

## GLOSSARY OF INGREDIENTS

### A

---

#### **Acetyl Glutamul Heptapeptide-1:**

**Acetyl Hexapeptide (Argireline®):** A neuropeptide derived from natural proteins that is proven to reduce – up to 30% - the depth of the wrinkles in the face caused by the contraction of the muscles of facial expression, especially around the eyes, forehead and mouth region. This 6 amino acid chain works by inhibiting the release of neurotransmitters which relax facial muscle contractions without paralyzing facial muscles.

**Achillea millefolium (Yarrow):** Anti-inflammatory, astringent, and anti-irritant. Source: plant

**Acrylates/C10-30:** Conditioner.

**Agave Tequiliana var. Weber Leaf Extract:** Exhibits skin soothing properties, especially beneficial to ease the discomfort of a sun burn. Historically used to clear blemishes, soothe itches and maintain healthy skin.

**Alchemilla vulgaris (Lady's Mantle) Extract:** Anti-microbial

**Alkyl Acrylate Crosspolymer:**

**Alcohol – denatured (SD-40):** Non-drying denatured alcohol used to emulsify fats (a solvent). Antiseptic, astringent, antibacterial.

**Allantoin:** Extract of comfrey. See *Symphytum officinale*

**Aloe barbadensis (Aloe Vera) Leaf:** Assists in pain relief and reducing inflammation, re-hydrates and improves the skin's natural UV absorption capabilities. Prevents immune suppression caused by UVB by repairing damage to epidermal cells.

**Alchemilla vulgaris (Lady's Mantle) Extract:** Antibacterial/anti-acne.

**Allantoin:** See *Symphytum officinale*

**Alpha-Arbutin (Uva urs):** Inhibits tyrosinase to limit the production of melanin, provides natural skin lightening. Source: Bearberry

**Ammonium Hydroxide:** pH adjuster used in AHA products.

**Ammonium Laureth Sulfate:** A surfactant/detergent cleansing agent.

**Apricot (Prunus armeniaca) Kernel Oil:** An emollient, softening.

**Arachidonic Acid:** Emollient, thickening agent. Source: Omega-6 phospholipids and fatty acids

**Arachidyl Propionate:** Emollient, thickening agent, emulsifier.

**Arnica montana (Arnica):** Nourishing, anti-inflammatory, helps reduce bruising.

**Ascorbic Acid:** Effective antioxidant. Assists in collagen synthesis and provides protection against damage induced by UV radiation. Improves skin elasticity, decreases wrinkles, reduces erythema, promotes wound healing, and suppresses pigmentation. Water-soluble.

**Avena sativa (Colloidal) Oat Flour:** Anti-irritant, antioxidant; contains beta glucans.

**Azelaic acid:** This 5α-reductase inhibits tyrosinase activity and effective in the treatment of hyperpigmentation and melasma. As an anti-keratinizing agent, it is used for the treatment of comedonal and inflammatory acne. It reduces bacteria growth in the follicles and also reduces oxidative stress.

**Azulene:** Soothing, Calming. Source Chamomile

### B

---

**Bentonite:** A mineral rich natural clay that absorbs excess oil and reduces surface shine provides soothing and healing benefits, re-mineralized the skin.

**Benzyl Alcohol:** Used as a preservative with anti-bacterial qualities, pH adjuster, and solvent.

**BHT:** Antioxidant. Source: Butylated hydroxytoluene, a synthetic antioxidant.

**Bromelain:** Enzyme that has kerolytic properties, dissolving cellular debris. Source: Pineapple

**Butyrospermum parkii (Shea butter):** Alleviates dryness, regenerative, reduces solar erythema, provides antioxidant protection, soothes superficial epidermal layers. Source: Shea butter plant

**Butylene Glycol:** A humectant and solubilizer.

### C

---

**C13-14 Isoparaffin:** Thickener, emulsifier. Source: petrolatum

**Camellia sinensis (Green Tea) Leaf Extract:** Rich in polyphenols such as EGCG that inhibits oxidative stress; reduces inflammation, inhibits destructive enzymes that breaks down collagen.

**Carica papaya (papain):** Proteolytic enzyme that softens and exfoliates the skin.

**Calcium Ascorbate:** Referred to as Ester-C, it is a stable form of vitamin C.

**Carthamus tinctorius (Safflower) Seed Oil:** Rich in fatty acids such as oleic acid and contains vitamin E. Retains moisture in the skin and supports rebuilding of the acid mantle.

**Cinnamomum camphora (Camphor):** Cooling, soothing, anti-inflammatory and antiseptic. Source: Tree

**Caprylic/Capric Triglyceride:** Increases skins permeability to encourage ingredient permeability and spreadability of a product. Source: Coconut milk fatty acids.

**Caprylyl Glycol:** A broad spectrum preservative with bactericidal and hydrating properties. Protects against microbes and yeast. Source: Coconut.

**Carbomer 940:** A white, fluffy powder that is mixed in gels. An emulsifier.

**Castor oil:** See *Ricinus communis*

**Ceramides:** A skin identical Alpha-linoleic acid that supports the repair of an impaired acid mantle and lipid-dry skin. When the protective layer is intact, 50% of the skin's protective layer is composed of ceramides.

**Cetyl Alcohol:** Natural alcohol acts as a carrier agent and emollient. Source: Coconut

**Cetyle Dimethicone:** Silicone polymer that functions as a skin conditioning agent.

**Chamomilla recutia (Matricaria) Chamomile:** Exhibits anti-inflammatory, skin-soothing and antibacterial properties. Used on rashes, acne, eczema, psoriasis, hypersensitive skin and allergic conditions, sunburns, arthritis and rheumatism.

**Cholesterol:** An emulsifier and stabilizer.

**Citrus aurantium dulcis (orange) Peel Oil:** Naturally occurring alpha hydroxy acids to support smoother skin. Skin conditioning.

**Cinnamomum zeylanicum (Cinnamon) Oil:** Topical analgesic properties to soothe skin irritations. Source: Leaf oil

**Citric Acid:** Slows oxidation process, naturally adjusts the pH of products, improves brightness and coloration.

**Citrus aurantium dulcis (Orange) Peel oil:** Has soothing, anti-inflammatory astringent properties.

**Citrus Grandis (Grapefruit) Peel Oil:** Naturally occurring alpha hydroxy acids help promote smoother skin by increasing desquamation; astringent properties. Tones and tightens the skin and helps to increase blood circulation.

**Citrus paradisi (Citrus [grapefruit?]) Seed Extract:** Astringent.

**Clove Oil – see Eugenia caryophyllus**

**Cocamidopropyl Betaine:** Mild surfactant that doesn't irritate the skin or mucous membranes; has antiseptic properties. Source: Coconut oil.

**Cocoamphodiacetate:** A surfactant produced on the basis of fatty acids. Source: Coconut oil.

**Cocos nucifera (Coconut) Oil:** Moisturizing and promotes circulation and healthy cell growth.

**Coconut Oil Castile:** A semi-solid fat expressed from coconuts that is used as an emollient in making natural soaps. The word "castile" simply refers to being classified as a mild soap.

**Coenzyme Q10:** Antioxidant and provides protection against UVA-induced detrimental effects of photoaging. Helps protect the lipid bilayers. Source: Ubiquinone

**Colloidal Oat Flour:** See Avena sativa.

**Cucumis sativus (Cucumber) Fruit Extract:** Astringent, anti-inflammatory, anti-pruritic, contains flavonoids. Source: Cucumber

**Cyclomethicone:** A silicone used to deliver smooth, silky texture without oily residue.

**Cymbopogon schoenanthus (Lemon Grass) Oil:** Antioxidant, antiviral, antibacterial, helps normalize sebum production.

## D

---

**D-alpha-tocopherol:** Vitamin E, fat soluble antioxidant that protects from oxidative stress.

**Deionized Water:** Similar to distilled water and used as a purified water. The lack of ions causes the water's resistivity (resistivity to an electrical flow) to increase. Ultra-pure deionized water can have a theoretical maximum resistivity up to 1000 times greater than common tap water. This means that pure deionized water is theoretically up to 1000 times more soluble than common tap water.

**Dextran (sugar):** Polysaccharides than bind water to improve hydration.

**Dipeptide Diaminobutyrol Benzylamide Diacetate:** A synthetic peptide capable of relaxing facial expression wrinkles by inhibiting muscle contraction. (Imitates the activity of Waglerin 1, a protein found in the venom of the Temple Viper, which inhibits neuromuscular communication.

**Diazolidinyl Urea:** Broad spectrum preservative used in cosmetics.

**Dimethicone:** A silicone that conditions and protects the skin.

**Dimethicone Crosspolymer:** Conditions and protects the skin.

**Dioscorea villosa (Wild Yam) Root:** Source of diosgenin, a phytosterol that provides anti-inflammatory and antispasmodic properties.

**Disodium Cocamphodiacetate:** A mild surfactant. Source: Coconut oil.

**Disodium EDTA:** A chelating agent that is a water-soluble compound. Chemically neutralizes metallic ions, which are introduced to filled products by unclean fingertips. Prevents growth of microorganisms.

**DMDM Hydantoin:** Antimicrobial preservative.

## E

---

**Elaeis guineensis (Palm) Oil:** A mixture of fatty acids that helps condition the skin; emollient.

**Ethanol, organic:** Anti-bacterial.

**Ethylhexiglycerin:** Conditioning agent, preservative.

**Eucalyptus Globulus Leaf Oil:** Contains antibacterial, anti-inflammatory, antiseptic, antiviral, astringent and cicatrizing properties. Used for burns, blisters, herpes, cuts, wounds, skin infections, and insect bites.

**Eugenia caryophyllus (Clove) Oil:** Soothing agent and antiseptic.

**Evening Primrose Oil:** See *Oenothera biennis*

## F

---

**FD&C Color:** Colorants approved by the FDA and considered safe for food and cosmetic products.

## G

---

**Ginseng:** See Panax ginseng root extract

**Glucose:** Humectant.

**Glycolic Acid:** An alpha hydroxy acid that promote desquamation in the stratum corneum layers of the skin.

**Glycerin:** Softens and smoothes the skin; humectant that draws moisture from the air to keep skin moist; emollient the lubricates and prevents moisture loss; emulsifier (thickening agent).

**Glyceryl Stearate:** Lubricates the skin surface, emulsified oils and liquids, softens the skin, attracts moisture from the atmosphere, an ingredient stabilizer. Source: Vegetable fatty acids.

**Glycine Soja (Soybean) Protein:** Contains antioxidant and MMPI (Matrix Metalloprotease Inhibitor) and works to inhibit skin matrix breakdown. Stress (environmental or otherwise), UV exposure and other types of inflammation cause the breakdown of collagen and elastin in the dermal matrix by collagenase and elastase (MMPs). Inhibiting these Matrix Metalloproteases helps to reduce the breakdown of the dermal structures and strengthens the natural barrier.

**Glycine Soja (Soybean) Oil:** Emollient, rich in vitamin E. See above for complete list of properties of soy.

**Glycol Distearate:** Thickening agent. Source: glycerin and natural fatty acids.

**Grapefruit Oil:** See Citrus Grandis

**Green Tea Extract:** See Camellia sinensis

## H

---

**Hamamelis virginiana (Witch Hazel) Extract:** Astringent; pain-killer; effective for bruises and inflammatory swellings. Source: Tree

**Honeysuckle:** See *Lonicera Japonica*

**Hyaluronic Acid:** See Sodium hyaluronate

**Hydroxyethylcellulose:** A thickening agent.

---

## I

**Isoparaffin:** Emollient, thickening agent. Source: Mineral oil

**Isopropyl Palmitate:** An emollient and moisturizer. Source: Coconut oil.

**Isopropyl Alcohol (SD-40):** A group of organic compounds that have a vast range of forms and uses in cosmetics. In benign form they are glycols used as humectants that help deliver ingredients to the skin. When fats and oils are chemically reduced, they become a group of less-dense alcohols called fatty alcohols that can have emollient properties or become detergent cleansing agents.

---

## J

**Jojoba:** See *Simmondsia chinensis*

---

## K

**Kojic Acid (5-hydroxy-4-pyran-4-one-2-methyl):** A tyrosinase inhibitor and scavenges reactive oxygen species.

**Kumquat Oil:** Fragrance

---

## L

**Lanolin Oil:** Emollient, soothing.

**L-Lactic Acid:** An AHA that supports desquamation in the corneum layers of the skin. Source: Milk, yoghurt

**Lauryl Isoquinolinium Bromide:**

**Laureth-7**

**Lavandula angustifolia (Lavender) Oil:** Anti-inflammatory, promotes cell regeneration, wound-healing, antiseptic, antibacterial.

**Lecithin:** An emulsifying agent.

**Lemon Grass:** See *Cymbopogon schoenanthus* oil

**Linolenic Acid:** Unsaturated fatty acid belonging to the class of Omega-3 fatty acids. It has emollient, antioxidant, anti-inflammatory, and reparative properties.

**Lonicera Japonica (Honeysuckle) Flower Extract:** Anti-inflammatory, anti-spasmodic, anti-bacterial.

---

## M

**Macrocystis pyrifera (Antarctic Seaweed):** Antioxidant, anti-inflammatory,

**Magnesium Ascorbyl Phosphate (MAP):** A highly stable, water-soluble (hydrophilic) derivative for vitamin C; improves collagen synthesis, prevents oxidative stress, and is considered a tyrosinase inhibitor.

**Magnesium Aluminum Silicate:**

**Malto Dextrin:**

**Malva sylvestris (Mallow) Flower/Leaf/Stem Extract:** Emollient, stimulates moisture balance and has anti-inflammatory, antiseptic, and calming properties.

**Manganese Chloride:** Antimicrobial.

**Melaleuca alternifolia (tea tree):** Antimicrobial, antiseptic, antiviral, bactericidal, fungicide. Source: Tree, Australia

**Melissa officinalis (Balm mint):** Antiviral; antiseptic, anti-infection. Source: Lemon balm leaves.

**Mentha piperita (Peppermint) Oil:** Provides astringent actions, anti-spasmodic, soothes and cools the skin, assists in healing

**Methylparaben:** A preservative

**Methyl Gluceth-20:**  
**Methylparaben:** Preservative

**Morus Bombycis (White Mulberry) Root Extract:** Has whitening abilities; tyrosinase inhibitor.

**Myristyl Ether Propionate:**

---

## N

**Neopentylglycol Dicaprylate/Dicaprate:**

**Niacinamide:** Vitamin B3; improves cellular respiration, regulates the release of energy,

metabolizes carbohydrates, fats, and proteins; improves microcirculation. In formulation it is effective for treating moderate inflammatory acne grade 3. It has anti-inflammatory properties.

---

## O

**Octyldodecanol:**

**Octyl Methoxycinnamate:** An organic compound primarily used in sunscreens and other cosmetics to absorb ultra-violet B radiation.

**Octyl Salicylate:** A salt of salicylic acid occurring in wintergreen leaves and other plants. A sun chemical that acts as a UVB screen, a preservative and an antimicrobial.

**Oleth-2**

**Oenothera biennis (Evening Primrose) Oil:** Contains high amounts of gamma linolenic acid (GLA), an essential fatty acid for normal functioning of the epithelial barrier membrane. Helps improve skin hydration and helps repair the barrier function.

**Orange Flower Neroli:**

**Oryza sativa bran:** Natural plant derived protein, anti-oxidant, with superior water binding properties.

**Oxybenzone:** An organic sun protector.

---

## P

**Palm Oil:** See *Elaeis guineensis*

**Palmitoyl Oligopeptide-3:** An amino-peptide that temporarily limits the release of neurotransmitters that control the intensity of facial muscle contractions. Stimulates collagen.

**Palmitoyl Tetrapeptide-3:** Disrupts the nerve signals and suppresses chemical messengers (interleukins) that trigger inflammation.

**Panthenol:** Appears to stimulate cellular proliferation and aid in tissue repair. When applied to the skin, it converts to vitamin B5. Possibly helps to influence the skin's natural resources of pantothenic acid. It is nonirritating, non-sensitizing, moisturizing, and conditioning. Promotes normal keratinization and wound healing.

**Panax ginseng (Ginseng) Root Extract:** An adaptogenic and restorative herb that is an immunostimulant.

**Papain (Papaya):** See *Carica papaya*

**Passiflora laurifolia (Passionflower) Flower:** Analgesic, anti-irritant and sedative.

**PCA:** See sodium PCA

**PEG-100:**

**Pentapeptide-3**

**Piperita (Peppermint) Extract:** Imparts cooling effect on the skin, increases circulation, stimulates nerve endings, and relieves pain inflammation. Posses natural antiseptic and antibacterial properties.

**Phenoxyethanol:** Broad spectrum preservative derived from grain. It is an organic chemical compound, glycol ether, derived from sage essential oil.

**Phytic Acid:** Natural antioxidant with anti-inflammatory properties.

**Polyacrylamide:**

**Polyacrylate 13:** An emulsifying agent.

**Polysorbate 20:** An oil-in-water emulsifier.

**Polysorbate-80:** An oil-in-water emulsifier

**Polyisobutene:**

**Polyquaternium-37**

**Potassium Sorbate:** A paraben-free natural preservative.

**PPG-2:**

**Primula veris (Primula) Extract**

**Propylene Glycol:** A humectant

**Propylparaben:** Preservative

**Pseudoalteromonas Ferment Extract:** A hair growth retardent.

**Pyruvic Acid:** A molecular constituent generated from the action of glycolysis during the generation of ATP in the mitochondria inside the cell. Pyruvate is converted into lactic acid. It stimulates collagen and elastin and dermal glycoproteins when applied topically; also contains antiseptic properties.

## Q

---

**Quaternium-10:** Preservative

**Quaternium-15:** Preservative

## R

---

**Retinyl Palmitate:** Considered a retinoid, retinol converts to retinoic acid once inside the skin. It has less irritating and greater penetration abilities. Vitamin A is necessary for cell regeneration and regulation.

**Resorcinol:**

**Retinol:** See Retinyl palmitate and also Vitamin A

**Rice bran: see Oryza sativa**

**Ricinus communis (Castor) Seed Oil:** Humectant, emollient, water-binding, and rich in glycerides of fatty acid ricinoleic. Source: Caster bean.

**Rosemarinus officinalis (Rosemary):** Astringent, antiseptic, stimulating, increases circulation.

**Rosehip Seed Oil:** Emollient oil extract from the fruits of the species of wild roses. Contains vitamin C and is supportive to aging skin.

## S

---

**Safflower Oil: see Carthamus Tinctorius**

**Salvia officinalis (Sage) Oil:** Purifying, astringent, antibacterial. Source: Plant

**Salicylic Acid:** Lipid soluble beta hydroxy acid with keratolytic, anti-microbial, lipid soluble, anti-inflammatory, anti-eczemic, anti-seborrheic properties. It is a chemical trap for free radicals and is able to penetrate the follicle to exfoliate the buildup of lipid debris. Salicylic acid is best on acne-prone and sensitive skin types. As an exfoliant, salicylic acid can increase the benefits of other therapies used in conjunction with it. For acne prone skin, retinol makes a good adjunct therapy for salicylic acid.

**Santalum austrocaledonicum (Sandalwood) Oil:** Soothes, moisturizes dry skin, antiseptic and astringent for oily skin and acne. Source: Sandalwood tree (India)

**Saxifraga sarmentosa Extract:** Natural brightening properties.

**Scutellaria Baicalensis Root Extract:** Antioxidant, astringent.

**Seaweed Extract (What is the source?? Botanical name... laminaria???)**

**Shea Butter: see Butyrospermum parkii)**

**Simmondsia chinensis (Jojoba) Oil:** Emollient ester with excellent spreading, lubricating and penetrating qualities. Used in pharmaceutical preparations to treat eczema, acne, and dandruff. Humectant, emollient, and moisturizing. Source: Expressed or extracted from the seeds of the desert shrub.

**Sodium Ascorbyl Phosphate:** A stable vitamin C derivative protecting cells from oxidative stress (free radicals), helps suppress pigmentation, stimulates collagen synthesis. Sodium Ascorbyl Phosphate is converted to free vitamin C by enzymes present in the skin only upon penetration.

**Sodium Benzoate:** A broad-spectrum preservative.

**Sodium Borate:** A preservative, antiseptic, fungicide.

**Sodium EDTA:** A chelating agent that is a water-soluble compound. Chemically neutralizes metallic ions, which are introduced by unclean fingertips. Prevents growth of microorganisms.

**Sodium Hyaluronate:** A polymer of disaccharides that are composed of D-glucuronic acid, hyaluron is a glycosaminoglycan (GAGs) found naturally in the connective tissue, epithelial and neural tissues. Supports moisture content in skin.

**Sodium Hydroxide:** An alkaline salt obtained when electrolysis (positive and negative poles) is applied to seawater or salt water. It is used to modify the pH of acidic materials due to its high alkalinity. It is placed into some skin cleansers in very small amounts, however, it can be a significant skin irritant if used in higher amounts.

**Sodium Lactate:** Sodium salt of lactic acid. Used primarily as a water-binding and buffering agent (a pH adjuster).

**Sodium Metabisulfite:**

**Sodium Oleate:** An emulsifier for oil-in-water formulations.

**Sodium PCA:** Salt of glutamic acid, an amino acid that occurs widely in food. Acts as a humectant for the skin.

**Sodium Sorbate:** A preservative.

**Sorbitol:** Moisture binder.

**Soy flour:** See glycine soya

**Soy bean oil:** See Glycine soja

**Symphytum officinale (Comfrey):** Allantoin is an extract of this botanical. Assists with cell proliferation, healing and moisturizing properties. Anti-inflammatory, epithelization stimulant, clears away necrotic tissue and accelerates growth of healthy new tissue. Skin protectant. Free-radical scavenger. Source: Comfrey root (or can also be bioengineered from uric acid).

**Stearic Acid:** A saturated fatty acid derived from vegetable oils, used for a carrier for absorption.

**Squalane:** Emollient, moisturizing, protects the barrier function, antioxidant, and mimics the squalane properties found in the skin. Source: Olivez

**Sweet Almond Oil:**

## T

---

**Talc:** Natural occurring silicate mineral.

**Tea Tree Oil:** See *Melaleuca alternifolia*

**Thymol (*Thymus vulgaris*):** A phenolic compound found in thyme oil with antimicrobial and anti-bacterial properties.

**Titanium Dioxide:** Physically shields the skin from UV exposure, disperses/reflects UV rays away from the skin.

**Tocopherol Acetate (D-alpha):** Oil soluble vitamin E, protects the cell membrane from lipid peroxidation.

**Tocotrienols:** A term that refers to vitamin E, a phytonutrient consisting of with naturally occurring isomers, a family of four tocopherols (alpha, beta, gamma, and delta) and four tocotrienols (alpha, beta, gamma and delta) homologues.

**Tridecyl Trimellitate:** Emulsifier, thickening agent.

## V

---

**Vaccinium macrocarpon (Cranberry) fruit extract:** Astringent, antimicrobial.

**Vaccinium myrtillus extract:**

**Vanilla Planifoliar fuirt oil:** Fragrance

**Veronica officinalis (Speedwell herb) Extract:** An astringent. (This needs to be checked for accuracy)

**Vitamin A:** Designated as an epithelium-protecting factor, it regulates skin

hornification, promotes cell regeneration, encourages mitosis and prevents atrophy in aging. Skin. Vitamin A is essential for proper formation of body tissue, especially the skin, mucous membranes, and anything that lines the inside or outside of the body. Deficiency leads to follicular hyperkeratosis (flakiness); keratin deposits in the follicles that appear as hard goose bumps.

**Vitamin C:** Necessary for proper formation of collagen, the primary constituent of one, cartilage, and connective tissue. Important for growth and repair of tissue cells, gums, blood vessels, bones, teeth, and for absorption of iron. When topically applied, it is a powerful antioxidant and protects the skin's immune system.

**Vitamin E:** See D-alpha tocopherol - Vitamin E protects the linoleic fatty acids from oxidation making them active. Enhances elasticity of the connective tissue and is important for collagen metabolism in the epidermis. Improves cells' metabolism and increases skin's ability to hold moisture. Has a normalizing influence on the microcirculation. An antioxidant for premature aging, it develops a biochemical protective effect against free radicals (oxidative stress). Has moisture-retention abilities and smoothes the surface of the skin.

**Vitis Vinifera (Grape):** Antioxidant, anti-inflammatory

## X

---

**Xanthan Gum:** Natural thickening agent made from fermented sugar.

**Xylitol:**

**Xylitylglucoside**

## Y

---

**Wild Yam (see Dioscorea villosa)**

**Yucca schidigera Leaf/Root/Stem Extract (Yucca):** Exhibits anti-inflammatory and antiviral activity.

**Wheat Germ (*Triticum vulgare*) Oil Castile:** Extracted from the embryo of the wheat kernel, it contains anti-inflammatory and nourishing properties with its high vitamin E content.

## Z

---

**Zinc Oxide:** Provides chemical and physical protection from sun exposure (UVA, UVB).

## GLOSSARY OF TERMS

### A

---

**Actinic Keratosis** - a premalignant condition of thick, scaly, or crusty patches of skin. It is more common in fair-skinned people, especially those who are frequently exposed to the sun, as it is usually accompanied by solar damage. Since some of these pre-cancers progress to squamous cell carcinoma, they should be treated.

**Alipidic** – Skin that has an impaired barrier function including sebaceous secretions.

**Aromatherapy** - Ancient art of using scent to relieve physical symptoms (stress) or to accent feelings, i.e., peppermint invigorates. Plant-derived essential oils are used in treatment and therapy to enhance the beauty of the skin and body.

**Artery** - Blood vessel which carries blood to the heart.

**Arthrosis** - Name under which are designated degenerative chronic conditions of the articulation of line or juncture between the bones. Causes pain, cracking, deformation or impotency without deterioration of general conditions.

**Asphyxiated skin** – Impaired exchange of oxygen in the skin. Exchanges usually caused by excessive accumulation of keratin on skin surface, thus causing a dull, lifeless complexion. May be accompanied by numerous comedones and/or vesicles.

**Asteatosis** – Dry, scaly skin. Partial or absolute deficiency of lipids usually due to aging or bodily disorders. May be caused by alkalies found in soaps and washing powders.

**Asthma** – Term used to denote bronchial asthma; a condition of the lungs in which there is widespread narrowing of airways, varying over short periods of time either spontaneously or as a result of treatment, due in varying degrees to contraction (spasm) of smooth muscle, edema of the mucosa, and mucus in the lumen of the bronchi and bronchioles; these changes are caused by the local release of spasmogens and vaso-active substances in the course of an allergic process.

**Astringent** – Constricting action on the skin giving a tightening effect. Many botanicals provide an astringent effect due to the presence of tannins.

**Atonic** – Pertaining to the lack of tone such as seen in aging skin, and pre-mature aged skin due to photo damage.

### B

---

**Bacteria (Bacterium)** – Microscopic unicellular plant lacking chlorophyll and fully defined nuclei. They occur in three main forms: Spherical (coccus), rod-shaped (bacillus), and spiral (spirilla). They occur in water, soil, organic matter or living bodies of plants and animals, being saprophytic (absorbing), parasitic (living in or one), and autotrophic in nutrition.

**Barrier vehicle** – A substance that allows the flow of product into the skin (through the cell structure of the epidermis) or through keratinized structure such as a fingernail or hair.

**Basal lamina** – Basement membrane.

**Basal layer** – Innermost layer of the epidermis; contains living and dividing cells.

**Base** – In chemistry, a substance which when dissolved in water provides hydroxyl ions from its own molecules; a molecule or ion which can accept protons.

**Basic Skin Care** – Products that care for the needs of the skin on a day-to-day basis. Usually consists of a cleanser, freshener and moisturizer.

**Benign** – Mild form of illness as opposed to fatal or malignant.

**Binder** – Substance such as gum Arabic, gum tragacanth, glycerin and sorbitol that disperse, swell, absorb water, increase consistency and hold ingredients together.

**Bioextract** – Extracts prepared from animal tissues. Soluble collagen and hydrolyzed elastin are to examples.

**Blood vessels** – Network of tube-like vessels that supply nutrients and

oxygen to the skin. Help regulate body temperature by contracting and expanding the response to external stimuli.

**Botanical** – Extract derived from plants. Botanicals are single compounds that are sometimes used in combination for a more powerful affect. Natural plant extracts are indigenous to many cultures and have been utilized as remedies for inner and outer health. Therapeutic benefits are emphasized in numerous medicine remedies and beauty treatments.

**Buffer** – Usually a solution with a relatively constant acidity/alkalinity ratio used to lengthen the shelf life of the product and make it gentler on the complexion. A typical solution would be hydrochloric acid and sodium hydroxide.

## C

---

**CTFA** – Cosmetic, Toiletries, Fragrances Association. An industry organization formed in order to self-regulate the industry rather than allow the FDA to step in and fill the regulatory vacuum with an abundance of forms and regulations.

**Callous** – Hard, tough area of skin created by friction.

**Calor** – Heat

**Carbuncle** – Large circumscribed inflammation of the subcutaneous tissue similar to a furuncle, but more extensive.

**Carrier** – Referring to a substance that dispenses the active ingredient in a product. Effects products spreadability, stability and time release of active ingredients. A liposome is an example of a carrier.

**Cartilage** – Connective tissue characterized by lack of blood vessels and is of soft consistency.

**Catabolism** – Breakdown of complex compounds into simpler ones.

**Catalyst** – A substance that accelerates or imitates a chemical reaction but remains unchanged while performing this task many times. Wards ending in “ase” such as “tyrosinase” is an example of the enzyme that initiates the action of melanin production.

**Cell membrane** – B-layer of lipids and protein surrounding the cell.

**Cellular surface cells or debris** – Refers to the natural sloughing off of the stratum corneum (outer epidermis) and is expelled by all living cells.

**Centistoke** – Measure of viscosity (thickness).

**Chapping** – Having or pertaining to skin that is dry, scaly, and fissured (cracked) due to the action of cold or the excess rate of evaporation of moisture from the skin’s surface.

**Chelating agent** – Substance that causes a metal ion to react with a molecule to form a chelate, which is a stable, ring-like structure. Chelating agents are in the EDTA group; EDTA, Disodium EDTA, Trisodium EDTA. Tetrasodium EDTA and Disodium EDTA Copper. It is any compound that binds and precipitates metals such as Ethylenediamine Tetracetic acid (EDTA) that removes trace minerals.

**Cheloids (keloids)** – Nodular, frequently lobulated, firm, moveable, non-encapsulated often-linear mass of hyperplastic scar tissue. It consists of widely irregularly distributed bands of collagenous fibrous tissue. Occurs in the dermis and adjacent subcutaneous tissue, usually after trauma, surgery, a burn, or severe cutaneous disease such as cystic acne, and is more common in non-Caucasians.

**Chemical** – A substance formed by altering the molecular structure of a natural material or the combining of two or more elements to form a new substance.

**Chemotaxis** – Movement or change in the position of a cell or organism in response to the presence of a chemical agent.

**Chloasma** – Moth patch, melanoaderma or melasma characterized by the occurrence of extensive brown patches of irregular shape and size on the face and elsewhere. Pigmented patches are also known as the mask of pregnancy; associated most commonly with pregnancy, menopause, and oral contraceptives. Certain antibiotics can also sensitize the skin to UV causing excessive pigmentation.

**Cholesterol** – A lipid, and the most abundant steroid in animal tissues.

**Chromosomes** – A body within the cell nucleus containing the biological units of heredity (genes).

**Chronic** – Symptoms of disorder lasting more than a month.

**Colitis** – Inflammation of the colon.

**Comedogenic** – Any agent that may cause comedones; associated with various ingredients rated 0-3 by the Ingredient List of comedogenic Agents.

**Comedones** – Comedo, comedos. Dilated hair follicle infundibulum filled with keratin, squamae, and sebum. Commonly termed as a blackhead.

**Conductor** – Material connecting the two poles which offers resistance of the flow of current.

**Connective tissue** – Fibrous tissue that functions as the supporting framework of the body; holds muscle to the skin, muscle to bone, and bone to muscle.

**Constitutive skin color** – “Normal” skin color generated without exposure to radiation or hormones.

**Contaminant** – Organism such as bacteria, yeast, mold, fungi or any other unwanted substance.

**Contraindication** – Any special circumstance or symptom that renders the use of a remedy inadvisable.

**Cornified** – Hardened such as cornified cells of the stratum corneum.

**Cosmetic** – Preparation applied topically to the skin designed to enhance the appearance.

**Couperose** – Refers to diffuse redness, including telangectasias of the face and other areas of the body.

**Cutaneous** – Relating to the skin.

**Cyanosis** – Dark bluish or purplish coloration of the skin and mucous membrane due to deficient oxygenation of the blood evident when reduced hemoglobin in the blood exceeds 5g per 100g.

**Cysts** – Severe infection of the follicle that appears as a large, hard and painful lump or swelling underneath the skin’s surface. A severe pimple that takes a longer time to reach the surface of the skin. As it works its way to the surface, it destroys many live cells and other leaves a scar; often referred to as “acne pits” or “ice pick” scars. Medical intervention is often used to clear the conditions.

**Cytochemical** – Chemistry of the cell.

**Cytoplasm** – Fluid part of a cell containing organelles.

**Cytotoxicity** – Condition of damaging or poisoning of a cell.

## D

---

**D&C** – Drug and Cosmetic. Colorant approved for use in drugs and cosmetics, but not in food.

**Decongestant** - Substance that causes toxic material that has accumulated in the underlying structure of the skin. Removed through the normal channels of the body’s waste system (lymph).

**Dehydration** – Result of excessive transdermal water loss in the skin causing it to be flaky, dry, fissured, and irritated. Contributing factors are UV exposure, environmental influences, menopause, artificial heat, cigarette smoking, illnesses, and medication.

**Dendrite** – A foot-like projection of a cell, which receives and directs impulses to the cell body.

**Dermatology** – Medical study and science of the structure, functions and diseases of the skin.

**Dermatosis** – Nonspecific term used to denote any cutaneous lesion or group of lesions, or eruptions of any type.

**Dermis** – Fibrous skin layer beneath the epidermis composed primarily of elastin and collagen.

**Dermatosis** – Nonspecific term used to denote any cutaneous lesion or group of lesions or eruptions of any types.

**Dermis** – Fibrous skin layer beneath the epidermis composed primarily of elastin and collagen.

**Dermography** – Form of urticaria in which whealing occurs in the site and in configuration of application of stroking (pressure, friction) of the skin.

**Desquamation** – Sloughing of cells from the stratum corneum.

**Detergent** – An agent that has the ability to act as a surfactant (breaking surface tension) to oil, water, and grime. Any of a group of synthetic, organic, liquid or water soluble cleansing agents that are not prepared from fats and oils and are not inactivated by hard water. Most are made from petroleum derivatives but vary widely in composition.



**Diabetes** – Either *diabetes insipidus* or *diabetes mellitus*, diseases having the common symptom of polyuria; when used without qualification, refers to *diabetes mellitus*.

**Diapedesis** – Migration of cells through blood vessel walls.

**Differentiation** – process of cell acquiring a specialized function. For example, the cells in the epidermis “differentiate” as they migrate from the basal layer to the surface.

**Direct current** – Constant flow of electricity in one direction.

**Dispersant** – Ingredients that bond with one or more ingredients to disperse or spread the ingredients evenly throughout the product. Assists in stabilization.

**Diurnal** – Occurring and most active during the day.

**Drug** – A substance or preparation applied topically, injected or taken internally which alters the physiological processes of the user.

**Dye** – A soluble colorant that colors each molecule of a substance.

## E

---

**Ecze~~ma~~** – Generic term for acute or chronic inflammatory conditions of the skin, typically erythematous, edematous, papular, vesicular, and crusting; followed often by lichenification and scaling and occasionally by dusky of the erythema and infrequently, hyperpigmentation. Often accompanied by sensations of itching and burning; the vesicles form by intra epidermal spongiosis. Sometimes referred to colloquially as tetter, dry tetter, and scaly tetter. A very common dermatosis, representing almost half of the professional dermatitis condition.

**Edema** – Accumulation of excess fluid in skin tissue.

**Elasticity** – Pertains to the capacity of the skin to stretch without losing shape.

**Elastin** – Connective tissue that resembles a net-like sheet of fibers that are cross-linked. It is made up of protein and is a major component in the skin, lungs, ligaments and large blood vessels.

**Elastosis** – Degenerative change in elastic tissue, mostly due to excessive sun damage.

**Electrocautery** – Burning with electric current.

**Electrodesiccation** – Process of destroying tissue, usually hair, by removing all its moisture by means of electric current.

**Electrolysis** – Decomposition of a salt or certain tissue of the body by means of an electric current.

**Emollient** – Products of ingredients which soften and soothe the skin. Usually refers to oil-soluble substances, but can also refer to water-soluble ingredients, especially esters. While the term moisturizer and emollient are often used interchangeably the two functions are different; however, they often occur at the same time.

**Emulsion** Oil and water components blended together creating one substance.

**Endosome** – a microscopic membranous sac inside a living cell that is pinched off from the cell’s outer membrane and contains substances ingested by the cell.

**Enzyme** – Class of protein compounds produced by a living organism which acts as a catalyst capable of accelerating or producing biochemical changes. Also referred to as organic catalysts; they are not consumer in the reactions they catalyze but are regenerated at the end of such reactions. In the food and drug industries, they are referred to as proteases, amylases, lipases, and pectinase. In topical skin care, an enzyme such as Papain and bromelain dissolve the buildup of keratinized cells at the skin’s surface.

**Ephelis (freckle)** – Yellowish or brownish macules developing on the exposed parts of the skin, especially in persons of light complexion. Lesions increase in numbers on exposure to ultra violet light.

**Epidermis** – Outermost layer of the skin containing stratified and cornified cells, melanin, basal cells and lipids. Its function is to help create a barrier for the dermis.

**Epilepsy** – Falling sickness; convulsive state; status convulsus; seizure. A chronic disorder characterized by paroxysmal brain dysfunction due to excessive neuronal discharge, and usually associated with some alteration of consciousness.

**Epithelial** – Pertaining to epithelium.

**Erythema** – Inflammatory redness of the skin.

**Erythrosis** – Exaggerated tendency to blush.

**Eschar** – Thick, coagulated crust of slough which develops following a thermal burn, chemical or physical cauterization of the skin.

**Essential Oils** – Essential oils are volatile (evaporating) oils, ethereal oils or essences of natural origin. Usually complex mixtures of organic compounds and generally represent the odoriferous principles of the plants. Obtained mostly from plants by steam distillation, but also from animal sources (musk, ambergris, civet) and by other means. Used in cosmetics, aromatherapy, medicine, perfumery and flavoring.

**Esters** – Compounds formed by a reaction of an acid or alcohol. Usually emollients and mostly designed to promote easier spreadability and penetration. They tend to resist rancidity better than natural oils and are designed to be used in place of these products.

**Eumelanin** – Brown-black pigment; true melanin.

**Excoriation** – Scratch mark. Linear break in the skin surface usually covered with blood or serous crusts.

**Exfoliate** – Removal of dead surface skin through the use of a scrub, peel, enzyme, AHA, or masque. Its purpose is said to prevent hyperkeratinization. Stimulates cell regeneration, circulation, and provides immediate noticeable brightening and smoothing of the skin.

**Extracellular fluid** – Fluid found outside the cell, i.e., blood, water.

**Extract** – Generally, but not necessarily, concentrated forms of natural substances obtained by treating crude materials with a solvent and then removing the solvent completely or partially from the preparation. Examples of extracts are fluid extracts (liquid), solid extracts, powdered extract (dry) tinctures and native.

**Exudate** – Fluid leaking out of a cell.

## F

---

**FCC** – Food chemical code. Publication listing standards for foods, supplements and additives employed by the food industry.

**FD&C** – Food, Drug and Cosmetics. Colorant approved for use in food, drugs and cosmetics.

**Fats** – Fats are glycerol esters (glycerides) of fatty acids that are semisolid or solid at room temperatures. They are generally produced from botanicals by expression and from animal materials by extractions or rendering.

**Fatty Acids** – Carboxylic acids obtained from natural sources, mostly from fats; both saturated and unsaturated. Saturated fatty acids are palmitic and stearic acids; unsaturated ones are oleic, linoleic and linoleic acids.

**Fibroblast** – Cell capable of synthesizing collagen and elastin.

**Fixative** – Materials that are usually high boiling and of high molecular weight, that retard evaporation of the more volatile components in perfume formulations.

**Fixed (fatty) oils** – Same as fats and differs only physically from fats in that they are generally liquids at room temperature.

**Fluid Extracts** – Prepared either from native extracts or solid extracts by adjusting the prescribed strength with alcohol and water or by direction extraction of the botanicals with alcohol-water mixtures.

**Folliculitis** – Inflammatory reaction in hair follicles. Lesions may be papules or pustules.

**Formula** – Ingredients that make up a product. Includes percentages of these ingredients, the procedure used to assemble these ingredients when manufacturing a product.

**Fragrance** – Aromatic blend of either (1) essential oils of natural origin; (2) essential oils of natural origin and synthetic fragrance materials; or (3) many component ingredients.

**Free Radical** – Unstable molecules with an impaired electron that becomes highly reactive when exposed to UV rays, excess heat, fatty foods, smoking, and harsh environmental elements. They permeate cell membranes causing destruction and contribute to aging and other diseases in the skin.

**Free Radical Scavengers** – Known as antioxidants, substances contain components that help defend the skin from free radical invasion. Antioxidants taken internal and/or applied topically are credited with reducing free radical damage, thus retarding the process of tissue destruction and aging.

**Fungi** – Plant-like organisms feeding on organic matter.

**Furfur** – Flaky scales of epidermis, especially bits of scurf that form on the scalp and comes off in white or grayish scales.

**Furuncle** – More commonly known as a boil. Caused by bacteria that enters the skin through the hair follicle. Subcutaneous abscess that fills with pus. A boil can be painful and should be treated by a physician.

## G

---

**Galvanic current** – direct current.

**Gelling agent** – Ingredient which thickens a product by coagulation to become more elastic, jelly-like or rigid.

**Glands** – Skin contains two types of duct glands that extract materials from the blood to different substances. Sudoriferous (sweat) glands secrete sweat. Sebaceous (oil) glands secrete sebum.

**Glossing Agent** – Ingredient which dispenses other ingredients evenly throughout a formula to produce an overall glossy appearance to the product.

**Glycosides** – Sugar containing compounds which on hydrolysis yield one or more sugars. Considered to be a very important group of natural products, are widely present in plants, and constitute major classes of drugs. Found in grape skin, alfalfa and licorice for example.

**Ground** – Large conducting body used as a common return for current relative zero electrical potential.

**Ground substance** – Extracellular material of the dermis, i.e., glycosaminoglycans.

**Gum Resin** – Resins occurring and mixed with gums. Usually contain small amounts of volatile oils and are sometimes referred to as oleogum resins.

## H

---

**HIV** – Abbreviation for human immunodeficiency virus.

**Hemophilia** – Hereditary disease transmitted by women and affecting men. An inherited disorder of blood coagulation characterized by a permanent tendency to hemorrhage, spontaneous or traumatic, due to a defect in the blood coagulating mechanism.

**Hepatic** – A term referring to the liver biliary secretions.

**Herpes** – Viral disease marked by groups of watery blisters on the skin or mucous membranes such as the mouth, lips, or genitals.

**High Frequency** – Alternating current.

**Holocrine Gland** – A gland that secretes its own cells; the sebaceous gland.

**Humectant** – Substance that preserves the moisture content in a product, especially in crèmes and lotions. Attracts moisture from many places, including the environment, the product it is in or from the skin.

**Hydrate** – To build or add moisture.

**Hydrocarbon** – Chain of carbon and hydrogen molecules linked together.

**Hydrolysis (Hydrolyzed)** – Process of making a complex substance into a simpler molecular structure by the uptake of water. Allows for greater penetration and better absorption by the skin.

**Hydroscopic** – Refers to an ingredient that has the ability to retain and absorb moisture.

**Hyperkeratinization** (hyperkeratosis, keratoderma) – Excessive development of horny structures (thickened skin) caused by lack of adequate exfoliation. Hyperkeratinization appears a dull, lifeless complexion, formation of comedones and pimples because it causes obstruction of the orifice, therefore, preventing sebum to freely reach the skin surface.

**Hyperkeratotic** – Excessively producing keratin, resulting in rough, hard skin.

**Hyperplasia** – Excessive growth of cells.

**Hyperproliferate** – To excessively reproduce cells as in psoriasis.

**Hypertrichosis** – Excessive abnormal growth of hair.

**Hypoesthesia** – Diminished sensitivity to stimulation. Reduced sensitivity to the touch.

**Hypoallergenic** – Products or ingredients less likely to cause an allergic reaction in people who are prone to allergies. Prior to making a “hypoallergenic” claim, a product must undergo a Repeat Insult Patch Test performed on a panel of no fewer than 200 human subjects, with positive results.

**Hypokeratinization** (hyperkeratosis) – Insufficient development of horny structures (thin skin).

## I

---

**Ichthyosis** – Congenital disorder of Keratinization characterized by dryness and fish-skin-like scaling. Often associated with other defects. Distinguishable genetically, clinically, microscopically, and by epidermal cell kinetics. Also called “alligator” or “fish skin.”

**Infusion** – Dilute aqueous extracts containing water-soluble ingredients of botanicals. Prepared by extracting the botanical with boiling water. An example is herbal tea.

**Inorganic** – Substances that are not hydrocarbons or their derivative. Usually minerals that do not have the structure or organization characteristic of living bodies.

**Intercellular space** – Space between the cells.

**Interstitial fluid** – Fluid spaces between cells or structures.

**Intraepidermal** – Within the epidermis.

**Iontophoresis** – Delivery system which transfers medicaments by direct currents.

**Irritant** – Substance which consistently and predictably produces an adverse response such as reddening, swelling, itching, burning or blistering. Many irritants are harmless in small quantities, becoming harmful only in their pure form or in large percentages of the total formula. Irritants are not to be confused with allergies.

**Ischemia** – Lack of blood and oxygen.

**Isomer** – A chemically identical molecule with different structure. Each of two or more molecules that have the same number of atoms but have different chemical structures and therefore different properties.

## K

---

**Keloid** - Hyperplastic scar tissue. See Keloid.

**Keratin** - Fibrous protein that is part of the stratum corneum, hair and fingernails.

**Keratolytic** – Substances that contain the ability to loosen corneocyte adhesions between cells allowing for them to slough.

**Keratosis** (Keratiasis) – Any lesion of the epidermis marked by the presence of circumscribed overgrowths of the horny layer.

**Keratosis Pilaris** - Area of skin marked by overgrowth of horny tissue, center of which is formed by an entrapped hair.

**Keratosis Senile (senilis)** – Skin disease observed in elderly persons and complicating the atrophy of the skin. Characterized by dry brown spots, which gradually are covered by more or less thick overgrowth of horny tissue, under which the skin is irregular and bloody. Actinic keratosis.

## L

---

**Lamellar bodies** – Complex lipids that form part of the corneocyte barrier.

**Lentigo** – Small melanotic spot in which formation of pigment is unrelated to exposure to sunlight. Potentially malignant. Freckle.

**Leukocyte** – Infection fighting, white blood cell; basophils, neutrophils, monocytes, eosinophils are all leukocytes.

**Lipids** – Oily materials such as fats and waxes; not soluble in water. Provides an impermeable barrier protecting against invasion of foreign substances as well as acting against moisture loss.

**Lipolytic** – Capable of breaking down lipids.

**Liposomes** – Vesicle that forms when phospholipids hydrate in water; liposomes can be “loaded” with either oil-soluble or water-soluble ingredient and penetrates the skin quite easily to bring moisture, emollience and captured ingredients to the targeted site.

**Lubricant** – Oil, oil-rich cream or lotion designed to provide a slippery feel, sleek luster, and reduce tightness due to lack of surface oil to the skin. Although lubricants do slow moisture loss, this action should not be confused with building moisture.

**Lymph** – Clear fluid collected from the tissues of the body, flows through the lymphatic vessels, and is added to the venous circulation. Contains a clear fluid, some white and a few red blood cells.

## M

---

**Macrophage** - Phagocyte involved in many immune functions, one that is removing cellular debris.

**Macula (spot, macule)** – Anatomical structure having the form of a small discolored patch or spot, differentiated from surrounding tissues which disappears momentarily when pressure is applied.

**Malignant** – Severe form of an illness, usually resistant to treatment such as cancer.

**Mast Cell** – Cell which releases histamine, causing redness and swelling of a wound.

**Matte finish** – Even-toned, non-shiny surface quality.

**Melanin** – Coloring matter in the skin deposited in the stratum germinativum (lowest layer of the 5 layers in the epidermis). Pigment becomes activated within a melanocyte cell when exposed to ultraviolet B. Its intensity varies according to genetic traits.

**Melanocytes** – Cells that produce pigment granules scattered throughout the basal layer of the epidermis. Derived from nerve tissue and produce pigment granules passed on to the epidermal cells that synthesize keratin, giving the skin most of its color (melanin).

**Melanocytic nevus** (birthmark) – Circumscribed malformation of the skin, especially if colored by hyperpigmentation or increased vascularity. Melanocytic verrucous nevus: skin-colored or darker wart-like, often linear appearing at birth or early in childhood, and occurring in various sizes and locations, single or multiple. Pigmented hair epidermal nevus; (Becker’s nevus). Pigmented hairy epidermal nevus; a nevus first seen as an irregular pigmentation of the shoulders, upper chest, or scapular area, gradually enlarging irregularly and becoming thickened and hairy.

**Melanogenesis** – Creation of melanin.

**Metabolism** – Chemical process with the body which break down substances (fat, glucose) into smaller components to release energy, used to build other substances (such as protein).

**Miconazole** – Antifungal agent.

**Milium** (milia) – Small whitish pearl-like (tuberculum sebaceum) mass due to retention of dead, keratinized cells and sebaceous matter trapped beneath the epidermis; a whitehead.

**Mineral** – Inorganic substance occurs in its natural state; usually salts and oxides considered essential for humans.

**Mitochondria** – Organelle in nucleus of cell responsible for energy production.

**Mitosis** – Process of dividing cells.

**Moisturizer** – Any product or ingredient which builds the skin's moisture level by either retarding water evaporation or adding moisture.

**Molecular Weight** – Indicative of the size of the chemical compound.

**Molluscum pendulum** – Fibrous and flabby tumor of the skin. Protuberance may be flat or spread, depressed to the touch, protruding or even pedicellated. Size may vary from a pinhead to an orange or more.

**Monocyte** – Macrophage in the blood stream.

**Mucopolysaccharides** – Complex of protein and polysaccharides. Blood substances are mucopolysaccharides (glycosaminoglycans).

**Mycosis** – Disease caused by fungus or yeast.

## N

---

**NDC – National Drug Code.** The number code assigned to each manufacturer and/or packer of drugs.

**NF – National Formulary.** Book that lists the standards of purity as well as assay methods for ingredients used by pharmacists to prepare salves, ointments and lotion.

**Natural** – Substances that occur in their unprocessed form. In cosmetics, the term refers to products made from ingredients derived from natural materials that are usually organic in nature.

**Neoplasia** – Growth of new cells.

**Neuritis** – Inflammation of a nerve associated with neuralgia, hyperesthesia, anesthesia, paresthesia, paralysis, muscular atrophy in the region supplied by the affected nerve, and with absence of reflexes.

**Neuron** – Nerve cell.

**Nodules** – Small mass of rounded or irregular shape. Small, circumscribed solid elevation that usually extends into the deep layers of the skin.

**Non-sensitive** – Reduce sensitivity to the environment or other ingredients.

**Nucleus** – Oval or rounded part of a cell (distinct from the cytoplasm) contains organelles and divides to reproduce the cell. Contains DNA and RNA.

**Nutrient** – Substance such as a vitamin, provides elements for the ongoing functioning of the body's metabolic process.

## O

---

**OTC – Over-the-counter drugs.** Non-prescription drug subject to FDA regulations and must be manufactured, packaged and distributed according to Federal Law.

**Occlusive** – Materials such as oils and waxes which cannot be penetrated by water. Occlusive shield or film that is spread onto the skin to slow or prevent moisture from evaporating.

**Ohm** – Measure of electrical resistance.

**Opacifying System** – To make opaque or non-clear. Example would be pearlizing in a cleanser.

**Opaque** – Opposite of transparent, dense coverage, however, light is allowed to penetrate.

**Organelle** – body within the cytoplasm of a cell with a specialized function.

**Organic** – Substances that are or have been alive and contain carbon molecules in their chemical structure.

**Osteoarthritis** – Degenerative joint disease, chiefly of the knee and hip, mainly affecting weight-bearing joints in older persons.

**Otitis** – Inflammation of the ear.

**Oxidation** – Chemical reaction in which a molecule gains an atom of oxygen.

## P

---

**pH** – Directly defined as power of the hydrogen molecule. Amount of hydrogen present in a substance determines the acid or alkaline level of a product. In the skin it is the pH of the acid mantle (the protective fluid made up of perspiration, oils and other debris lying over the horny layer) considered important in the health of the skin. pH at the skin's surface is normally between 4.5-6.5.

**Papillary Varis** – Referred to capillary hemangioma simplex or nevus vascularis. Small, pearl-like angioma, the size of a needle head or slightly larger, seemingly embedded in the dermis.

**Papule** – Small, circumscribed, solid elevation on the skin involving predominantly the epidermis or the dermis, depending on the type of pathological process. If may contain trapped sebum and bacteria that causes tissue swelling and inflammation due to prolonged follicular congestion.

**Papulopustules** – Small, semi-solid skin elevation which rapidly evolves into a pustule.

**Pathogenicity** – Condition of being able to cause disease.

**Permanently Approved Color** – Color used in cosmetics with the approval of the FDA whose safety has been proven through the investigation by a committee of the CTFA.

**Permeable** – Allowing substances to flow into or out of such as fluid substances moving in and out of the cell membrane through a process called "osmosis."

**Phaeomelanin** – Yellow pigment similar to melanin, but containing cysteine.

**Phospholipid** – Lipid containing phosphorus.

**Phlyctena** – Blister, bulla, vesicle, vesicular. Swelling of the epidermis filled with transparent serous fluid such as after severe sunburn or first degree burn.

**Photodamage** – Harmful effects of the sun resulting in thickening of the skin, roughness and/or hyperpigmentation.

**Photosynthesize** – To make sensitive to ultraviolet light. Fragrances primarily of the citrus family are known photosynthesizes. Many antibiotics and hormones may cause photosensitivity. Reactions appear as a reddening to dark spots on exposed skin.

**Phyto** – Pertaining to plants. Phytotherapy is plant therapy. Phyto oils are plant oils. Phytoestrogens are plant components that tend to mimic human estrogenic characteristics in the cells.

**Pigment** – coloring agent in skin or hair.

**Pigmentary spots** – Coloration either normal or pathologic, resulting from a deposit of pigment.

**Pilosebaceous apparatus** – consists of the hair, follicle, and sebaceous duct gland.

**Pimples** – When follicles become filled with oil, dead cells and bacteria swell and ruptures through the wall follicle escaping into the dermis. The debris is irritating and causes inflammation. White blood cells rush to fight against the bacteria and create “pus,” a yellowish secretion.

**Pituitary gland** – The “master gland” located at the base of the brain; controls much of the hormonal activity of the body.

**Pityriasis** – Patchy hypopigmentation resulting from mild dermatitis. Non-inflammatory desquamation, furfuraceous, of the horny layer.

**Pityriasis versicolor (tinea)** – Eruption of tan or brown patches on the trunk, often appearing white, in contrast with hyperpigmented skin after exposure to strong ultra violet rays.

**Polarity** – Property of having two opposite poles; possession of opposite characteristics.

**Polymers** – Substance of a chain of identical units, such as a chain of glucose molecules. Highly efficient delivery system of lubricants and protectants to the skin.

**Preservative** - Ingredients which keep dangerous organisms such as bacteria, fungi, yeast and mold from growing in products.

**Proliferation** – Growth and reproduction.

**Protective film** – Film made up of ingredients which cling to the skin’s surface to protect it from harsh or threatening environmental influences.

**Proteoglycan** – Component of ground substance.

**Provisionally Approved Color** – Color used in cosmetics with approval of the FDA pending an investigation of its safety in cosmetics by a committee of the CTFA.

**Pruritus** – Itching, may be associated with prickly heat. Intense itching produced by brief contact with water at any temperature; associated with local release of acetylcholine, mast-cell degranulation, and raised histamine concentrations. Itching may be produced by inadequate rinsing off of soap or by over drying of skin from excessive bathing. May be a result of aging.

**Psoriasis** – Condition characterized by the eruption of circumscribed, discrete and confluent, reddish, silvery-scaled maculopapules normally occurring on the elbows, knees, scalp and trunk.

**Pumice** – Porous, lightweight, abrasive volcanic stone used to soften and polish hard, tough, or calloused skin.

**Pus** – Fluid product of inflammation, containing dead white blood cells and other debris.

**Pustule** – Small circumscribed elevation of skin containing pus and having an inflamed base.

## Q

---

**Quantum** – Smallest unit of energy.

## R

---

**RNA** – Ribonucleic acid found in the cell’s nucleic material is responsible for working with the DNA.

**Regenerative** – Recreation of living material or a renewed functioning. Term used to describe the word “healing” when used in description of an ingredient used in a skin care product.

**Regime** – Daily routine in the application of skin care products.

**Reticular dermis** – Layer of the dermis composed of a fine network of cells that make up connective tissue and fibers between the cells.

**Retinoids** – See Vitamin A

**Retinyl Palmitate** – See Vitamin A



**Rhinophyma** – Hypertrophy of the nose with follicular dilation, resulting from hyperplasia of sebaceous glands with fibrosis and increased vascularity. Also referred to as hypertrophic rosacea.

**Ribosome** – Structure found on the rough endoplasmic reticulum that assist in the synthesis of protein in the cell.

**Rosacea** – Also called “acne rosacea,” rosacea is a chronic inflammation of the skin that causes painful eruptions, usually around the cheek, nose, and at times around the chin area. Characterized by redness, dilation of the blood vessels, and the formation of the papules and pustules. Over time, the skin becomes coarse and the pores enlarged. May be caused by genetic traits, poor digestion and the Demodex mite. Heat, alcohol, extreme temperatures, faulty elimination, hyperacidity, and highly seasoned foods tend to trigger flares.

## S

---

**SD Alcohol (SDA)** – Specially denatured alcohol. Ethyl alcohol made non-drinkable by adding unpleasant substances.

**SPF** – Sun Protection Factor. Numerical rating on sunscreen and sun blocks that indicate the level of protection from UV radiation.

**Scars** – Fibrous tissue replacing normal tissue destroyed by injury or disease.

**Sebaceous Cyst** – Pilar or trichilemmal cyst; common cyst of the skin and subcutis containing sebum and keratin, lined by pale, staining, stratified epithelial cells derived from the pilosebaceous apparatus.

**Sebaceous Hyperplasia** - a disorder of the **sebaceous** glands in which they become enlarged. These glands are located within the skin and are responsible for secreting an oily substance named sebum. They are commonly associated with hair follicles but they can be found in hairless regions of the skin as well.

**Seborrhea** – Excessive sebum secretion where skin becomes rapidly oily and shiny with 1-2 hours after cleansing. May also be a result of hyperkeratinization.

**Sebum** – Semi-liquid oil secreted by the sebaceous apparatus that flows to the skin’s surface.

**Secretions** – Production by a cell or aggregation of cells (a gland) of a physiologically useful substance and its introduction into the body by direct diffusion or by a duct.

**Senile Lentigo** – Liver spot; a variably pigmented lentigo occurring on exposed skin of older Caucasians.

**Sensitizer** – Ingredient that causes the skin to become sensitive to other ingredients or the environment. It also refers to an ingredient that causes the skin to produce an adverse physical reaction such as redness, swelling, blistering or itching.

**Sequestrant** – Ingredient that releases itself or other ingredients slowly into a product over a period of time. Usually refers to preservatives that have a “time-release” action in maintaining the color, consistency and fragrance.

**Sinusitis** – Inflammation of a sinus of the skull.

**Sloughing** – Shedding of an outer layer of hornified tissue from a living structure such as the skin.

**Soluble** – Ability to dissolve into, or being compatible with another substance.

**Soothing** – Calming ingredient. Reduces the discomfort of irritated, blemished, burning skin.

**Spasm** – Involuntary muscular contraction; if painful, usually referred to as a cramp; if violent, a convulsion. Muscle spasm: increased muscular tension and shortness that cannot be released voluntarily and prevents lengthening of the muscles involved. Spasm is due to painful stimuli to the lower motor neuron.

**Sphingolipid** – Lipid containing a long chain base.

**Spider vein** – Arterial spider angioma generally found on the face and legs; a red spot producing telangiectasia.

**Squama** – Structure resembling a scale. An epidemic scale made up of thin flat cells.

**Stabilizer** – An ingredient that makes a product stable, keeping it from losing its viscosity, separating or becoming rancid.

**Steatoma** – Sebaceous cyst. Subcutaneous tumor of the sebaceous gland in which the contents consist of sebum. Steatoma usually occurs on the scalp, neck and back.

**Steroid** – A large family of chemical substances comprising many hormones, vitamins, body constituents and drugs.

**Sterol** – A steroid.

**Stimulant** – An ingredient, usually and herb or vitamin, which quickens or increases body activities such as blood flow, waste removal, cell reproduction or metabolic functions.

**Stratum corneum** – Flat, cornified (keratinized) skin cells that form a protective outer layer. Also known as the horny layer.

**Stretch marks** – Bands of thin wrinkled skin, initially red but becoming purple and white, occur commonly on the abdomen, buttocks, and thighs at puberty and/or during and following pregnancy. Result from atrophy of the dermis and overextension of the skin.

**Subcutaneous** – Below the skin.

**Substantive** – Refers to the ability of an ingredient to be retained in the hair of the skin.

**Substrate** – Substance an enzyme acts upon.

**Sudoriferous (sweat) glands** – Tube-like structures (duct) that ends at the skin surface to form the sweat pore. Almost all parts of the body have sweat glands. They regulate body temperature and help eliminate waste products. Controlled by the nervous system.

**Sunscreen** – Preparation that blocks harmful, burning sunrays.

**Surfactant** – Abbreviation of the term “surface-active” agent. Wetting agent that reduces the surface tension of oils, grease and other substances allowing them to be broken up into smaller particles to facilitate cleansing and promote easier spreadability and penetration.

**Synthetic** – Material formed by combining simple element structure. Most parent elements used to manufacture synthetic cosmetic ingredients are of natural origin.

## T

---

**T-Zone** – T-shaped area of the face formed by the forehead, nose and chin. These areas tend to be oilier than other parts of the face.

**Tactily** – Using the fingertips.

**Telangiectasia** – Dilation of previously existing small or terminal vessels. Lesion formed by a dilated capillary or terminal artery, most commonly on the skin.

**Telomere** – Before a cell divides, it copies its chromosomes to give each new cell a complete set. In most cells, however, this process does not include the long spirals of DNA called telomeres, which protect the ends of every chromosome. Telomeres get shorter with each cell division. Some scientists believe they are so short that the cell can no longer divide and becomes vulnerable to damage and decay.

**Texture** – Ingredients or product which dramatically and noticeably smoothes and softens the skin's surface.

**Thickener** – Ingredient that increases viscosity of a product.

**Thickness of the skin** – Varies from one geographical cultural region and from one individual to the other. Essential to differentiate thickness of the epidermis and thickness of the skin, which refers to the epidermis, dermis and hypodermis. Minimal thickness of the epidermis at the eyelid level is of 0.04mm maximal thickness of palms and soles = 1.5mm. Average thickness varies from 0.006 to 1 mm.

**Thrombosis** – Formation or presence of a thrombus; clotting within a blood vessel that may cause infraction of tissues supplied by the vessel.

**Tincture** - Slight infusion of alcohol and water.

**Toning** – Restoring color and tone to the skin.

**Toxic** – Poisonous.

**Tuberculosis** – Highly variable communicable disease caused by the presence of *Mycobacterium tuberculosis* and characterized by toxic symptoms or allergic manifestations which primarily affect the lungs.

## U

---

**U.S.P.** – The United States Pharmacopoeia. A book of standards for purity, formulas and chemical assay methods of actual drugs.

**Ulcers** – Lesion on the surface of the skin or a mucous surface, caused by superficial loss of tissue, usually with inflammation. A wound with superficial loss of tissue from trauma is not primarily an ulcer, but may become ulcerated if infection occurs.

**Ultraviolet** – Range of light wavelengths between violet radiation in the visible spectrum and the invisible x-ray spectrum. Such rays can be harmful to the skin.

## V

---

**Vacuole** – Cavity in the cytoplasm of a cell which may act as a stomach.

**Varicose veins** – Varix, varicosis. Dilated vein, enlarged and painful vein, artery, or lymphatic vessel.

**Vascular** – Pertaining to, or containing, blood vessels.

**Vasoconstriction** – Constriction, or shrinking in diameter, of blood vessels.

**Vesicle** – Small abnormal elevation of the outer layer of skin enclosing a serous liquid; a blister or bulla.

**Violaceous** – Purplish discoloration of the skin.

**Virulent** – Poisonous.

**Viscosity** – Thickness or thinness of a fluid.

**Vitamin A** - a bi-polar molecule formed with bi-polar covalent bonds between carbon and hydrogen, is linked to a family of similarly shaped molecules, the **retinoids**, which complete the remainder of the **vitamin** sequence. Its important part is the **retinyl** group, which can be found in several forms. In foods of animal origin, the major form of vitamin A is an ester, primarily **retinyl palmitate**, which is converted to an alcohol (retinol) in the small intestine. Vitamin A can also exist as an aldehyde (retinal), or as an acid (retinoic acid). Precursors to the vitamin (provitamins) are present in foods of plant origin as some of the members of the carotenoid family of compounds. The **retinoids** are a class of chemical compounds that are related chemically to **vitamin A**.

**Retinoids** are used in medicine, primarily due to the way they regulate epithelial cell growth. **Retinoids** have many important and diverse functions throughout the body including roles in vision, regulation of cell proliferation and differentiation, growth of bone tissue, immune function, and activation of tumor suppressor genes

**Vitiligo** – Leukasmus; acquired leukoderma; the appearance of otherwise normal skin of non-pigmented white patches of varied sized, often symmetrically distributed and usually bordered by hyperpigmented areas.

**Volt** – Measure of electrical pressure.

## W

---

**Water-resistant** – Repelling moisture or water; not readily removed by water.

**Water-soluble** – Quality of dissolving in water; easily removed with water.

**Wetting agent** – Water-soluble ingredient which lowers the tension between a product and the skin making spreadability easier and increasing ability for penetration.

**Wood's Light** – Ultraviolet lamp used for skin diagnosis (320nm-400nm).

**X**

---

**Xanthoma** – Disorder of cholesterol metabolism characterized by the forming of yellow patches on the skin.

## PHARMACY

### Acne Medications

I. **RETINOIDS** – designed to regulate skin cell turnover, slough the skin and prevent formation of the microcomedone.

1. **Accutane – Isotretinoin (12-*cis*-retinoic acid)**
  - a. Sebum suppression – shrinks the oil glands.
  - b. Comedolytic effects – Decreases the amount of skin cells that may be shed into the follicle, thus preventing the microcomedo. Existing comedones are loosened and expressed.
  - c. Anti-inflammatory properties.

**COURSE OF TREATMENT – 20 weeks.** Side effects may occur and include the following:

- a. Dry skin and mucous membranes
- b. Cracked lips
- c. Muscle and joint aches
- d. Flu-like symptoms
- e. Photosensitivity
- f. Possible changes in mood
- g. Rarely, Pseudotumor Cerebri-benign intracranial hypertension that causes H/A's, impaired or blurred vision, paresthesia (numbness), and drowsiness.

### LABORATORY MONITORING FOR ACCUTANE

- a. Pregnancy testing – Accutane is highly teratogenic (severe fetal abnormalities). Therefore, patients must be on two forms of birth control.
- b. Triglycerides-elevation occurs in 25% of patients.
- c. Liver enzymes – mild to moderate elevations can occur.

### 2. **Avita - 0.025% gel, cream**

A tretinoin in a relatively mild concentration and a cosmetically elegant base. Causes mild redness and peeling.

### 3. **Differin - 0.1% gel, cream, or solution.**

Most mild of the retinoids with the least amount of irritation. Can cause mild redness and peeling.

### 4. **Retin-A <sup>TM</sup>Micro – 0.04%, 0.1%.**

Initially, only the 0.1% was available. While this was suitable for many oily skinned acne patients, many could not tolerate it due to irritation. Consequently, Ortho-Neutrogena developed Retin-A Micro 0.04%. This formulation is stronger than Differin yet tolerated better by many acne patients. May cause mild redness and peeling.

### 5. **Renova, 0.02%, 0.5%**

Active ingredient: tretinoin.

Designed for facial rejuvenation, specifically to reduce fine lines and wrinkles. Studies were done at 24 weeks, so patients need to understand that the medication takes time to work.

II. **BENZOYL PEROXIDE (BP)** – Decreases P. acnes in the follicle.

**Contraindications:** Approximately 10% of individuals have sensitivity to BP. Drying may occur in some individuals. It is normally applied in the morning unless otherwise directed. BP's can stain clothing.

1. **Benzac AC** wash and gel, 5% and 10%. Washes are typically used for back acne and appropriate for the shower. Gel is used for facial acne.
  2. **Brevoxyl**, 4% and 8% cleanser, gel. Description as above.
  3. **Triaz, 3%, 6% and 9%** cleansing gel. Contains 3% zinc making it appropriate for more sensitive skin.
1. **BENZOYL PEROXIDE/ANTIBIOTIC COMBINATIONS**
    - a. **Benzamycin gel pack** - Benzoyl peroxide + Clindamycin. Appropriate for back acne and patients who play sports. Presentation: individual packs.
    - b. **Benzaclin** – Benzoyl peroxide + Clindamycin. Combination product for facial acne.
    - c. **Duac Gel** – same as above

### III. ANTIBIOTICS

1. **Aknemycin** 2% cream. This is topical erythromycin. Pregnancy category B.
2. **Azalex** cream, 20% azaleic acid. Antibacterial and mildly keratolytic.
3. **Finevin** cream, 20% azaleic acid (same as above but considered a generic form)
4. **Clindagel**. Topical clindamycin. Excessive amount of clindamycin topically, but usually orally, can cause severe diarrhea.
5. **Cleocin T** gel, lotion, and solution. Same as above but available for both oily and dry skin.
6. **Emgel**. Topical erythromycin. Pregnancy category B.
7. **Klaron Lotion**. Topical Sodium Sulfacetamide. Used for acne patients with sensitive skin. Avoid use if patient has sulfa sensitivity.

### ROSACEA

1. **Avar**, cleanser, gel and green. Topical Sodium Sulfacetamide and Sulfur. The green helps to cover redness.
2. **Finacea**, Azaleic Acid, 15% gel in aqueous base.
3. **MetroGel** – Lotion and cream. Topical metronidazole and antibiotic. Three forms depending on how dry or oily the patient is.
4. **Nicosyn** cream. Topical Sodium Sulfacetamide and Sulfur. Good for both rosacea and acne patients. Avoid if there is sensitivity to sulfa.
5. **Plexion** topical suspension, cleanser, and short contact (SCT). Topical Sodium Sulfacetamide and Sulfur. Good for acne and rosacea. SCT is a mask that is left on for 5 minutes in AM and washed off – helps control oil.
6. **Rosula** Lotion. Topical Sodium Sulfacetamide, 10% urea. Gentle for rosacea patients. The urea acts as a mild keratolytic while hydrating the skin.
7. **Rosanil**. Sodium Sulfacetamide cleanser for rosacea patients.

### ORAL ANTIBIOTICS FOR ACNE AND ROSACEA

Directed towards acne and rosacea for the presence of pustules and papules. For acne, the choice is directed at medication that destroys gram-positive organisms.

### Macrolide Family

1. **Erythromycin (Ery-tab).**

Pregnancy Category B.

Has the highest antibiotic resistance and is therefore not the first drug choice in many cases. Causes stomach upset.

### Sulfonamide Family

1. **Bactrim** – Caution in persons with history of hepatic or renal dysfunction. Blood monitoring is required.

2. **Septra** – Same as above

### Tetracycline Family

Pregnancy category D. Can permanently stain teeth of unborn fetus. Not to be used in children if they do not have their 12-year old molars for same reason.

1. **Doxycycline (Doryx, Adoxa, Monodox, Vibramycin)** – Can cause extreme photosensitivity when dosed twice daily. Sunscreen is a must.

2. **Minocycline (Dynacin, Minocin)** – A lipophilic tetracycline, it has better penetration into the lipid-rich sebaceous follicle. Can cause Minocin dyspigmentation, which is a slate-blue color that appears in scars, on mucous membranes, and teeth. Can have central nervous system side effects such as dizziness. Rare instances of a lupus-like syndrome have been known to occur.

3. **Tetracycline (Sumycin)** – Take on empty stomach using no milk products. Can cause stomach upset.