor (NMF) constituents of skin that is required in the maintenance of natural hydration.

## **SODIUM LAURETH SULPHATE (SLES)**

A surfactant that acts as an effective foaming agent when used in skin cleansers.

## **SODIUM LAUROYL SARCOSINATE**

A mild surfactant that acts as an effective foaming agent when used in skin cleansers.

## **SODIUM PCA**

Sodium PCA is a natural hydrating agent derived from oils, plants and fruits. It is the sodium salt version of pyrrolidone carboxylic acid (PCA), also known as pyroglutamic acid. Sodium PCA is a humectant that naturally occurs in the skin.

## **SORBITAN OLIVATE**

See Cetearyl Olivat.

## **SONOPHORESIS**

Low level sounds outside the range of human hearing in the region of 20 KHz.

## **SOYBEAN OIL**

An emollient agent for body or hair treatment. It helps recover the skin barrier function.

## **SPF (SUN PROTECTION FACTOR)**

Sun protection factor: the SPF number is the amount of time one can remain in the sun without burning; for example, if one becomes pink without protection in 15 minutes, with a sunscreen with SPF4 one can remain in the sun for 60 minutes before erythema occurs.

## **SPINY LAYER**

See Stratum Spinosum.

## **SQUALANE**

A plant emollient that helps improve the elasticity of the skin. A natural component of human skin.

## **STRATUM CORNEUM**

The outermost layer of the skin consisting of cornified cells. Although regarded as "dead" they are still active metabolically.

## **STRATUM GERMINATIVUM**

The innermost layer of the epidermis; contains living and dividing cells. This is the layer from which all the epidermal cells grow. See Basal Layer.



## **STRATUM GRANULOSUM**

The layer of flattened cells that are becoming dried out, with numerous granules at the periphery of the cells which are the keratins and ceramides being extruded into the extracellular space forming the waterproofing barrier of the skin.

## **STRATUM SPINOSUM**

Thickest layer of the epidermis. The cells have small tubules connecting them to each other, which look like spines around each cell.

## **SUBCUTANEOUS**

Under the skin.

## **SUPEROXIDE DISMUTASE**

An enzyme for removing hydroxyl radicals and converts them into hydrogen peroxide.

## **SYN<sup>®</sup>AKE**

A small peptide that smooths expression lines by mimicking the activity of a naturally occurring peptide found in the temple viper venom which has a strong ability to relax muscle contraction by blocking the acetylcholine receptor.

## **SYRINGA VULGARIS (LILAC) EXTRACT (SEBULESS<sup>™</sup>)**

Helps to balance sebum, reduces the appearance of breakouts and helps to control redness and inflammation.

## *T*

## **TEA TREE OIL**

Australian Tea Tree Oil, which acts as an antiseptic, antiviral, antifungal and antibacterial agent.

## **THIAMINE (VITAMIN B1)**

Supports the functioning of the nervous system, digestion, muscles and heart.

## **TITANIUM DIOXIDE**

Titanium Dioxide is an inert mineral used as a sunscreen. See Inorganic Sunscreen.

## **TOCOPHEROL ACETATE (VITAMIN E)**

The ester form of vitamin E, more stable than Tocopherol with moisturising and antioxidant properties.

## **TOCOPHEROL (VITAMIN E)**

Alcohol form of vitamin E with antioxidant properties to protect cosmetics from oxidation.

## **TOMATO FRUIT EXTRACT**

Solanum Lycopersicum has excellent antioxidant effects and helps prevent the skin from ageing thanks to its composition in carotenoids (lycopene,  $\beta$ -carotene) and flavanols (quercetin, rutin, kaempferol).

## **TRANSIENT**

Temporary - not lasting or permanent.



ADDENDUM

## TRETINOIN

Another name for Retinoic Acid.

## TRICHLOROACETIC ACID (TCA)

A man-made acid derived from acetic acid (vinegar). Used for skin peelings.

## TUGOR; TURGID

Swelling; stiff, the degree of hydration of the cell.

## TRYLAGEN®

Known to prevent the main cause of collagen damage in mature skin by acting on all stages of the collagen life cycle thanks to a triple action: this peptide stimulates the synthesis of collagen I, II and IV; controlling dimensions of the fibres and inhibiting enzymatic degradation.

## TYROSINE

Tyrosine helps produce melanin, the pigment responsible for hair and skin colour.

## TYROSINASE

An enzyme essential to produce melanin.

## TYROSINASE INHIBITORS

Chemicals that block either the formation or the action of tyrosinase, and thereby prevent the formation of melanin.

## U

## ULTRASOUND

Sound waves which are at a pitch that is above the upper limit of normal human hearing. Usually used to describe very high energy sound (1.1 MHz).

## UREA

An excellent moisturising ingredient to soften dry, calloused skin. Found naturally in the skin.

## UV RAYS

Ultraviolet light.

## V

## VENUCEANE™

Fights IR-induced damage, prevents IR-induced stress, lessens the inflammatory conditions, improves hydration and maintains dermal architecture. Inhibits radical oxygen species.

## VEXEL®

Firms, tones and reduces slackening of skin thanks to the synergistic action of two molecules; caffeine and palmitoyl-carnitine.

## VITAMIN A

See Beta-Carotene, Retinyl Propionate, Retinyl Palmitate, Retinyl Acetate, Retinol, Retinoic Acid.

## VITAMIN B3

See Niacinamide.



## VITAMIN B6

Pyridoxine Hydrochloride is a colourless or white crystalline powder added to evaporated milk in infant foods. It is present in many foods especially yeast, liver and cereals. It is a coenzyme that helps in the metabolism of amino acids and fat. Vitamin B6 allows for normal red blood cell formation, balances hormones, and strengthens the immune system. Its benefits are maximised when taken as a supplement.

## VITAMIN B12

Methylcobalamin is classed amongst the water-soluble vitamins though it is not easily soluble in water. As the name implies, cobalt is an essential part of this vitamin, which acts as a cofactor in metabolism. It is also important in DNA synthesis. Topically, vitamin B12 enhances the re-growth of hair on the scalp. It is also known to energise skin cells which makes them function better.

## VITAMIN D

Vitamin D is a steroid type of vitamin related to cholesterol, which is formed in the skin on exposure to sunlight, specifically UVB rays. The lighter the skin colour, the easier it is to make vitamin D, which is why people with dark skins can suffer from vitamin D deficiency (rickets) if they live in northern countries. In very southern / northern latitudes, the UVB rays do not penetrate through the atmosphere in winter and people do not make vitamin D until the sun rises higher

in the sky, when UVB rays can pass through the atmosphere. It takes about 20 minutes to convert the precursor of vitamin D into active vitamin D, which can absorb long UVA rays and be destroyed.

## VITAMIN E

Vitamin E is normally found in the skin and is an extremely effective lipid-soluble antioxidant in the lipid (oily) phase of the cell membranes. The myth about it being useful for scars is exactly that: a myth with no substantiation. Its main weakness is that it is easily inactivated while protecting lipoproteins, and vitamin C is essential for re-cycling it back into active vitamin E. Vitamin E is part of the network antioxidants consisting of vitamin C, vitamin E, Glutathione, Alpha Lipoic acid and Coenzyme Q10.

## W

### WITCH HAZEL

Hamamelis Virginiana (Witch Hazel) water is a natural astringent that is also known to reduce inflammation and has good antioxidant properties to help fight the effects of free radicals.

### WOOD'S LIGHT

An ultraviolet lamp used for skin diagnosis (320nm to 400nm). Also called 'black light'.



ADDENDUM

## X

### **XANTHOPHYLL**

The family of carotenoids. Strong yellow colour e.g. Lutein and Zeaxanthin. Antioxidants that filter out the harmful high-energy blue light and significantly reduce free radical activity.

## Y

## Z

### **ZEAXANTHIN**

Zeaxanthin is a Carotenoid alcohol and extremely common in nature. Found especially in maize, paprika and saffron. Important for protection from light energy.

### **ZINC**

Anti-acne benefits and essential for a healthy skin.

### **ZINC OXIDE**

Minerals like zinc oxide are frequently used as an inorganic physical sunscreen.

