

ACEROLA EXTRACT

Acerola is an exotic fruit similar to a small cherry. It is one of the most vitamin C-rich fruits on the planet. Its natural habitat is in Central and Southern America. It grows on a tree or bush that reaches heights of up to 5 metres. As well as vitamin C the acerola cherry also contains a number of minerals and trace elements and also secondary plant-source active substances.

Acerola Extract therefore improves the firmness and elasticity of the skin, supports its ability to retain moisture and acts against free radicals and therefore premature skin aging.

Acerola Extract is particularly suitable for tired or stressed skin.

ACACIA COLLAGEN

This active substance is obtained from the silver acacia which is a native of Australia. It contains amino acids such as hydroxyproline, which is also a constituent of animal collagen and is partly responsible for its positive skin-care properties. Acacia Collagen therefore represents a copy of the basic structure of the skin's connective tissue and could therefore also be described as a "second skin".

Acacia Collagen supports the skin in the formation of collagen tissue. The moisture content of the skin surface is considerably improved. The complexion visibly and palpably regains the radiance of youthful, vital skin.

Acacias are shrubs and trees belonging to the mimosa family. The silver acacia is a tree growing up to 30 m in height. The fine hairs on its foliage give it a silvery appearance. It produces splendid clusters of yellow blossom that give off a delicate, seductive perfume.

AGE CORRECTOR COMPLEX

This complex contains a variety of smoothing peptides, e.g. Skin Relax Peptide, which combats expression lines, and Dermaxyl, an active repair substance that activates cell renewal.

This creates a triple effect: with short, medium and long-term action, lines and wrinkles are effectively minimised and smoothed. Tone and elasticity are clearly improved.

ALGAE EXTRACT

DR. GRANDEL uses an extract of brown marine algae, which owing to its high content of fucans provides excellent moisturizing benefits.

It also offers venotonic properties i.e. it strengthens the capillary walls.

It also gently stimulates micro-circulation, and calms and soothes the skin. This makes the extract useful in the treatment of skin prone to couperose.

ALGAE & SEA WATER COMPLEX

This highly effective combination of algae and sea water acts as a rich moisturizer and restructures the natural moisture retention factors of the skin, thus visibly improving the skin's ability to bind moisture.

This complex is made from:

Sea water

Minerals and trace elements contained in sea water have a remineralizing effect and sensibly and visibly improve the skin's natural ability to retain moisture.

Alginin Acid from the brown algae *Laminaria Digitata*.

This extract from the cell walls of brown algae can swell and absorb large quantities of water. Moisture is thus retained on the surface of the skin to impart a fresh, smooth complexion.

Amino Acids from the green micro-algae *Chlorella Vulgaris*

Chlorella Vulgaris algae contains an extraordinarily wide spectrum of amino acids. Together with the sea water and the extract of brown algae, these amino acids significantly increase the skin's ability to retain moisture.

ALLANTOIN

Allantoin is an active substance found, for instance, in wheat germ, in the bark of the horse chestnut tree or in the roots of the comfrey plant (*Symphytum officinale*). Decoctions of these plant parts have been used medicinally for centuries. However, it was only in 1912 that Allantoin was found to be its active constituent.

In addition to its long, consistent history of medicinal use, Allantoin has a reputation as a cosmetic ingredient which:

- works to encourage skin cell regeneration
- exerts a soothing influence on irritated skin
- provides rough, scaly skin a moist and supple feeling.

ALOE VERA GEL

Aloe has been appreciated as a healing plant since pre-Christian time. Ancient texts report that Cleopatra, the Egyptian queen renowned for her beauty, relied on aloe gel to keep her complexion clear, smooth and flawless. There are over 200 species of aloe growing worldwide.

The aloe vera gel used in DR.GRANDEL Skin Care Products is derived, exclusively, from the greenish-gray, fleshy, rosette-forming, thorny leaves of aloe Barbadensis Miller, which have a high moisture storing capacity.

Aloe Barbadensis, which bears some resemblance to a cactus, belongs to the family Lilaceae (lily family).

Native to the warm dry, desert-like areas of northern and southern Africa, the American southwest and Mexico where it grows in calcareous soil. Today whole plantations are devoted to cultivating the Aloe Barbadensis plant, mainly in Arizona, Florida, Texas and Mexico.

In intervals of approximately 8 to 10 weeks, the outer two or three leaves of each plant are harvested to extract from them, in a laborious manual process, the valuable gel.

The gel, which is the clear, slimy mass (parenchyma) undergoes a series of mechanized operations in order to preserve and stabilize it.

Extensive research since the 1930s has shown the clear gel of the Aloe Barbadensis Miller

- has soothing properties
- promotes skin regeneration
- relieves swelling
- has a rich moisturizing action
- acts to protect the skin thanks to a natural sunscreen.

ALPHA-HYDROXY ACIDS (Fruit Acids)

AHA stands for Alpha-Hydroxy Acids, which include malic acid, citric acid, tartaric acid, glycolic acid and lactic acid.

How do AHAs work?

The cells of the stratum corneum are held together by a bonding substance. The effect of the Fruit Acids is to break down this intercellular substance. This process results in increased exfoliation of the dead horny cells, making the stratum corneum thinner and more flexible. This exfoliation reduces wrinkle depth, age spots and pigmented blemishes. The skin therefore appears smoother and fresher.

Fruit Acids not only help to break down the horny layer but also have an antibacterial effect which makes them particularly suitable for the care of blemished problem skin.

Scientists have found that Fruit Acids even at low concentrations have a desirable peeling effect on the skin in regular use, without subjecting it to excessive stress.

AMARANTH SEED OIL

Amaranth is a very old cultivated crop and was one of the staple foods of the Aztecs, Incas and Mayas. It is a pseudocereal. Mainly the seeds are used, which are similar to millet. Amaranth has a significantly higher protein and mineral content

than the cereal varieties traditionally grown worldwide. The amount of unsaturated fatty acids is approximately 70% of the total fat content.

The oil of the *Amaranthus caudatus* seeds used in DR. GRANDEL skin care products contains a high proportion of squalane, similar to the one naturally found in skin lipids. This, in combination with tocopherols/tocotrienols (= different forms of Vitamin E) and a very high proportion of linolic acid, gives Amaranth seed oil unique skin care properties.

ANTI-AGING PEPTIDES

Anti-Aging Peptides promote the formation of collagen in the skin. This keeps skin smooth and firm, and makes it stronger.

Tests have shown that this active ingredient has an excellent long-term anti-wrinkle effect.

Anti-Age Peptides are extremely effective in the battle against skin aging.

APPLE EXTRACT

Purely and simply a fruit, the apple has a high symbolic value. As a result of its widespread distribution it appears in innumerable fairy tales and plays a role in mythologies and rituals. The importance of this pomaceous fruit as a foodstuff and as an ornamental shrub or tree is undisputed. As a herbal remedy, the apple even appears in Babylonian scripts from the 8th century B.C.

One of the constituents of cosmetic interest is a natural, very mild tenside that can be separated from the apple. It provides gentle yet thorough cleansing without upsetting skin's natural balance.

Tensides are substances that reduce the surface tension of a fluid. Their effect is that normally non-miscible fluids can be mixed as is necessary, for example, when cleansing the skin. Excess sebum or residues of cream and dirt on the skin need to be dissolved with water and removed. Tensides function as cleansing agents.

ARGAN OIL

One of the world's oldest trees, the argan tree (lat. *Argania spinosa*) is now only found in southwestern Morocco. It can have a crown spread of up to 15 metres and bears fruit several times a year. The nuts inside the fruit are three-times thicker than hazelnuts and extremely difficult to crack. The seed they contain is smaller than a sunflower seed. It is from this seed that argan oil – Morocco's "liquid gold" – is extracted. Argan oil is remarkably high alpha—tocopherol, which has the greatest vitamin E activity. It has been known to be well tolerated by the skin and valued for its skin hydration properties. With its strong antioxidant activity, argan oil can counteract the effects of premature skin aging.

To obtain its argan oil, Dr. Grandel works in partnership with a women's cooperative in Morocco, an independent venture that operates on a sustainable basis and puts nature first.

AVOCADIN

Avocadin is a special constituent of avocado oil and is particularly valuable in skin care.

Cosmetics containing a high proportion of Avocadin keep the skin moist and silky. The initial signs of skin aging, such as flaking and unattractive cornification are alleviated and rough areas of skin are smoothed.

In irritated, stressed skin Avocadin has a softening effect and supports the skin's own protective mechanisms.

AVOCADO EXTRACT

This extract is obtained from the Avocado fruit. Avocados have been cultivated for thousands of years and were already prized by the Mayas and Aztecs as healing plants. For more than 30 years scientists have been engaged in research into the cosmetic properties of the Avocado. The most recent finding is a substance from Avocado Oil that inhibits one of the body's own enzymes. This enzyme is involved in the conversion of testosterone in the body, so forcing sebum production.

This Avocado Extract therefore intervenes in an enzyme conversion process and works to reduce sebum production.

AVOCADO OIL

This valuable oil comes from the fruit of the avocado tree. This is a member of the laurel family (Lauraceae) and grows to a height of 10 – 20m. It is an evergreen fruit tree with a rounded crown. The name avocado is derived from "ahucatl" from the Aztec language.

This tree is now cultivated not only in its native Central American habitat but also in many tropical and sub-tropical countries throughout the world, including Spain, Israel, Sicily and South Africa. The fruits are pear-shaped (avocado pear) with a large stone that makes up a quarter of their weight. Avocados can be up to 25 cm long and 1 kg in weight.

Because of its constituents, Avocado Oil is perfectly suitable for use in cosmetics and has the following properties:

- helps rough, flaky skin

- supports the capability of the skin to absorb moisture
- makes the skin soft and smooth
- counteracts skin aging

AZULENE

By distillation of the yellow chamomile flowers with hot water, an essential oil is obtained which owing to its deep blue colour is called "blue chamomile oil." The name of its main constituent azulene is derived from the word azure, which means having the bright blue colour of the sky on a bright sunny day.

Azulene has a traditional use in wound healing and in the treatment of inflammatory conditions. In cosmetics it is mainly used in formulations for sensitive skin.

Azulene has these actions:

- anti-inflammatory
- soothing
- bacteriostatic
- bactericidal
- regenerating

BABASSU OIL

is a skin care oil traditionally used by the native population of Brazil. It is obtained by pressing from the kernels of the nuts of the Babassu palm tree, which grows to a height of approximately 20 metres.

The oil is readily absorbed by the skin and leaves no unpleasant greasy film behind. Therefore, it is particularly suitable for dry and/or sensitive skin which needs intense hydration but light emolliency.

In addition, Babassu Oil also has a cooling effect which provides a feeling of freshness and lightness. A de-sensitizing, protective film has a soothing and balancing effect, particularly for dry and sensitive skin.

Babassu Oil makes the skin beautifully soft and supple.

BAMBOO EXTRACT

The Bamboo plant is perhaps not the most useful of plants growing on earth, but certainly one of the most amazing plants.

Bamboo belongs to the fastest growing group of plants. Japanese documents report that one species grew 121 cm within a period of 24 hours! Some species reach a height of more than 30 metres and their stems a diameter of up to 30 centimetres.

The Japanese alone are using the Bamboo plant, which flourishes in abundance in their country, for more than 1500 different purposes.

Bamboo extract is used in skin care products with very good results.

It contains:

- polysaccharides
- mineral salts
- amino acids
- organic acids

Bamboo Extract

- has a moisturizing action and enhances moisture retention
- assists in preserving the skin's pH

BEARBERRY LEAF EXTRACT

The extract of the leaves of the bearberry is rich in natural arbutin. Arbutin inhibits the activity of tyrosinase, which in turn is involved in the formation of the brown skin pigment, melanin. This extract therefore acts against the further formation of melanin, so lightening the skin. Hyperpigmentation or age spots therefore return to the colour of the remaining skin.

The bearberry is a trailing evergreen dwarf shrub. The plant produces berry-shaped red floury fruits. It is a native of the northern hemisphere.

The tea from the leaves of the bearberry is used a natural remedy for its antibacterial activity in inflammatory diseases of the urinary tract.

BEECH SHOOT EXTRACT

An active complex extracted from the young shoots of the beech tree. The tissue of these delicate parts of the tree contains an abundance of highly active substances, which are extracted from the tissue in a sophisticated process.

These highly active substances work to counteract skin aging by promoting the formation of keratinocytes and their protein-building activity. In addition, they also have a favourable influence on the cells' oxygen level.

BIOFLAVONE

Bioflavone is a natural active ingredient complex with isoflavones extract-ed from the soy plant, to which phytosterols from the yam root are added. It balances the effects of skin aging associated with hormonal changes and prevents atrophic skin from getting thinner.

Soy is a food plant native to Eastern Asia. The soybean is a pulse that grows on an annual, bush-like plant and requires just 100 days to reach harvest. Ancient writings prove that the soy plant was first cultivated in China as many as 5,000 years ago and was regarded as a sacred plant.

It was discovered, quite by accident, that menopausal complaints are less marked in Asian women than in Europeans. This was attributed to the high proportion of soy products in Asian diets. Soy contains, as a secondary plant constituent, isoflavones (e.g. genistein). Isoflavones have a hormone-like effect within the body without any evidence of adverse effects, and have been for some time a well-established element of phytotherapy in the treatment of menopausal disorders.

In anti-aging skin care products, isoflavones prevent the breakdown of collagen and elastin, thus making the skin thicker and giving it a smooth and supple appearance with firm contours.

The yam originates from tropical areas and plays a staple role in the diets of many countries in Africa, America and Asia. The roots are eaten as a vegetable and are used in a fashion similar to potatoes. The tuber has a thick, rough skin and looks like a sweet potato. Yam has some history of traditional use as a means of promoting good health. Important secondary plant constituents of the yam root include phytosterols, and especially diosgenin. In the body, diosgenin serves as a raw material for the formation of “rejuvenating” hormones.

In cosmetic formulations, yam root extract protects the support structures of the skin and improves elasticity.

BIOLOGICAL SKIN HYDRATION REGULATOR

A complex of carbohydrates which prevents water loss from the skin, even in very dry environmental conditions by forming an invisible protective layer over the skin surface.

This Biological Skin Hydration Regulator:

- protects dry skin from becoming rough
- encourages the skin to retain moisture
- provides a buffer against moisture loss

BIOPEPTIDES

This special combination of amino acids also occurs in a similar form in collagen.

This very active ingredient

- supports the collagen structure of the skin
- improves the elasticity of the skin
- actively combats wrinkle formation
- smoothes and freshens the skin

BISABOLOL

Bisabolol is an active ingredient that is extracted from the German chamomile, also referred to as, true or genuine chamomile.

The use of chamomile as a medicinal plant can be traced back to medicine men of ancient civilizations who recommended the use of decoctions to cleanse and heal wounds.

Used in skin care products, Bisabolol offers the following properties:

- anti-inflammatory
- soothing
- bacteriostatic and bactericidal
- regenerating

BLACK OATS

Black Oats are the original form of the oats that we know today.

The active ingredients in black oats bind the moisture in the skin on a long-term basis and have a vitalizing effect. They immediately smooth away fine lines and wrinkles, strengthen the skin's natural barrier, and thus make skin more robust and resistant.

As a result, the surface of the skin feels soft and supple.

BORAGE OIL

Contains a high proportion of gamma- linolenic acid, an essential fatty acid that cannot be synthesized by the body but must be obtained from the diet. A deficiency in gamma-linolenic- acid can result, for example, in dry, rough and flaky skin.

Gamma-linolenic acid is essential to the maintenance of a healthy epidermal barrier.

Skin care with borage oil that is rich in gamma-linolenic acid:

- supports the moisture-binding capacity of the skin
- improves elasticity of the skin
- reinforces the skin's own protective mechanisms
- promotes a smooth and soft complexion

CAFFEINE

Caffeine dilates the local blood vessels and stimulates the microcirculation which in turn produces a drainage effect. This prevents excessive accumulation of water in the tissues, reduces swelling and removes waste products from the tissues.

Caffeine at varying concentrations is particularly beneficial in cosmetic products for use in the eye area, in preparations to reduce irritation and detoxify the tissues or for body care products to firm the tissues or combat cellulite.

CALCIUM

The mineral calcium is not only beneficial to bone formation but is also directly involved in the synthesis of collagen and leads to a noticeable enhancement of moisture retention and firmness.

This makes calcium an important anti-aging mineral that leaves skin smooth, fresh and younger looking.

CAROTENE

Carotene is a fat-soluble red pigment found in many plants and belongs to the group of micronutrients.

Even small amounts of carotene have a significant level of vitamin A activity (provitamin A). Thus, carotene helps form and maintains collagen fibres, encourages cell renewal and repairs UV-induced skin damage.

CARROT EXTRACT

Carrot Extract contains a level of hydroxyproline similar to that of animal collagen. Hydroxyproline is mainly responsible for the positive skin-smoothing properties of collagen.

Carrot Extract

- increases skin moisture
- reduces roughness and promotes a smooth complexion
- reduces the depth of wrinkles

CARROT OIL

This reddish oil contains the lipid-soluble active ingredients of the carrot, in particular carotene.

Carrot oil is particularly beneficial for rough and flaking skin as it has a normalising effect on the cornification processes of the skin. It supports cell regeneration and cell metabolism.

Carrot oil has a vitalising and balancing effect and alleviates irritation. The skin appears smooth and well-groomed.

CELL PROTECTOR

Cell Protector is an amino acid derivate obtained by biotechnological methods. It provides UV protection at cell level, thus strengthening the skin cells' own

protection against UV light, environmental pollution and stress. At the same time it activates the regeneration mechanism of the cells.

It originates from micro-organisms that survive under the most difficult conditions in heavily salted waters and salt deserts. These micro-organisms have developed a highly effective protective mechanism against UV-related environmental stresses. In their natural habitat they are constantly subjected to strong UV radiation, high temperatures and extreme drought and, in spite of these conditions, are still able to maintain the health of their cells.

CERAMIDES

Ceramides belong to the group of so-called sphingolipids, a class of lipids that occur in the skin.

The word 'sphingo' is derived from Greek 'sphinx', a winged mythological figure having a woman's head and a lion's body. It propounded a riddle about the three ages of man, killing those who failed to solve it.

At the time of their discovery, sphingolipids and their function in the skin presented a riddle to researchers - hence the name. Today the skin's structure is well researched, and the riddle about the role sphingolipids play in the skin has been solved.

Essential components of the epidermis, ceramides - a special class of sphingolipids - play an important part in the maintenance of the protective barrier of the skin.

Thanks to their insolubility in water, they represent an extremely effective buffer against moisture loss.

CELLS AND JUICE FROM THE KIWI FRUIT

Fruit juice is obtained from the fruits by a special extraction method that preserves its natural valuable qualities.

Fruit juices show a high degree of similarity to the biological properties of the cell fluids of our bodies. The pH is also optimum for our skin as it is slightly acidic. It also contains a number of minerals and trace elements.

Fruit juice is therefore more valuable than water from the highest glacier or the depths of the oceans.

The fruit cells are kept intact in a protective medium. They are rich in minerals and trace elements and also vitamins and secondary plant-source active substances.

The cells of the kiwi fruit are particularly rich in vitamin C. This acts as an antioxidant and protects the youthful quality of the skin. The body's own enzymes that break down tissue structures are inhibited.

CEREAL GERM OIL

This is a valuable oil from cereal germ that is rich in polyunsaturated fatty acids, tocopherol and carotene.

It increases the elasticity and cell metabolism of the skin.

Cereal Germ Oil is extremely well tolerated by the skin.

CLEANSING AGENT DERIVED FROM CORN GERM OIL

A very mild, non-drying tenside that is well tolerated by the skin and therefore also used in baby care products.

CLEAR SKIN COMPLEX

Clear Skin Complex is an inflammation inhibitor and actively antibacterial complex that has been specially developed to combat impurities.

This Clear Skin Complex consists of three ingredients:

RIBWORT: Alleviates existing inflammation and has an antibacterial effect. Ribwort, or plantain, also has antioxidative properties and inhibits the formation of free radicals that delay the resolution of inflammatory processes.

MAHONIA: Inhibits the formation of inflammatory mediators, the substances that trigger inflammation, in the tissues. Mahonia also relieves itching of blisters and pustules.

SALICYLIC ACID: Has a keratolytic effect, so promoting the softening and desquamation of horny cells. This facilitates the flow of sebum and the access of active substances to the skin. Salicylic acid therefore gives a smooth and even complexion and prevents the formation of comedones.

COCOA BUTTER

The cocoa tree originally comes from Brazil, where it is found in the Amazon and Orinoco areas. It was also cultivated by the Mayas and Aztecs, and spread to Central America.

The tree grows to a height of around 4 - 8 meters and has a life span of about 60 years. The cucumber-like fruits contain 50 - 60 seeds, which we call cocoa beans, containing 50 to 58% fat.

The fat, or Cocoa Butter, has a melting point of about 36°C. It smells slightly of cocoa. Because cocoa butter melts when it is applied to the skin, it removes heat from the body, producing a slightly cooling effect. Cocoa Butter supports the skin's

own ability to retain moisture and is an excellent skin care component especially for dry, sensitive skin.

CONTOUR FIRMER

This active substance consists of a combination of peptides and a stabilized form of hesperidin. Hesperidin is a flavanoid, i.e. a secondary plant product that occurs particularly in citrus fruits.

Together this combination of active substances ensures

- reduced permeability of the capillary walls,
- increased lymph circulation
- improved firmness and elasticity of tissues

Less water therefore escapes into the surrounding tissues, existing tissue fluid is more effectively transported away via the lymphatics and the tissues appear firmer and smoother.

CORN GERM EXTRACT

Corn germ extract is rich in amino acids, sugars, vitamins of the B group and trace elements such as iron, copper, zinc and magnesium.

This herbal „anti-aging substance” possesses remarkable cosmetic properties:

- stimulates cell metabolism by means of bioregeneration
- delays the natural aging process
- is a highly effective moisturizer and promotes a smooth skin
- demonstrably reduces wrinkle depth

CRESS EXTRACT

This extract is obtained from the paracress, which is native to South America and has nothing in common with other cresses, except the name. Paracress is odourless, but when eaten has a flavour that develops to a strong pungency that can leave a numb sensation in the mouth.

The English name toothache plant refers to its constituents which can temporarily reduce the sensation of pain.

These substances are also of cosmetic interest as they reduce wrinkles and smooth the skin. This is partly achieved by its skin-relaxing properties.

CUPUAÇU BUTTER

Cupuaçu originally comes from the eastern Amazon area of Brazil and is common in several Latin American countries. It is closely related to the cocoa plant; in fact, the native inhabitants of the Amazon area have been making a type of chocolate from its seeds for generations.

The „butter” from the nut-like seeds is ideal for the manufacture of cosmetics. Cupuaçu Butter makes the skin feel pleasantly smooth and supple. Contact with the warmth of the skin produces a particularly delicate glaze which leaves skin feeling soft, moisturized and wonderfully relaxed.

DEFENCE BALANCER

Defence Balancer is a highly active complex of herbal origin. It has an anti-inflammatory and balancing effect on the skin and also supports the natural barrier function of the skin against evaporation of moisture and external influences.

It contains extracts of balloon vine (*Cardiospermum halicacabum*) and Viper’s bugloss (*Echium*) and unsaponifiable parts of sunflower oil, that have the following properties:

- Balloon Vine:** The phytosterols in the extract of this tropical climbing plant inhibit inflammation and have an anti-irritant effect on the skin. Other ingredients provide anti-oxidative protection.
- Viper’s Bugloss:** This plant belongs to the family of Boraginaceae, of which borage is also a member. Its oil contains a high proportion of stearidonic acid, an essential fatty acid. Stearidonic acid inhibits the inflammatory mechanism. A further ingredient is gamma-linolenic acid which has a positive effect on skin barrier characteristics and therefore markedly reduces moisture loss. The skin surface becomes soft and silky.
- Sunflower Oil:** The unsaponifiable parts of sunflower oil offer the skin a natural protection system. In addition, Vitamin E and squalene are of great importance for regeneration and care.

DEPOT HYALURONIC ACID

Hyaluronic Acid has the capability to attract and fix large quantities of moisture. It is therefore one of the best intensive moisturizing substances. It protects the skin from drying even when humidity is low.

In this complex it is incorporated into a multilamellar carrier system.

The individual membranes of the “onion-like” encapsulation gradually dissolve and therefore continuously releases Hyaluronic Acid. This time-release effect provides

the skin with a permanent supply of this valuable moisture source over a long period.

DRAINAGE COMPLEX

The Drainage Complex consists of soy peptides, grains of rice and yeast proteins. It improves microcirculation, which in turn promotes the elimination of toxins, reduces blockages and soothes swelling.

In addition, the Drainage Complex protects elastin and collagen fibers and promotes clear, firm contours, especially around the eyes and also protects against free radicals.

The entire eye area looks lighter, and dark shadows and rings round the eyes are greatly reduced.

EPIGRAN

EPIGRAN, the water-soluble extract from wheat germ and wheat bran from Dr. GRANDEL, has been valued for its effectiveness and skin tolerance for over 60 years. EPIGRAN is an excellent modern example of the healthy tension between innovation and tradition, because it was one of the first ingredients to belong to the present-day group of phytohormones that are essential in today's anti-aging skin care products. This made Dr. Grandel a pioneer of this generation of active ingredients.

EPIGRAN is obtained, by maceration, from locally grown wheat in our own manufacturing facilities and premises. Owing to this complex and time-consuming process the essential nutrients of wheat germ such as valuable minerals and vitamins can also be found in EPIGRAN.

EPIGRAN has shown to have outstanding skin care properties. It

- visibly firms and smoothes skin
- improves skin's microcirculation
- stimulates skin blood flow
- delivers intense moisture
- leaves skin looking soft and smooth
- counteracts blemishes
- stimulates cell regeneration

The active constituents of EPIGRAN are the key ingredients in the ELEMENTS OF NATURE series.

Minerals: magnesium, potassium, sodium, calcium

Vitamins: E, F (linoleic acid) and B7 (biotin)

EYE FIT

Eye Fit is a complex of active substances predominately of botanical origin. The active constituents are obtained from Butcher's Broom, Calendula, Horse Chestnut, Tiger Grass and Liquorice. They are combined with Yeast Proteins and Panthenol.

Together, these constituents are particularly effective against dark rings around the eyes. The eye area appears lighter, clearer and more even.

FIELD HORSETAIL EXTRACT

Around 400 million years ago the field horsetail was the size of a tree and populated gigantic woods together with giant ferns and mosses. Like these, the field horsetail produces no flowers but reproduces by means of spores.

The Field Horsetail Extract has the following cosmetic properties:

- protective
- regenerative
- moisturizing
- toning
- improving suppleness
- smoothing skin

FILLER HYALURONIC ACID

The structure of Hyaluronic Acid is made of long-chained molecules. If these molecules are completely deprived of moisture, the structure shrinks to very, very small particles.

Thanks to this process, the dehydrated Hyaluronic Acid can penetrate very deep into the skin, where it absorbs and stores moisture. The skin's own moisture plays a key role in this process, and in this way moisture is not lost but binds to the skin thanks to Filler Hyaluronic Acid.

When the Filler Hyaluronic Acid absorbs moisture, the molecules grow to their maximum size again, exert pressure on the surrounding tissue, and one wrinkle after another is plumped from within.

FRUIT ACIDS/ A.H.A

A.H.A stands for Alpha-Hydroxy Acid.

Chemically speaking, an Alpha-Hydroxy Acid is an organic acid containing a hydroxyl group bonded to the carbon atom adjacent to the carboxylic acid group. Alpha-hydroxy acids are commonly found in fruits of all sorts. That is why they are also referred to as fruit acids. For example, malic acid is present in apples; citric acid can be isolated from citrus fruits and glycolic acid from honey or sugar cane; lactic acid forms in milk that has soured; and tartaric acid can be obtained from fermented grapes.

As their name indicates, AHAs react very acidic (low pH value). To reduce their acidic activity, they are partly neutralized or buffered.

How do AHAs work?

The cells of the stratum corneum are held together by glue-like lipids. Alpha-hydroxy acids have a 'dissolving' effect on this intercellular glue which causes more dead skin cells to flake off, making the stratum corneum thinner and more flexible. This peeling action alleviates wrinkle depth, age spots and alterations in the pigmentation, improves skin's texture and brings about radiance.

AHAs not only break the bonds between dead skin cells but also have anti-bacterial properties which make them suitable for care of impure problem skin.

In addition, AHAs assist in normalizing the size of corneocytes – especially after a long exposure to the sun – and thus in enhancing the water content of the skin.

Using high concentrations can cause skin irritations. Research shows that using low concentrations of Alpha-hydroxy acids on a regular basis can achieve the desired peeling effect without stressing the skin.

GAMMA LINOLENIC ACID

Gamma linolenic acid is a polyunsaturated fatty acid that can be obtained in particular from evening primrose and borage seeds.

As an active ingredient in cosmetics, gamma linolenic acid can

- support the barrier function of the skin
- bind moisture in the skin
- develop anti-inflammatory properties
- palpably improve skin texture

GLACIER WATER

For this moisturizing and energizing active substance, clear glacier water from Zermatt (Switzerland) is used. Zermatt is surrounded by impressive mountains such as the Matterhorn. Crystal-clear, pure air and the stillness of the mountains determine the atmosphere.

This spectacular Alpine environment has left Zermatt's glacier water untouched for centuries. It is naturally rich in minerals and trace elements and therefore exerts a moisturizing and energizing effect on the skin.

To make the glacier water even more available to the skin, it is combined with lecithin molecules which encapsulate the water in a liposome and can therefore transport it to the deeper layers of the epidermis.

GRAPE SEED OIL

is particularly high in unsaturated fatty acids. It contains a minimum of 60% linoleic acid and 12 to 25% oleic acid.

Grape Seed Oil is obtained in a manufacturing process which does not affect the oil's organoleptic qualities (= taste, odour, colour, appearance, etc.) nor its content of vitamins A, E and B6. With its high amount of tocopherols (vitamin E) Grape seed oil is one of those oils that are little prone to oxidation.

Grape Seed Oil has a moisturizing action and pampers the skin; at the same time it improves elasticity of the tissue and acts a free-radical scavenger.

HONEY

Honey was already used as a beauty product back in ancient times. Many gorgeous women over thousands of years are said to owe their beauty to the effects of honey. The interaction of many different components is what makes honey so valuable in cosmetics. Honey is known, for example, for its moisturizing and regenerating effect. Because it is mildly acidic, honey can also help to stabilize the acid mantle of the skin.

HYALURONIC ACID

Hyaluronic Acid used in cosmetics is obtained by biotechnological methods. It is a physiological constituent of our connective tissue and therefore particularly well tolerated in skin care.

When applied to the skin, Hyaluronic Acid forms a thin invisible superficial film and also fills the spaces between the cells of the stratum corneum. It has an extremely high capacity for retaining water and protects the horny layer from drying out. Even when humidity is very low it has very good hydrating properties.

Wrinkles due to dryness are therefore alleviated. The silkiness, tone and elasticity of the skin are maintained.

HYDROSOFT

This active ingredient is characterized by having a strong hygroscopic action, thus protecting the skin against moisture loss due to cleansing. The soothing properties of HYDROSOFT make it particularly non-irritating for skin and eyes, and leave the complexion feeling soft and supple.

IMPULSE ENZYMES

Enzymes are proteins that regulate or accelerate biochemical processes in the body. The impulse enzymes have a gentle but effective keratonic effect. They dissolve excessive cornification and therefore provide a smooth surface structure and a delicate complexion. They also set up accelerated cell regeneration so that tired skin appears fresh, vital and youthful.

The impulse enzymes are contained in a lipid matrix. They therefore remain inactive within the end product and develop their full efficacy only when applied to the skin.

INTELLIGENT SEBUM BALANCER

The Intelligent Sebum Balancer normalizes sebum production in certain localized skin areas, which makes it particularly interesting in cosmetic formulations for combination skins.

An “intelligent“ encapsulation system releases the active ingredient in higher quantities wherever there is a higher level of sebum in the skin.

The active ingredient is enclosed in a lipid matrix which is sensitive to enzymes occurring in the sebum. This is why the encapsulation breaks down wherever the skin is particularly oily, and releases zinc gluconate.

Zinc gluconate is known to reduce the formation of sebum by blocking an enzyme which is involved in the conversion process of testosterone, which at its turn stimulates the action of the sebaceous glands.

Zinc gluconate is composed by zinc and gluconic acid. Gluconic acid is a fruit acid, formed during the metabolization of carbohydrates or produced using biotechnical methods.

ISOFLAVONE COMPLEX

The isoflavone-complex is a compound of natural active ingredients with isoflavones extracted from the soy plant, to which phytosterols from the yam root are added. This balances out the negative effects of skin aging due to hormonal changes and prevents atrophic skin from becoming thinner and thinner.

Soy is a nutritional plant originally grown in East Asia. The soy bean grows within just 100 days as a pulse on a one-year-old bush-like plant. Ancient Chinese writings prove

that the soy plant was cultivated as much as 5,000 years ago and was regarded as a holy plant. It was discovered, almost by accident, that menopausal complaints are less marked in Asian women than in Europeans. This was attributed to the high proportion of soy products in Asian diets. Soy contains, as a secondary plant constituent, isoflavones (e.g. genistein). Isoflavones have a hormone-like effect within the body without having any side-effects and have been a well-established element of phytotherapy for some time in the treatment of menopausal disorders.

In cosmetic anti-aging products, isoflavones prevent the breakdown of collagen and elastin. The skin therefore becomes thicker, resulting in a smooth, supple complexion with firm outlines.

The yam comes from tropical realms and plays an important role in nutrition in Africa, America and Asia. The roots are eaten as a vegetable, and are used like potatoes. The tuber has a thick, rough skin and is rather like a sweet potato in appearance. Chinese herbal experts and the people of Central America, who are experts in the science of nature, have been familiar with the yam root as a means of improving the physical constitution for years.

The important secondary plant constituents of the yam root include phytosterols, especially diosgenin. Diosgenin is a substance that is used in the body as the raw material for the formation of „rejuvenating” hormones.

In cosmetic formulations, extract of yam root protects the supportive structure of the skin and improves elasticity.

IVY

This evergreen climbing plant grows in the moderate climate zones of Europe. It can reach a considerable size and a great age.

Ivy can climb to heights of more than 50 m.

It has been known since ancient times as a healing plant.

The effect on the skin of the aqueous extract of ivy leaves is

- anti-oedematous
- firming
- relaxing

JOJOBA OIL

Jojoba Oil, a naturally, pure vegetable oil widely used as an ingredient in cosmetics, is obtained by pressing and filtration from the seeds of the Jojoba shrub (*simmondsia chinensis*), native to the south-western United States (Arizona, California) and northern Mexico.

The chemical structure of Jojoba Oil is different from that of other vegetable oils. Rather than being an oil, it is actually a liquid wax that is made of fatty acids as well as esters composed entirely of straight chain alcohols. Both the acid and alcohol portions of jojoba oil have 18 to 22 carbon atoms, and each has one unsaturated bond.

Jojoba Oil does not oxidize or become rancid and does not break down under high temperatures. It can be heated to approximately 300°C without suffering degradation.

This precious liquid wax

- penetrates rapidly into the skin without leaving it oily
- makes the skin feel soft and supple
- is particularly friendly to the skin
- works against premature skin aging
- offers perfect care for rough, dry and sensitive skin

KAOLIN (China Clay)

Kaolin is very fine white clay (Balus Alba). From the chemical point of view, the extremely fine mineral is an aluminum silicate.

Kaolin is used in cosmetics, particularly for soothing, cleansing masks. Kaolin absorbs excess skin grease, inhibits inflammation and reduces swelling.

The skin appears considerably finer after its use.

LAVENDER EXTRACT

A symbol of timeless beauty since ancient times, lavender has been used in cosmetics ever since. Lavender actually does have a remarkable anti-aging effect.

The muscles responsible for facial expression are always in motion. These repetitive movements exert constant pressure on the tissue and lead to the formation of fine lines and wrinkles.

Lavender has muscle-relaxing properties and is used in skin care formulations to visibly smooth expression lines and wrinkles so the skin looks younger and fresher.

LIPASES

Lipases are enzymes that are capable of breaking down lipids (= fat).

Enzymes are also described as “bio-catalysts”, as they can accelerate chemical and biological processes. They play a key role in the metabolism of all living organisms.

In cosmetics lipases are often used for peeling products, frequently in combination with proteases (enzymes that break down proteins). They have a keratolytic effect, accelerate the shedding of dead skin cells and therefore lead to a clear and fine complexion.

LIPID ACTIVATOR

The lipids found in the intercellular adhesive structure of the skin are very important for the maintenance of the protective barrier of the epidermis.

And an intact barrier function is known to prevent excessive loss of moisture. Several lipids, including sphingolipids (ceramides), phospholipids, free fatty acids and cholesterol, make up the intercellular matrix and are synthesized in different ways in the skin. Any quantitative or qualitative change of these lipids leads to an imbalance in the skin's own barrier function.

As we get older, the skin's lipid production considerably slows down and as a result, the skin loses moisture more rapidly than in younger years. Wrinkles appear and elasticity diminishes.

Being a „messenger substance” Lipid Activator can positively influence the skin's own production of lipids also promotes their synthesis. As a result it helps to counteract excessive moisture loss and significantly improves skin condition to a more supple and smoother look with added firmness; at the same time the unpleasant feeling of tautness disappears.

Lipid Activator is a precious protein sequence originally obtained from the potato and then processed by means of a biological method.

LIPOSOMES

Liposomes are transport vesicles that can be loaded with different active cosmetic ingredients. When encapsulated in this way the active ingredients are better protected against external influences and are more readily usable by the skin.

Liposomes are double membranes consisting of phosphatidyl choline. The liposome envelope alone therefore has all the cosmetic properties of phosphatidyl choline such as skin protection, smoothing, improvement of the moisture balance and assistance with regeneration.

Liposomes are therefore active substance and transport system all in one.

LIQUORICE ROOT

The liquorice plant has been used for many centuries in China, Egypt and India as an effective medicine.

Glycyrrhetic acid is an extract obtained from liquorice root. This active substance is present particularly in the roots and stem of the liquorice plants contain the active glycyrrhetic acid.

A comparison between glycyrrhetic acid and hydrocortisone has shown that the efficacy of glycyrrhetic acid is slightly less pronounced than that of hydrocortisone; however, it exhibits no side effects and is chemically stable.

A further advantage of glycyrrhetic acid is that its efficacy is long-lasting – by contrast with hydrocortisone, after which symptoms recur.

Glycyrrhetic acid

- inhibits inflammation
- is anti-allergenic
- captures free radicals
- alleviates irritation

LIQUORICE ROOT EXTRACT

Liquorice is rich in glycyrrhizic acid which has been valued for its anti-bacterial and anti-fungal properties since ancient times.

LIQUORICE ROOT EXTRACT

- soothes redness and irritation
- supports skin's protective function

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Glycyrrhetic acid

- inhibits inflammation
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- captures free radicals
- alleviates irritation

LUPIN EXTRACT

The extract of the Lupin stimulates the skin's microcirculation so giving the complexion a youthful, fresh and rosy appearance.

This activates oxygen uptake and utilization in the skin cells, which has a positive effect on cell regeneration.

These protein compounds from the lupin smooth the surface of the skin and reduce roughness.

Lupin Extract promotes fresh radiance and puts new life into tired skin.

MAGNESIUM

As a mineral that is indispensable for all living organisms, magnesium belongs to the group of essential elements. It has a tension-relieving, relaxing effect, which is why it is also called an “anti-stress mineral”.

In addition, Magnesium has an extraordinarily positive effect on the skin. It stabilizes cell walls while at the same time supporting their permeability. So it helps skin retain moisture.

The skin looks plumper, and lines and wrinkles are smoothed away.

MACADAMIA NUT OIL

The Macadamia nut – also called „queen of nuts“ - is considered to be the world’s most expensive and finest tasting nut.

The Macadamia tree, which does best in a subtropical climate with abundant rainfall, originated in the rainforests of Queensland, Australia. Towards the end of the 19th century it was introduced into Hawaii, and from there made its way to other subtropical and tropical countries.

The tree was discovered by the Australian botanist Baron Ferdinand von Mueller who named it after his friend, Dr John Macadam, a scientist and philosopher.

Macadamia nuts have the hardest shell of any nut that cannot be removed with an ordinary nutcracker. An industry has developed around designing special tools and machines that can cope with the shell without damaging the kernel inside.

The kernel has an oil content of approximately 73%, contains important amounts of unsaturated fatty acids and is also rich in minerals such as calcium, iron and phosphorus.

Macadamia nut oil is one of the most penetrating oils known. It has a composition similar to the skin’s natural sebum, and is therefore extremely compatible with human skin.

The oil has a remarkable concentration of palmitoleic acid. This compound is also found in human sebum. But with age, the amount of palmitoleic acid in our sebum declines and, as a result, the epidermis loses elasticity and tone. So regular care with Macadamia nut oil may help to keep the skin firm, soft and supple.

MELANIN ACTIVE

Melanin Active combines the tan-promoting effect of Chaste Tree extract and acetyl tyrosine.

Chaste Tree is a shrub-like plant that is a native of the Mediterranean area and Central Asia. Its berries contain a number of active substances which for centuries have been used in natural remedies.

Chaste tree contains a group of substances known as phytoendorphins which have a stimulating effect on the melanocytes, so that melanin formation can be promoted.

Acetyl tyrosine is a precursor of melanin and therefore also has a positive effect on natural melanin synthesis.

This gives the skin a natural bronzed appearance which is also an increased protection against UV radiation.

MENTHOL

Menthol is found in many ethereal oils, in particular Peppermint Oil.

The annual world production of menthol is approx. 6,300 tonnes obtained mainly by isolation from plants.

Menthol is well known as a fragrance and flavouring, but is also used in cosmetics and pharmacy. It acts on the cold receptors of the brain and therefore causes an apparently cooling effect when applied to the skin, although this does not affect body temperature.

MINERAL-PROTEIN COMPLEX

For the Mineral-Protein Complex, five different minerals and trace elements of particular benefit to skin functions are used:

Silicon, zinc, copper, iron and magnesium.

These support cell regeneration, the ability to take up moisture, collagen synthesis and the natural system of protection against oxidative stress.

The bioavailability of minerals varies widely and depends on their dosage form. A great variety of studies suggest that proteins can increase the availability of minerals. The minerals for the Mineral-Protein Complex are therefore combined with yeast proteins by a special manufacturing procedure using a fermentation process.

In this way the minerals present can be utilized particularly effectively by the skin.

MILK PEPTIDE COMPLEX

This active substance, isolated from a milk protein, contains factors that can both suppress negative processes (e.g. the breakdown of collagen and elastin) and also activate positive processes.

The synthesis of collagen and elastin is activated; at the same time the Milk Protein Complex inhibits enzymes that are responsible for the breakdown of collagen and elastic fibres.

This Milk Peptide Complex therefore constitutes a good intermediary for the creation of physiological equilibrium.

MULBERRY EXTRACT

The extract of this mulberry tree has a lightening and clarifying effect on the complexion, bringing it a radiant and uniform freshness. Patches of pigment and age spots are eliminated.

The Mulberry grows mainly in the warmer regions of the northern hemisphere. The fruits are edible and may be black, red or cream, depending on the variety. The darker fruits are very sweet and juicy. As a food they are of little commercial significance, as they do not travel well in view of their soft, very juicy consistency and do not keep. Syrup, juice and tea from the black mulberry, however, are regarded as remedies for inflammation of the mouth and throat.

This species is also important for the quality of its wood. The fibres are also used in the manufacture of Japanese paper.

Last but not least, the leaves of the white mulberry are used in the rearing of silkworms.

MYRRH EXTRACT

This extract is obtained from the “Miracle tree” Comiphora mukul, well known in Ayurvedic medicine.

Myrrh extract promotes the formation and storage of lipids in the fat cells, at the same time inhibiting their breakdown. This enlarges the fat cells and boosts the tissues from the inside out. Loss of elasticity and wrinkles are therefore reduced. The tissues take on a lasting firmness and smoother appearance.

The effect of myrrh extract is quickly seen, as if by an “immediate push-up effect”.

NANO-DEPOT

is a complex of active substances as well as a carrier system, and contains the antioxidant vitamins A and E enclosed in fine pellets.

Nano-Depot has many extraordinary skin care properties. In addition to its function as a depot system for the transported vitamins, it protects these highly sensitive substances against premature decline by means of a fine protein wrapping, and serves as a „time release system“, which means that active substances are being activated over a longer period of time.

Nano-Depot

- improves the penetration of the protect vitamins into the skin
- assists in keeping the skin soft and supple
- works to enhance skin's elasticity
- helps reduce skin sensitivity
- provides additional moisture

NATURAL MOISTURIZING FACTOR (NMF)

NMF is a mixture of moisture-binding substances that regulate the water balance of the stratum corneum.

This consists of substances including amino acids, urea and sugar compounds. These can be captured and used in cosmetic products as moisturizing factors.

Together with normal skin sebum, Natural Moisturizing Factor gives the skin optimum protection against drying and loss of moisture due to cleansing.

The Natural Moisturizing Factor donates and binds moisture in the skin, preventing premature wrinkle formation.

OAT EXTRACT

This extract derived from oats is rich in polysaccharides and biologically active proteins that are small enough to be easily used as nutrients by the skin cells. These polysaccharides and proteins are essential to cell renewal.

Oat extract

- supports cell renewal
- favours skin smoothness
- diminishes trans-epidermal water loss (TEWL)

makes skin more resistant to environmental influences.

OLIVE WAX

This natural wax is obtained from the high quality oil of the olive. It lies on the skin like an imperceptible protective film, preventing excessive moisture loss and protecting the skin from environmental effects.

It supports the elasticity of the skin, alleviating the feeling of tightness and dryness. Since olive wax gives a new feeling of smoothness and a particular softness to the skin, it is extremely suitable for use in damaged skin.

OMEGA – CH ACTIVATOR

Is a blend of amino acids, peptides and free radical scavengers.

The composition of amino acid and peptides is very similar to that found in collagen.

OMEGA-CH ACTIVATOR:

- stimulates skin cell metabolism by increasing synthesis of intracellular ATP ******(adenosine triphosphate). The increase in bio-chemical energy in ATP results in a stimulation of vital cell functions such as protein synthesis, cell division, cell cytokinesis, etc.
- enhances collagen synthesis
- acts as a free radical scavenger

****ATP** = Adenosin triphosphate ist a molecule rich in energy that releases its energy within the cell. All living creatures use ATP in all the essential processes that require energy.

PANTHENOL

Belongs to the group of B-vitamins. In the skin, D-Panthenol is converted to pantothenic acid, which is present in every living cell and hence a natural component of healthy skin.

Panthenol

- supports the skin's process of regeneration
- has a stabilizing effect on the skin's moisture level
- promotes cell metabolism and cell division in the skin
- has a soothing and anti-inflammatory action

PERFLUORODECALIN

Perfluorodecalin contains high levels of oxygen which is released directly to the skin where it is applied.

By providing an intensive oxygen supply, Perfluorodecalin helps the skin to enhance its self-regulating mechanisms and to cope better with environmental influences.

Perfluorodecalin also helps to protect the skin against both low and high temperatures, ultraviolet rays and aggressive substances.

It gives the skin a soft texture, and neither tends to irritate or sensitize it. The appearance of the skin is improved, leaving it smooth, supple and with a feeling of freshness.

PIGMENT CONTROL

Pigment Control

- reduces the production of melanine
- corrects areas that show over-pigmentation
- lightens the skin
- significantly reduces age spots
- promotes an even and flawless complexion

PLUM KERNEL OIL

There are approximately 2000 different species of plums worldwide. This stone fruit was introduced to the Mediterranean area from Asia Minor by the Romans around 150 B.C. Plums are grown throughout the world. Their main areas of cultivation are Asia and Europe. In the EU, Germany is the largest producer and also the largest importer.

A new culinary trend involves the increasing use of Plum Kernel Oil for the finishing of fine foods and cakes. It has a delicate flavour of almonds or marzipan, with a fruity top note.

Plum Kernel Oil contains a high proportion of unsaturated fatty acids and Vitamin E. It is therefore readily utilized by the skin and is rapidly absorbed. Plum Kernel Oil is well tolerated even by the most sensitive skin and increases skin's protection against external influences. The fine aroma rounds off the scent of cosmetic preparations.

PRICKLY PEAR (Opuntia)

The Prickly Pear (*Opuntia streptacantha*) or nopal is a native of Mexico. The plants can reach a height of 2 to 4 metres. Their fruits are known as prickly pears. The leaves are also cooked and eaten as a salad or vegetable.

For the DR. GRANDEL cosmetic products, an extract of the leaves is used. A special enzyme process for the first time guarantees complete extraction of all biologically active substances, such as essential amino acids, flavanoids, vitamins, antioxidants and water-binding polysaccharides.

This extract

- ensures intensive and long lasting hydration,
- soothes and softens sensitive or dry skin and
- protects the skin from environmental stress

PROTEASE

This enzyme is manufactured by the fermentation of microorganisms using biotechnological methods. Its keratolytic properties allow it to remove dead skin cells in a particularly gentle way. The surface of the skin is gently smoothed and cell regeneration stimulated.

The "spontaneous" effect of this enzyme avoids mechanical irritation of the skin.

PSEUDO-COLLAGEN

This active substance is a moisturising glycoprotein obtained from yeast cells. This protein is derived from live yeast cells by a special process, without destroying its natural structure. Pseudo-collagen has outstanding moisture-binding properties that make it most suitable for use as a collagen alternative in cosmetics. Tests have demonstrated an even higher moisture-binding capability than that of animal collagen.

Pseudo-collagen leaves the skin feeling smooth but not sticky, with a youthful fresh and firm appearance. Fine lines are reduced.

RAPE SEED OIL

Rape is grown for the production of high quality oils that are mainly used for industrial purposes.

The oil of new rape varieties is similar to olive oil in its fatty acid composition. However, the proportion of essential fatty acids, in particular α -linolic acid, is far higher. This property makes Rape Seed Oil interesting for use in cosmetics as well as for industrial applications.

Rape Seed Oil improves skin's ability to retain moisture and has a calming and balancing effect. In addition, it increases skin's resistance to harmful environmental effects and oxidative stress.

RETINOL

Retinol is an extremely delicate active ingredient which rapidly becomes inactive if exposed to light and oxygen. The fine protective wrapping provided by liposomes renders retinol particularly stable, keeping it active as it travels into the skin. The liposome spheres fuse with the skin's own lipids upon contact to release retinol where it is really needed.

Retinol

- promotes cell generation in the basal layer
- stimulates cell division
- increases natural desquamation
- normalizes keratinization
- refines the complexion and promotes elasticity of the skin

RICE BRAN EXTRACT

This rice bran extract contains gamma oryzanol, which is a phytosterol.

Phytosterols (= plant sterols) are a group of secondary plant substances, the chemical structure of which is very similar to that of cholesterol. Sterols are constituents of plant cell membranes and therefore basically perform the same functions in plants as cholesterol performs in the human body.

Oryzanol is also important for cosmetic applications:

- speeds up the microcirculation and promotes cell metabolism
- acts as a radical scavenger
- absorbs UV radiation

SAFFLOWER OIL

This oil is obtained by pressing the seeds of the safflower. It is golden yellow in colour and contains a high proportion of essential fatty acids, in particular Linolic Acid.

It is what is known as a "dry oil" and leaves no greasy shine on the skin.

It promotes metabolism and cell regeneration and keeps the skin soft and silky without becoming greasy.

SENSITIVE NORMALIZER

An active substance complex containing extracts of chestnut and liquorice root as well as zinc and caffeine.

This complex acts on the skin

- reducing irritation and redness
- soothing
- combating oedema
- promoting regeneration

and also improves the skin's own protective mechanisms.

The contained active substances are:

| | |
|-----------------|---|
| Chestnut: | reduces swelling and inhibits localized inflammation |
| Liquorice root: | strengthens the capillaries, reduces irritation, properties similar to those of cortisone |
| Caffeine: | used at low concentrations, has a localized vasodilating effect and stimulates the microcirculation, leading to a drainage effect without promoting redness |
| Zinc: | trace element that supports the keratinocytes and fibroblasts (fibroblasts form intercellular substance in the connective tissues by secretion and later become fibrocytes = connective tissue cells) |

SHEA BUTTER

Shea Butter comes from the shea tree found south of the Sahel Zone along the West African Savannah belt from Gambia to Uganda. The tree produces green nut-like fruits, the size and shape of large plums, which contain 1 to 2 glossy kernels from which the butter is extracted.

Shea Butter, which gives creams a very soft consistency, is well tolerated by the skin. It melts at body temperature, can be spread easily and penetrates the skin quickly, leaving it with a smooth, luxurious feel but with no oily residue, which makes it a suitable ingredient particularly for body care products.

Shea Butter has soothing properties and acts to combat dry skin.

SILANOL

Silanol is a derivative of silicon based on an extract of algae. Silicon is an important constituent of the connective tissue in the skin. With increasing age the natural concentration decreases, promoting signs of aging such as wrinkle formation. Silanol can supplement lost silicon and therefore actively combats skin aging. Regeneration of collagen fibres is supported, lines and wrinkles are minimised and the complexion is toned and firmed. In addition, silanol has excellent moisturising properties, so that superficial dryness lines can be smoothed out.

SILICON-PROTEIN COMPLEX

The Silicon-Protein Complex is a unique protein compound which is readily absorbed by the skin cells due to its special structure. Silicon strengthens the connective tissue by assisting skin cell regeneration, moisture retention and elastic fibre synthesis. Various studies suggest that proteins can increase the bio-availability of minerals and trace elements. Based on these findings, a special technological process brings silicon together with yeast proteins in a complex which allows the skin to utilize minerals and trace elements in a particularly effective way.

SKIN FIT

This toning and firming substance is a combination of Butcher's Broom Extract, Caffeine and Carnitine.

The extract of Butcher's Broom ensures increased removal of tissue fluid and therefore purifies the tissues. At the same time it has a toning, firming and anti-inflammatory effect. Elastin-reducing enzymes are inhibited allowing increased repair of connective tissue fibres. The complexion appears firmer, smoother and fresher.

Caffeine and carnitine also support the microcirculation and the breakdown and removal of free fatty acids from the tissues.

Skin Fit is an ideal combination of active substances for skin that is becoming tired, faded and flabby. Skin Fit ensures a fresh, energy-charged, active and firm complexion.

SKIN RELAX PEPTIDES

The expressions that appear on the human face are extremely varied and very fleeting. Our expressions reveal all our feelings, moods, ideas, thoughts and impulses, and are changing all the time. The expressions around our eyes and mouth and across our forehead are particularly clear. The way our face moves is determined by the muscles constantly contracting and relaxing.

This continuous movement of the muscles exerts a constant pressure on the tissues, which is what creates lines and wrinkles.

Skin Relax Peptides relax the muscles responsible for our expressions by reducing the concentration of the neurotransmitters that stimulate the contraction of the facial muscles.

The relaxation of the facial muscles clearly and visibly reduces the depth of wrinkles, preventing premature skin aging caused by repeated facial movements.

Skin Relax Peptides are synthetic peptides, i.e., a short-chain protein.

SKIN REPAIR

This particular active ingredient is obtained from the cell walls of baking yeast (*Saccharomyces cerevisiae*). The substances contained in Skin Repair stimulate skin's natural defences.

Skin Repair promotes regeneration, in particular of damaged or irritated skin, and also protects from oxidative stress.

Moisture loss is considerably reduced. The skin feels smoother and silkier.

SOY ISOFLAVONES

The isoflavone complex is a natural active substance complex containing isoflavones from the **soy plant**. It counteracts the negative effects of skin aging due to hormonal changes and prevents atrophic skin from becoming increasingly thin.

Soya is a nutritional plant that was originally a native of East Asia. The soy bean takes only 100 days to grow in the pods of an annual bushy plant.

Ancient Chinese writings show that soy was cultivated as much as 5000 years ago and was regarded as a healing plant. It was discovered rather by chance that menopausal symptoms were less pronounced in Asiatic women than in Europeans. This was attributed to the high proportion of soy products in the Asiatic diet. The secondary herbal active substances contained in soy are isoflavones, such as genistein. Isoflavones have a hormone-like effect within the body with no side effects at all and for some time have been firmly established in phytotherapy in the treatment of menopausal symptoms.

In cosmetic anti-aging products, isoflavones prevent the breakdown of collagen and elastin. Skin thickness subsequently increases. The effect is a silky, smooth complexion with firm contours.

SQUALANE

The squalane used in DR. GRANDEL skin care products is sourced from olives.

Squalane

- prevents moisture loss from the skin
- has a high structure-related affinity with the lipids found naturally in the skin
- is well tolerated by the skin

SUGAR CRYSTALS

Sugar Crystals provide gentle yet effective exfoliation. These exfoliating particles buff away keratinized surface skin cells, improve micro-circulation to the skin's and prime the skin for the benefits of the products applied afterwards.

Being water-soluble, they rinse off effortlessly without leaving any residue on the skin.

TALC

Talc is the softest mineral. In pure form it feels soapy or greasy, which is why it is also known as soapstone. Talc is a usually compact mineral, but is also rarely found in the form of very fine crystals. It has a matt white lustrous appearance.

As talc is not poisonous, it is also used, for example, in the food industry, particularly as an anti-caking agent.

It can be finely distributed, does not react with other substances and also mixes well with fat. It is therefore ideal for use as a mattifying, absorbent base in cosmetics.

TAMARIND EXTRACT

The tamarind tree is an evergreen which reaches a height of approximately 10 to 15 metres. It forms seed pods, the shells of which are used as food and for the production of spices. Possibly the best example is Worcester Sauce which contains spicy ingredients obtained from tamarind.

In cosmetics, an aqueous extract of tamarind seeds is used, consisting mainly of polysaccharides with their original natural composition.

Cosmetics containing this extract form a fine film on the skin that prevents moisture loss and also has a lasting moisturizing effect on the upper layers of the

epidermis, and thus also activates skin's natural protective mechanisms. This ensures a smooth and soft skin surface, an optimum of protection against external influences and a pleasant feeling on the skin.

TAN OPTIMIZER COMPLEX

Tan Optimizer Complex contains DHA (dihydroxyacetone) and erythrulose. Chemically speaking, both these substances are sugars. They penetrate into the top layers of skin cells, where they react with proteins in the stratum corneum, so leading to the development of bronzing within just a few hours.

The combination of these two substances gives a particularly even and lasting tan.

In addition, this special combination prevents the skin from becoming excessively dry and rough.

TIGER GRASS

Tiger grass (*Centella asiatica*) is a low-growing subtropical marsh plant with deep green rounded leaves.

Tigers like to roll in its leaves to soothe their wounds and eat them, and hence its name Tiger Grass.

It contains a number of active ingredients such as ethereal oils, amino acids, fatty acids and mineral salts.

Tiger Grass has anti-inflammatory and anti-bacterial properties. In addition, it also increases collagen production and protects the elastic fibres, so keeping the connective tissue young and flexible. The skin appears tauter and the contours firmer.

UREA

Urea, or carbamide as it is also called, is a substance present in all human organs, tissues and body fluids. It is an essential moisturizing factor and is an end-product of protein metabolism, i.e. urea is not able to alter any further chemically. That is why it has no allergenic activity; and found naturally in the body, its toxic potential is also very low.

The urea content in skin with disorders such as psoriasis or atopic eczema has shown to be greatly reduced.

Urea offers the following benefits:

- enhances the moisture content in the stratum corneum
- normalizes the desquamating process
- alleviates itching

UVA + UVB FILTERING FACTORS

UVA FILTER

combats premature light-induced skin aging
tested in accordance with the Australian standard

UVB FILTER

protects the skin from the harmful rays of the sun
its protective action is measured in SPF

VITAMIN A

This fat-soluble vitamin protects both skin and mucous membranes from drying and counteracts keratinization overgrowth; this is why Vitamin A is also called the anti-keratinization vitamin. It works as free radical scavenger and prevents formation of lines and wrinkles. Rich sources of Vitamin A are fish liver oil, full-cream milk, cream, butter and egg yolk.

VITAMIN C

Research on Vitamin C has shown high potential overall in the capture of free radicals. Free radicals destroy not only other cells but also the collagen and elastin fibers, leading to aging of the skin.

By stimulating the connective tissue fibers, new collagen and elastin fibers can even be produced. This firms and tones the skin. Wrinkle formation is reduced.

In addition, Vitamin C stimulates the skin's immune response and counteracts skin blemishes.

Vitamin C allows the complexion to become radiant and used as a preventive measure, inhibits melanin synthesis.

VITAMIN E

Humans and animals must take in Vitamin E as an essential nutrient with their food.

In nature, a high concentration of Vitamin E is found in wheat germ oil.

The antioxidant effect of Vitamin E is also of great importance to the human body: the function and capacity of cell structures rich in Linolic Acid are maintained by Vitamin E.

It prevents aging of the cells. Vitamin E is therefore also described as the "anti-aging vitamin".

Vitamin E

- improves epithelialization of the skin
- increases the skin's ability to absorb moisture
- acts as an antioxidant and free radical scavenger
- has anti-inflammatory properties

VITAMIN B 7 (BIOTIN)

Biotin, formerly also known as vitamin H, is one of the most popular beauty vitamins used in cosmetics.

This water-soluble vitamin, which belongs to the group of B vitamins, strengthens the skin and leaves even very rough skin areas feeling soft and smooth.

Good sources of vitamin B7 (or biotin) include meat, soy products, egg yolk, nuts, porridge oats, spinach, mushrooms and lentils.

VITAMIN F

Polyunsaturated fatty acids are also referred to as vitamin F. They cannot be synthesized by the human body but must be provided through dietary intake, which is why they are also called essential fatty acids.

Vitamin F is added to cosmetic formulations to strengthen skin's protective barrier and improve moisture retention. Skin is left feeling softer and smoother, and suppleness is restored to dry, cracked and scaly skin areas.

WATERMELON EXTRACT

The watermelon was originally a native of the Kalahari Desert. In this hot and dry environment this plant developed very special protection against drought and UV radiation.

The extract of the watermelon protects skin cells from damage due to UV radiation and free radicals. Its contents, such as natural vitamins, polysaccharides and amino acids, can protect important cell structures such as DNA, the cell's genetic information, from destruction.

WHEAT GERM OIL

Wheat germ oil is made from fresh high-quality wheat

It takes 100 kg of wheat to obtain 200g of wheat germ, having an oil content of 6 to 10%. Wheat germ yields approximately 4% oil-which means that 12,500 kg of wheat germ are required to extract 1 kg of oil.

Besides Lincolic Acid, the most important oil-soluble active ingredient in wheat germ oil is Vitamin E. The naturally standardized DR.GRANDEL Wheat Germ Oil contains at least 0.25% Vitamin E.

DR.GRANDEL Wheat Germ Oil also contains carotene-the fat soluble provitamin A. Wheat Germ Oil supports the natural regeneration process of the skin; it is particularly suitable for dry, rough complexion and leaves a velvety soft feeling on the skin.

YEAST EXTRACT

This water-soluble extract of yeast works as a “messenger substance”

- that has a positive effect on elastin regeneration.
- It therefore reduces the formation of new lines and wrinkles and
- also minimizes the number, depth and severity of existing wrinkles.

Yeasts form the most important group of single-cell micro-organisms of commercial importance and represent an independent group amongst many types of fungi. Although people have been able to brew alcoholic drinks and bake bread for many thousands of years, it was not until the middle of the 19th century that Louis Pasteur discovered that live micro-organisms produce alcohol. It then became possible to develop particular strains of yeast, and the flavour of foods was no longer left to chance.

ZINC

Zinc is an essential trace mineral found in foods like egg yolks, legumes, fish, mushrooms, sunflower seeds and wholegrains.

It is known to regulate the activity of skin's oil glands, has antibacterial properties and delivers a fresh feeling to the skin.

ZINC OXIDE

Zinc Oxide is a chemical compound obtainable both in the form of colourless crystals and also as a loose white powder.

Zinc Oxide has an antiseptic (= disinfectant) action and is therefore used in medicinal preparations for skin and wound treatment. Their high water uptake potential gives zinc ointments a drying effect, which is why they are used particularly in the treatment of weeping wound margins, to prevent softening and spreading. They also protect the skin and for this reason are also a fixed ingredient of baby care products.

In cosmetics, Zinc Oxide is used particularly in refining and antiseptic masks or pastes.