

**SKIN CARE: A PRACTICAL GUIDE TO SKIN
CARE PRODUCTS AND INGREDIENTS**

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The Skin: An Overview

The skin is the largest organ of immunity from disease and protects by:

- Keeping water and essential nutrients in and unwanted, toxic substances out
- Regulating the temperature for warming and cooling.
- Repairing damage from cuts, burns, environmental insults, or other trauma.

The skin differs from organs like the heart or lungs because it constantly mends itself by replacing the outer layer daily. It is continually ready to respond to harm. Cuts close, producing new, pink skin. Sunburned skin becomes dry and peels, giving way to a pink, soft, smooth, and supple replacement layer. The environmental insults signal through the skin's surface to layers below which begin the restoration process. The skin's outer layer is a "biological space suit" for life on earth much like space suits protecting astronauts from the hazardous conditions in outer space.

Environmental insults include:

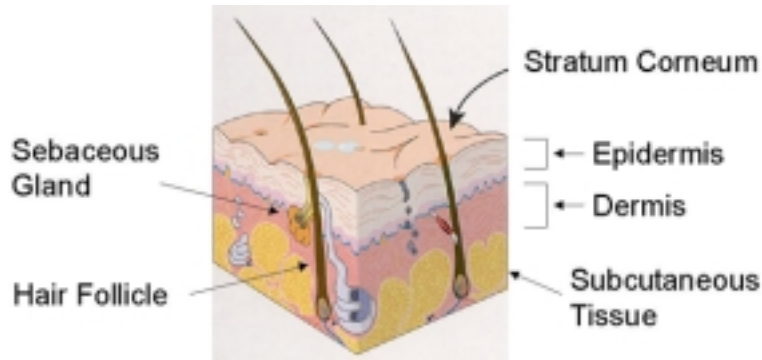
- Sun.
- Climatic changes: heat, cold, high or low humidity (moisture level in the air).
- Physical abuse: friction from chafing, rubbing, shaving.
- Products that contact the skin like soaps, detergents, cleaning products, paint, grease, solvents, rubbing alcohol, and cosmetics.
- Water (extended exposure to water damages the skin).
- Lifestyle: smoking, drinking alcohol, lack of sleep.

These insults, including sun exposure, can suppress the immune system which can result in skin cancer. Protection of the skin is, therefore, critical for good health.

Skin Structure

The skin has three major layers: Epidermis, Dermis, Subcutaneous tissue. The ***epidermis*** is the outermost layer and interacts directly with the environment. The epidermis protects by providing a barrier to outside materials (products, water, etc.) and by filtering sunlight. The epidermis is self-renewing. The dermis is beneath the epidermis. It contains the major structure-providing tissue fibers, collagen and elastin. It also contains the vascular system to provide a blood supply and nerve cells to process information to and from

the brain. The subcutaneous tissue contains the fat pad and muscle. The layers of the skin are shown in this diagram:

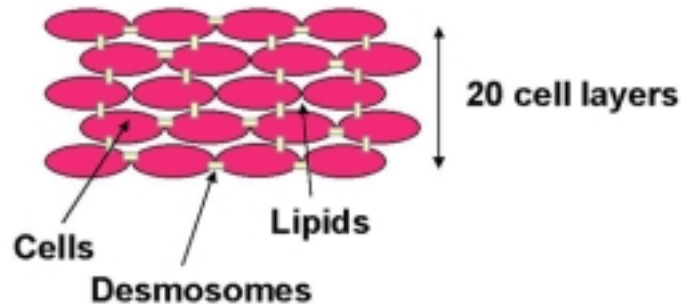


Epidermis

Like all tissues, the epidermis is made up of cells that have specific functions in the skin. A cell called the keratinocyte makes up most of the epidermis. The functions of the stratum corneum, the middle epidermis, the basal layer, and the dermal-epidermal junction are discussed.

Stratum Corneum

The stratum corneum is the outermost layer, directly in contact with the environment. It is about half the thickness of a piece of paper. On average, the stratum corneum is about 20 cell layers thick. Despite its thin dimensions, the stratum corneum is incredibly strong. The cells are in a very well organized pattern. The stratum corneum has been described as a "brick and mortar" structure, as shown:



The cells are the bricks and the lipids are the mortar. Lipids are "oily" materials that do not easily mix with water, such as cooking oil, petroleum jelly, baby oil, and grease. The skin lipids are mixtures of materials that form a very well organized structure between the cells. The lipid layer helps keep water in the stratum corneum by limiting passage of water from beneath. The lipids also keep substances out of the body. The stratum corneum contains water that is associated with the protein materials in the cells. The cells hold onto water to keep them flexible and to allow the body's movement without cracking the upper layer.

Neighboring stratum corneum cells are joined together through small attachments, called desmosomes, structures that are like small "rivets". Each cell is attached at many points to nearby cells (cells above, beneath, adjacent). These multiple attachments provide considerable strength to this tissue. The very top layer of the stratum corneum normally comes off or "sheds", about one cell layer per day. You can observe this layer by placing a piece of clear tape and put it on the back of your hand for a few minutes. Remove the tape and notice the flaky material, which is the top layer of cells. The desmosomes need to break in order to free the cells. This process, called **desquamation**, is carefully programmed to occur at the proper time.

Middle Epidermis

Right below the bottom of the stratum corneum lies the middle epidermis. At the top, the cells are flatter than the rest of the layer. These top cells contain lipids and release them as they move upward. These lipids then become the stratum corneum lipids. The remaining cells are keratinocytes which have a cube shape and contain bundles of filaments that help protect the skin from the friction during movement and rubbing. Over time, the cells move upward to the top of the middle epidermis and eventually become stratum corneum cells. Their features change over time during this renewal and replacement process.

Basal Layer

The basal layer rests at the bottom of the middle epidermis. The basal cells are different, however, because they actively divide to create new basal cells. The older cells move up to form the middle epidermis. All cells of the epidermis begin at this point by the process of cell division. The cell division process needs protein and other nourishment that are supplied by the functions of the dermis.

The basal layer contains a unique type of cell called the melanocyte or pigment cell. Unlike other basal cells, the melanocyte does not move upward. The melanocyte's job is to make a substance called pigment, or melanin, which contributes to the coloration of the skin. Melanocytes make melanin when ultraviolet radiation interacts with the skin. The melanin is transferred from the melanocyte to the keratinocytes of the middle epidermis, to protect the nuclei of these cells from being damaged by radiation. Dark spots on the skin, such as freckles, are clusters of epidermal keratinocytes with melanin concentrated in them. Sun tanned skin has a more uniform distribution of keratinocytes with melanin. Both conditions are the response of the skin to sun exposure.

Dermal-Epidermal Junction

As the name suggests, the dermal-epidermal junction is right between the epidermis and the dermis. This layer of the skin holds the epidermis onto the dermis. It provides support to the entire tissue to help hold it in place.

Epidermal Cell Summary

The epidermis performs a wide variety of functions. Epidermal cells, or keratinocytes, move from the basal cell layer to the top of the stratum corneum in about 28 days. The specific time depends on the location on the body, the overall state of health, and the type and severity of environmental insult. The outermost layer of the stratum corneum comes off each day. When injury to the skin occurs, again from some sort of damage, the whole replenishment process works overtime to restore the skin to its proper condition and to ensure a protective barrier. In the case of serious injury, such as a major burn, the healing process requires a long time. The melanocytes, or pigment cells, housed in the bottom of the epidermis, produce melanin to protect the epidermal cells from ultraviolet damage.

The epidermis is unusual in that it does not contain nerve endings. Yet, the outer surface of the skin, the stratum corneum, can very easily detect events, including changes in heat, cold and humidity. We can also tell when the skin is touched. Even though it does not have nerve endings, the epidermis is thought to play an important role in signaling between the outside world and the brain.

Dermis

The dermis is below the epidermis and above the subcutaneous tissue. The epidermis is unusual in that it does not contain nerve

endings. Yet, the outer surface of the skin, the stratum corneum, can very easily detect events, including changes in heat, cold and humidity. We can also tell when we touch the skin. Even though it does not have nerve endings, the epidermis is thought to play an important role in signaling between the outside world and the brain.

Collagen and elastin fibers make up a large part of the dermis. The thick fibers of collagen support the skin. Elastin fibers are very flexible and impart mechanical strength and resiliency to the skin by allowing it to stretch. When the elastin is in good condition, the skin returns to its original shape readily when it is flexed or stretched. If the elastin and collagen are in poor condition, the skin lacks resiliency, sags, and develops noticeable wrinkles.

The major functions of the dermis are to support the epidermis, to provide bulk and to anchor the skin. Importantly, the dermis contains blood vessels that bring oxygen and other nutrients to the basal layer for the cell division process. Nerve endings are also found in the dermis. Presumably they take signals from the epidermis, including the stratum corneum, and transmit them to the brain. This signaling function is unique because there are no nerve cells in the epidermis. The diagram shows that the dermis has a compact array of fibrous material, the collagen and elastin, necessary for support, resistance to damage, and overall health.

Aging and Its Effects on the Skin

The effects of aging on the skin are currently of great interest. People are living longer and more active lives than ever before. The "baby boomers" are now in their 30s, 40s and 50s. They have large disposable incomes and no intention of looking old. For them, "looking good" and "feeling good" go together. The process of skin aging process has two parts: natural aging, due to increasing chronological age, and solar aging, due to the effects of the sun.

Natural Aging

Natural aging includes all of the environmental and genetic factors that impact the skin, other than those due to solar damage. As the skin ages, the cell movement from the bottom of the epidermis (basal layer) to the top (outermost stratum corneum) becomes slower. The skin surface becomes rougher, with a more uneven texture, because the cells are shed more slowly. Often the slowed desquamation process (remember the tape on your hand experiment?) results in the formation of large

clumps of cells, observed as scales or dry skin flakes. The uneven texture and scaling tend to make your skin look duller. The epidermis becomes thinner and the skin becomes more fragile.

In the dermis, the elastic fibers become coarse and then disappear. The coarseness makes them less elastic. The skin returns to its original state much more slowly when it is stretched. The blood vessels decrease in size and number. This change influences the nutrient supply to the basal layer and accounts in part for the slower rate of epidermal replenishment. Some of the factors in natural aging are determined by the genetic make up of the individual. Much more needs to be learned about specific genetic influences.

Photoaging & Sun Damage

Sunlight causes significant damage to the skin which, unfortunately, does not show up right away. In fact, many people believe sun or tanning bed exposure equals a healthy appearance and healthy skin. This "socially desirable appearance" comes at the expense of poor appearance and poor skin health as one gets older. Tanning beds provide ultraviolet radiation through special bulbs and damage the skin as much as the sun itself. Individuals who spend most of their time indoors are still exposed to damaging rays when they do go outside. Sun damage takes two forms, photoaging and skin cancer. The majority of a lifetime sun exposure occurs before the age of 20. Children receive three times more exposure to the sun than adults. The damage process starts early in life unless the skin is protected. Many non-melanoma skin cancers could be prevented with proper protection from the sun.

Photoaging: The Epidermis

Ultraviolet radiation from the sun penetrates the stratum corneum. It affects the epidermal cells and causes a change in thickness. Some areas of the epidermis increase in size and others decrease to produce an irregular, non-uniform structure. The normal, orderly processes of the epidermis are disrupted. As a result, the epidermis cannot produce a proper stratum corneum. The "defective" stratum corneum is irregular and the very top layer does not slough off properly. Consequently, the skin surface texture becomes rough and irregular. The skin pigmentation, or coloration, becomes blotchy and irregular. This happens because the melanocytes are forced, by the ultraviolet radiation of the sun, to produce pigmentation. The pigment is transferred to the keratinocytes of the middle epidermis and these spots become visible when we view the skin surface. In

addition, the skin tone becomes sallow and appears to lack the vitality of a healthy state.

Photoaging: The Dermis

Sunlight breaks down the collagen and elastin fibers in the dermis. These structures become irregular. This irregularity in the dermal support tissue leads to visible wrinkles. The fibers also lose their elasticity, causing the skin to sag. Sun damage leads to chronic inflammation of the dermis. As a consequence, the epidermis does not function properly. The chronic inflammation causes the epidermis to become thicker as it attempts to repair the damage.

Levels of Photoaging

Photoaging occurs to varying levels. In Level I, ultraviolet radiation causes changes in the epidermis only. The alterations result in a dull, rough outer layer and in pigmented spots. In Level II, changes are caused in both the epidermis and the upper part of the dermis. Injury from the sun leads to increased wrinkling, and alterations in pigmentation and texture that are greater than those in Level I. Consequently, the skin's features are not uniform, thereby exaggerating the effects. In Level III, changes occur in the epidermis and throughout the dermis. The wrinkling is more pronounced and the skin texture is much less uniform, often pebbly in appearance. The skin takes on a leathery appearance.

Skin Care

Skin care begins with a healthy lifestyle.

- Drink plenty of water
- Eat a balanced diet
- Take a daily vitamin
- Exercise regularly
- Get enough sleep
- Avoid smoking
- Avoid use of tanning beds
- Minimize use of alcohol
- Manage daily stress

Skin Cleansing

For daily hygiene, use a mild cleanser. Remove facial make up completely. Use lukewarm water for all cleansing. Rinse the skin thoroughly to remove cleansing materials from the skin surface. Gently pat dry and avoid rubbing.

Skin Moisturizing

In "moisturizing," water is added to the skin. Moisturized skin is more flexible and pliable than dry skin. Application of moisturizer immediately after washing or bathing helps keep water within the skin. Skin moisturizers: (1) improve hydration (moisture content) and (2) add a "protective" or occlusive layer on the skin surface to help hold moisture within the top layers and keep it from being lost to the environment. The protective layer provides a barrier to water loss. Therefore, water remains in the upper layers of the epidermis and makes the stratum corneum more flexible.

A large number of creams and lotions are available. It is useful to read product labels to check for certain ingredients. One of the most common ingredients for increasing hydration is **glycerin**, which holds onto water within the outer layers following application. Glycerin is a *humectant* type of moisturizer because it attracts and binds water in the skin. . In dry, scaly skin, desquamation does not occur properly, resulting in the formation of visible scales. Glycerin assists the process of desquamation of the outer layer of stratum corneum and reduces scaling. A second type of ingredient serves as a *barrier* or *occlusive* when applied to the skin. These materials include petrolatum, mineral oil, and certain plant oils.

They are lipid in nature and protect the skin by minimizing water loss from the epidermis and by providing a barrier to intrusion from the outside and to loss of water from the skin layers beneath it.

A second group of skin care materials are the alpha hydroxy acids, known as the fruit acids (glycolic acid, lactic acid, etc.), and beta hydroxy acids (salicylic acid). These materials create a smoother skin surface by hydrating the surface layers and weakening and breaking the attachments between the stratum corneum cells. This process, known as exfoliation, assists in the removal of surface dry, scaly patches from the surface. This process creates a smoother surface composed to cells which are more hydrated than the dry scales that were removed.

Cancer Awareness

We advise periodic evaluations of any marks, moles, or pigmented areas by a trained health care professional. Any mole that changes in size or has an irregular border must be checked. Prevention of skin cancer involves avoiding sun damage and detecting trouble spots early. Be aware of changes in your skin and have them evaluated.

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Adult Skin Care

An individual's skin care regimen should include basic elements, as well as those tailored to specific needs and lifestyles. For the early adult (20-35 years), we recommend cleansing with a non-soap product and rinsing well and moisturizing, particularly in cold weather. Application of sun screens and sun blocks on a daily basis at an SPF value of 15 is essential. For early signs of damage, such as uneven pigmentation or fine wrinkles, a retinoid product should be considered. Control of acne is often important for this age group.

For the middle adult years (35-65), cleansing, moisturizing, sun protection, and use of retinoids are recommended. Acne can be problematic for this group, as well as early adults and teenagers. For persistent acne, various medications and treatments are available. Individuals may consider restorative techniques, such as the chemical peel, dermabrasion, or laser resurfacing, to correct the damage caused by sun exposure.

For the older adult (over 65 years), the cleansing, moisturizing, and sun protection routines should be followed. Restorative techniques can provide noticeable improvement in skin damaged by sun exposure. Regardless of age, sun exposure should be minimized and sun screens and sun blocks applied routinely. They will prevent additional damage.

A Guide to Skin Care Products

Overview

Over the counter skin care products, such as lotions, creams, and color cosmetics, generally do one or more of the following: (1) Condition by moisturization; (2) protect from moisture loss and irritation with a protective or occlusive layer; (3) cleanse soils and makeup; (4) minimize irritation; (5) improve appearance; and (6) improve the comfort and feel of the skin.

Skin care products usually contain a large number of ingredients. They perform three types of functions: (1) For the care of the skin, the ingredients include moisturizers, occlusive materials, protectants, sunscreens (ultra violet light absorbers), cleansers (known as surfactants), and other conditioners. (2) For the experience during product use, they contain fragrance, colorants, and materials to produce a pleasing feel on the skin during

application. (3) For the product integrity and shelf life, they contain ingredients such as thickening agents, viscosity control agents, and preservatives. These ingredients insure that the product will maintain its integrity from manufacture to complete use by the consumer.

Ingredient Function

A knowledge of the effects of specific ingredients on the skin is very useful in evaluating skin care products. Skin **moisturizers** are designed to improve or maintain skin condition by providing water (hydration) in the upper layers of the stratum corneum. Skin with the proper level of hydration is pliable, supple, and without scales/flaking. Skin can be moisturized with a variety of ingredient types. Often, several moisturizers are present in the same formulation. An **humectant** functions as a hydrating agent because it attracts and binds water to the upper layers of the skin. Glycerin is an humectant commonly found in creams and lotions. In dry skin, the desquamation process is not normal and the outer layer of the stratum corneum is not shed properly, resulting in the build up of cell aggregates that are observed as skin flakes. Through the process of holding water in the skin, glycerin is believed to facilitate the process of desquamation of the outer layer of stratum corneum and reduces scaling. An **occlusive** ingredient retards the evaporation of water from the skin surface, thereby increasing the water content in the upper layers. A skin **protectant** protects injured or exposed skin from harmful or annoying stimuli. Examples of such “annoying” stimuli include certain types of cleansing agents, powders, and certain types of cosmetics. These materials can damage the skin by disrupting the lipid bilayers in the upper stratum corneum and/or by penetrating through the stratum corneum to cause an inflammatory response in the epidermis. An **emollient** maintains a soft, smooth, and pliable appearance. It also remains on the skin surface, reduces flaking, and/or acts as a lubricant. An **exfoliant** assists in the removal of surface dry, scaly patches from the surface. This process creates a smoother surface composed of cells that are more hydrated than the dry scales that were removed.

Cleansing agents (surfactants) remove soils, including sebum, oils, dirt, sweat, cosmetics, etc., from the skin surface. These materials go to the skin surface and interact with the soils to lift them from the skin surface. Surfactants vary considerably in their effects on the skin itself. Certain surfactants are classified as harsh because they disrupt the lipid bilayers in the stratum corneum, presumably increasing the permeability to other materials. Some

surfactants penetrate through the stratum corneum and cause an inflammatory response in the epidermis. Others are much less irritating and are more well suited to skin cleansing applications.

Ingredients classified as **biological additives** are derived from some biological (plant or animal) source and incorporated into the skin care product. The biological origin, however, does not automatically insure that they have biological activity in the skin. Ingredients such as **emulsion stabilizers, viscosity decreasing agents, bulking agents,** and **binders** influence the product physical properties to create pleasing formulations that are shelf stable from manufacture to purchase and use by the consumer. **Preservatives** prevent the contamination by microbial organisms. **Fragrance components** and **colorants** provide desirable qualities during product application and use.

Label Information

You can learn a great deal from the label, particularly if you can determine the functions of the ingredients. The purpose of this section is to provide that information. Federal regulations in the United States require the ingredients to be listed on the label, in the order of the amount in the product. Unfortunately, you cannot learn the absolute **amount of the materials** from the label. In most cases, the benefit to the skin of moisturizers and protectants depends upon the amount applied to the skin. More is not necessarily better, but certain minimum amounts are needed to produce the expected effects. You can learn about the function or purpose of each ingredient by looking it up in the index below.

Reading Between the Lines

There are a few things to be mindful of when you look at the label for ingredients and product claims. (1) Notice how often water is listed as the first ingredient. This means that the product is mostly water. Water is an excellent skin conditioning agent – the best, in fact. The task is to provide water to the skin in such a way as the skin retains it in order to be smooth and supple. Putting water on the skin surface is easy, but keeping it there requires other strategies. (2) The ingredient names are fancy and complex, but they may be quite common. (3) Fragrances have a large number of individual components, none of which are at high levels. They are usually the ingredients far down on the list. (4) Some of the ingredients are there to keep the others together in a pleasant, uniform, and smooth formulation.

Additional Information

The following organizations and web sites provide information about the skin.

The Skin Sciences Institute:

[Http:\\www.cincinnatichildrens.org/departments/ss/](http://www.cincinnatichildrens.org/departments/ss/)

Children's Hospital Medical Center: www.chmcc.org

University of Cincinnati NetWellness Skin Care:

www.netwellness.org

American Academy of Dermatology: www.aad.org

Society of Pediatric Dermatology: www.spdnet.org

American Medical Association: www.ama-assn.org

American Academy of Pediatrics: www.aap.org

National Association of Neonatal Nurses: www.NANN.org

Wound Ostomy Continence Nurses Society: www.wocn.org

Association of Women's Health Obstetric & Neonatal Nurses:

www.awhonn.org

INGREDIENTS

A

1-hexadecanol - emollient,solvent
acetylated lanolin - emollient; occlusive
acrylate crosspolymer - viscosity increasing agent, stabilizer
acrylates copolymer - binder, film former
acrylates/C10-3- alkyl acrylate - emulsion stabilizer;viscosity increasing agent
acrylates/octylacrylamide copolymer - film former
algae peptides - biological additive
algae polypeptides - biological additive
algae polysaccharides - biological additive
allantoin - skin conditioning agent
aloe barbadensis gel skin conditioning agent
aloe barbadensis gel - skin conditioning agent
aloe vera gel - skin conditioning agent
aluminum hydroxide - opacifying agent
aluminum starch octenyl-succinate - absorbant, anti-caking agent
aluminum stearate - anticaking agent;colorant
ammonium hydroxide - denaturant, pH adjuster
ammonium lactate - humectant
avobenzone(parsol 1789) - UV light absorber
azelaic acid - organic salt chemical additive
aztec marigold oil - biological additive

B

beeswax - binder, emulsion stabilizer
behenic acid - cleaning agent
behenocyl dimethicone - emollient
behenyl alcohol - fragrance;preservative;solvent; binder; emulsion stabilizer
benzaldehyde - denaturant, fragrance
benzoic acid - preservative
benzophenone-3 - UV light absorber
benzyl alcohol - fragrance;preservative;solvent
beta-glucan - fragrance;preservative;solvent
bisabolol (chamomile essence) - skin conditioning agent
butylated hydroxytoluene - preservative
butylene glycol - solvent, viscosity decreasing agent

butylparaben - preservative

C

C11-C13 isoparaffin - solvent

C12-15 alkyl benzoate - emollient, pH adjuster

camphylcyclohexanol - fragrance component

candelilla wax - binder

carbomer - viscosity increasing agent, stabilizer

castor oil - occlusive

celery oil - biological additive

ceramides - skin conditioning agent

ceresin - binder

cetareth 20 - surfactant

cetearyl alcohol - emulsion stabilizer;viscosity increasing agent

cetearyl octanoate - emollient

ceteth-20 - cleansing agent;solubilizing agent

cetostearyl alcohol - emulsion stabilizer

cetyl alcohol - emulsion stabilizer

cetyl dimethicone - antifoaming agent;occlusive

cetyl palmitate - occlusive

cetyl phosphate - emulsifying agent

cetyl ricinoleate - occlusive

chamomile extract - biological additive

chinese tea extract - biological additive

cholesterol - emulsion stabilizer, skin conditioner

chromium oxide green - colorant

citric acid - chelating agent;pH adjuster

clary extract - fragrance component

cocamidopropyl betaine - cleansing agent/foam booster

cocoglycerides - emollient

colloidal oatmeal 1%

cyclomethicone

D

dea-cetyl phosphate - surfactant-emulsifying agent

diazolidinyl urea - preservative

dicaprylate/dicaprate - emollient

dimethicone - occlusive

dimethicone copolyol - emollient

dimethiconol - emollient;antifoaming agent

dioctyl adipate - plasticizer;emollient;solvent

dipropylene glycol salicylate - chemical additive

disodium EDTA - chelating agent
disodium laureth sulfosuccinate - surfactant
distearyldimonium chloride - antistatic agent
DMDM hydantoin - preservative

edetate disodium - chelating agent
emulsifying wax - emulsifier
ethylparaben - preservative
eucalyphus globulus oil - fragrance

F

fluoroalkydimethicone - antifoaming agent

G

galbanum oil - biological additive
glycerin - humectant
glyceryl stearate - emollient
glyceryl stearate SE - surfactant; emulsifying agent
glycolic acid - exfoliant, pH adjuster
grapefruit oil - fragrance component
guaiazulene - colorant
guarana extract - biological additive

H

hexyl laurate - colorant
hexylene glycol - solvent; viscosity decreasing agent
homosalate - UV light absorber
hydrocortisone - anti-inflammatory/anti-pruritic
hydroquinone - antioxidant, bleaching agent
hydroxyethylcellulose - emulsion stabilizer
hydroxyoctacosanyl hydroxystearate - occlusive,
viscosity increasing agent
hydroxypropyl methylcellulose - binder; emulsion
stabilizer

I

imidazolidinyl urea - preservative
iodopropynyl butylcarbamate - preservative
iron oxide - colorant
isobutylparaben - preservative
isocetyl alcohol - emollient
isohexadecane - emollient, solvent
isopentylcyclohexanone - emollient, occlusive
isopropyl myristate - binder

isopropyl palmitate - binder,emollient
isopropylparaben - preservative
isostearate - binder
isostearic acid - binder

J

joboba oil - hair conditioning agent/occlusive

K

kojic acid - antioxidant, bleaching agent
kola extract - biological additive

L

labdanum oil - fragrance component
lactic acid - humectant; exfoliant; pH adjuster
lanolin - humectant
lanolin alcohol - binder
laureth-4 - surfactant; emulsifying agent
lauryl betaine - surfactant; viscosity increasing agent
lauryl lactate - emollient
light mineral oil - emollient

M

magnesium aluminum silicate - absorbent,anticaking agent
magnesium ascorbyl phosphate - antioxidant
masking fragrance - fragrance
matricaria (chamomile) - biological additive
matricaria oil - fragrance component
matte extract - biological additive
methylparaben - preservative
methoxy peg-22/dodecyl glycol copolymer - emollient
methycellulose - binder; emulsion stabilizer
methyl and propyl parabens - preservatives
methyl gluceth-20 - humectant
methyl paraben - preservative
methyldibromo glutanitrite/phenoxyethanol - preservative
methylparaben - preservative
mineral oil - emollient/occlusive/solvent
mineral wax - binder
myristyl lactate - emollient

N

nopyl acetate - fragrance component

nylon-12 - bulking & opacifying agent

O

ocryldodecyl neopentanoate - emollient

octadecene/MA copolymer

octyl cocoate - emollient

octyl methoxycinnamate - UV light absorber

octyl palmitate - emollient

octyl salicylate - UV light absorber

octyl stearate - emollient

octyldodecyl neopentanoate - emollient

oxybenzone - UV light absorber

P

panthenol - hair conditioning agent

papaya extract - biological additive

paraffin - occlusive

peg-10 soy sterol - surfactant

PEG-100 stearate - surfactant

peg-20 - humectant, solvent

PEG-30 glyceryl cocoate - surfactant

peg-40 stearate - surfactant

peg-45/dodecyl glycol copolymer

peg-5 glyceryl stearate - surfactant-emulsifying agent

PEG-60 hydrogenated castor oil - surfactant

peg100 stearate - surfactant

pehnyl trimethicone - antifoaming agent; occlusive

pentaerythrityl tetracaprylate - occlusive

pentasodium pentetate - chelating agent

petrolatum - occlusive

phenoxyethanol - fragrance component; preservative

phenyl-benzimidazole sulfonic acid - UV light absorber

phenyl trimethicone - skin conditioning agent

phenylbenzimidazole sulfonic acid - UV light absorber

polyglyceryl-4 isosterate - emollient

polyoxyl 40 stearate - emollient

polyoxymethylene urea - thickening agent

polysorbate 20 - thickening agent

potassium sorbate - emollient

PPG-12/SMDI copolymer

Propylparaben - preservative

propylene glycol – emollient, hydrating agent

propylene glycol isoceth-3 acetate - emollient
propylene glycol myristyl ether acetate - emollient
propylene xanthan gum - viscosity increasing agent
propylparaben - preservative
purified water - solvent

Q

quaternium-15 - preservative

R

retinoic acid - increases turnover of follicular
epithelial cells
retinyl palmitate - skin conditioning agent
rosewood oil - fragrance component

S

salicylic acid (beta hydroxy) - exfoliant
SD alcohol 40B - solvent
shea butter - biological additive
sodium carrageenan - binder/emulsion stabilizer
sodium chloride - viscosity increasing agent
sodium citrate - buffering & chelating agent; pH
adjuster
sodium cocoate - surfactant
sodium cocoyl isethionate - surfactant
sodium dodecylbenzene sulfonate - surfactant
sodium isethionate - additive: functions like a salt
sodium isostearoyl lactylate - emulsifying agent
sodium lactate - humectant; buffering agent
sodium palm kernelate - surfactant
sodium sarcosinate - chemical additive
sodium stearate - surfactant
sodium tallowate - surfactant; foam booster
sodium trideceth sulfate - surfactant
sorbitan monooleate - emulsifying agent
sorbitan stearate - surfactant
sorbitol - humectant
spingolipids - skin conditioning agent
stearalkonium chloride - antistatic agent
steareth-2 - surfactant
steareth-20 - surfactant
steareth-21 - surfactant
stearic acid - surfactant; emulsifying agent

stearoxytrimethylsilane & stearyl alcohol - emollient,
viscosity increasing agent
stearyl glycyrrhetinate - flavoring agent
sucrose laurate - emulsifying agent

T

talc - anticaking; opacifying agent
tangerine oil - biological additive
TEA-lauryl-sulfate - surfactant
tetrasodium EDTA - chelating agent
titanium dioxide - UV light absorber; colorant
tocopheryl acetate - antioxidant; skin condition agent
tretinoin 0.05% - increases turnover of follicular
epithelial cells
tri(PPG-3 myristyl ether) citrate - emulsifier
tricontanyl PVP - film forming
triethanolamine - pH adjuster
trifluoromethyl C1-4 alkyl dimethicone - occlusive
trimethylsiloxysilicate - antifoaming agent/occlusive
trisodium EDTA - chelating agent
trolamine - pH adjuster

U

ultramarine blue - colorant

W

water - solvent
white petrolatum - occlusive
wool wax alcohol - emollient

X

xanthan gum - binder; emulsion stabilizer; viscosity
increasing agent

Y

ylang ylang oil - fragrance component