

skin



TOP TEN ingredients

WHAT'S HOT AND CUTTING- EDGE

BABY BOOMERS have changed the demographics of our nation over the last 20 years and redefined the public's general expectations of skin care professionals. This demographic is focused on the reduction and prevention of aging. Cosmetic chemists have happily obliged and concentrated their research and development on anti-aging formulations. As a result, the overall landscape of our industry has changed.

However, this does not mean that chemists are setting aside the tried-and-true ingredients estheticians are accustomed to working with. We live in exciting times. Along with our current arsenal, ingredients are being discovered every month. The following includes a list of the 10 most exciting ingredients and categories of ingredients available to us through professional products. >

by Sam Dhatt

1. Tried-and-true ingredients

We can't have a top-10 list without mentioning the good things we already use. Most of these ingredients work synergistically. Examples of these past and present "hero" ingredients include hyaluronic acid, a synthetically derived humectant that has not been surpassed in its hydrating effects on the skin; vitamin C, a wonderful lightener, collagen stimulator, and antioxidant; and, of course, alpha hydroxy acids, the looked-to ingredients for anti-aging—to name a few ... there are many more for this No. 1 spot, but let's concentrate on the emerging chemistry that's worth talking about.

What follows is a list and discussion of the new ingredients that are *the* "discoveries" of this year. The new ingredients range from the mundane (a new SPF), to the "king of the next generation" ingredient, on to the "facelift without surgery" ingredient.

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2. Zinc

Yes, this ingredient has been around for centuries, but there are three reasons this taken-for-granted metal has become more used and respected. First, new technology (nanotechnology) will support zinc's firm grip on sun protection factor (SPF). Second, zinc has healing capabilities. And third, it no longer leaves a white ashiness on the skin after application because of new micronized formulations.

The newest zinc ingredient on the market, ZinClear, can be formulated into a lotion that appears totally clear on the skin. Also, ZinClear has now made it possible for zinc SPFs to be monographed at 30, which provides skin with maximum protection under the sun. Formerly, when a client used exfoliants or acne care, estheticians recommended SPF 30 for maximum protection, and that meant a chemical SPF (e.g., Parsol 1789, etc.). Those products could produce a stinging sensation and even allergic reactions. Though zinc SPF products did not produce these side effects, in order for the products to meet a 30 monograph, chemical SPF ingredients had to be added to bring them to that level of protection, which could produce the same irritating effect. Now, with ZinClear the addition of chemicals is not required, as formulas made with ZinClear can stand alone as SPF-30 products.

3. Photosomes

Photosomes are plankton extracts. Plankton, which is exposed to extreme ultraviolet rays, has developed a natural mechanism, through the work of an enzyme, to use the energy from sunlight for photosynthesis in order to repair ultraviolet damage. Encapsulated in specially engineered liposomes, photosomes, when exposed to light, help reverse ultraviolet-induced skin damage. Photosomes are used in sun care products such as sunscreens and moisturizers.

4. Antioxidants

No top-10 list would be complete without an antioxidants category. There are many to talk about, but basically, they are our skin's defense against free-radical activity. Studies now show that topical antioxidants fight free radicals in skin. Many antioxidants—such as vitamins A and E, green tea, and the many forms of *vita-continues*



Emblica is an extremely efficient skin-lightening agent, documented with a high safety index for use in skin care products.

min C—have been routinely used in studies. In fact, Saty C 50 is a new, highly promising form of vitamin C in development for topical formulations. It is a form of sodium ascorbyl phosphate, a stable form of vitamin C, and is a provitamin that becomes biologically active after releasing the phosphate on the skin. Watch for more information on this new vitamin C ingredient. However, the real newsmakers are alpha lipoic acid, idebenone and natural olive leaf extract.

5. Alpha lipoic acid

The recent buzz about alpha lipoic acid as a super antioxidant is still loud. It is a powerful skin repairer. It is called the “universal antioxidant” because it fights free radicals on the outside and inside of the skin cell membrane, as well inside the cell. Even better, once it crosses the membrane, it is broken down into dihydrolipoic acid (DHA), an even more potent, free-radical neutralizer. It can also scavenge free radicals in either its oxidized or reduced state, allowing it to offer free-radical protection much longer than other com-

pounds. It is both lipid- and water-soluble, which makes it more readily absorbed, able to penetrate the cell walls and make physiological changes. ALA can also regenerate oxidized (used) vitamins C and E, coenzyme Q10 and glutathione for another round of efforts. A powerful anti-inflammatory, it provides a wonderfully soothing effect to the skin. With consistent use, it refines the appearance of the skin, reduces the appearance of large pores and visibly improves skin texture.

6. Idebenone

This ingredient is said to be the “king of the next generation of antioxidants,” and to have a capability to both repair and protect the skin from sun damage. It is chemically related to coenzyme Q10 (ubiquinone), a powerful antioxidant effectively used in anti-aging formulations. But idebenone is said to have better penetrative qualities. It helps stabilize cell membranes and brings more oxygen into the cells, which generates healthy cell renewal and protects fat molecules from becoming oxidized or infused with free radicals. Idebenone neutralizes free radicals, which makes it an ideal antioxidant. It’s a cellular “bodyguard,” and works to protect cells from the ravages of free radicals, which allows the production of healthier cells. It is also said to be a good humectant, holding water onto the skin, to hydrate and soften. Perfected by Allergan, look to see this ingredient in many products that formerly had coenzyme Q10 in them.

7. Natural olive leaf extract

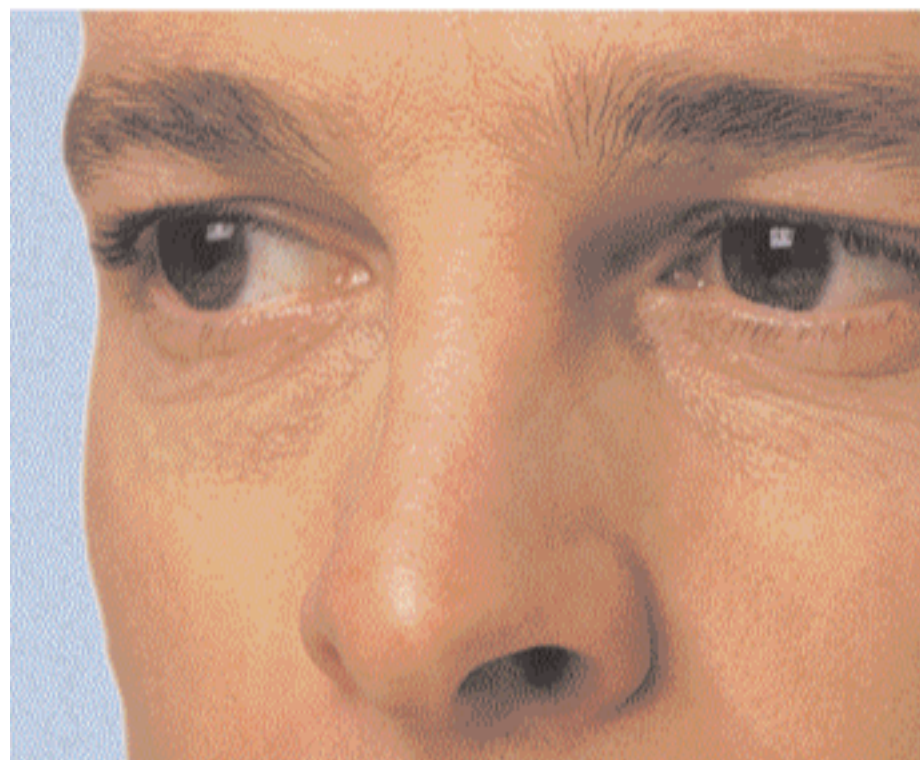
For centuries, there’s been ongoing research on chemical substances in the olive tree, leaves, fruit and oil, with olive leaves being the most studied, recently. Tests have shown that natural olive leaf extract protects the lipids in cell walls from oxidation. Also, a study on the extract showed a dramatic increase in skin elasticity—63 percent on the forehead, and 81 percent on the cheek. This ingredient is new, but it will be seen in the latest formulations in industry products.

8. Emblica

This multifaceted ingredient is an antioxidant isolated from *Phyllanthus emblica*, an edible fruit that is a key treatment plant in Ayurvedic medicine. Emblica is also an extremely efficient

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skin-lightening agent, documented with a high safety index for use in skin care products. It is clinically proven to increase skin hydration and lipid production, reduce inflammation, improve skin tone, increase glycosaminoglycans (GAGs), and decrease collagenase, which makes it an excellent ingredient in anti-aging products.

Because of emblica's wide range of benefits and its lack of side effects, many skin care lines use it to replace hydroquinone, a good skin bleach, but one with precancerous side effects. (The FDA will soon require that hydroquinone products have special labeling to disclose its potential side effects.) People who overuse

hydroquinone have also suffered from other serious side effects.

Conversely, because of its antioxidant properties, emblica supports therapeutic care after resurfacing, acne and peel treatments. In addition, emblica prevents and treats hyperpigmentation as it suppresses melanocyte activity. It is also much more stable than hydroquinone in products, and many see its natural source as a benefit.

9. Peptides

Peptides have brought anti-aging to a new level of care in both the skin care room and in home care. Sederma brought its peptide study (and patent) to the 2002 International Academy of Dermatology meeting in Paris, France, and the peptide discussion and releases have not stopped since then.

An in-the-know esthetician is aware that collagen cannot penetrate the epidermis; placing collagen on the surface of the skin in any form allows it only to act as a barrier, a treatment activity of benefit, but only in hydration. Collagen masks and lotions do not support the development of new collagen and elastin (protein) in the dermis.

Now, there are penetrable proteins. Peptide technology has reengineered protein so that it can penetrate the skin, clinical studies show. Peptides are molecules made from smaller protein molecules called amino acids. When these small amino acids build up and bond together to form a penetrable chain, a peptide is created.

Chemists synthesize these chains to perform specific functions in skin care products. Therefore, when a product contains peptides, the protein has been synthesized to its most useable form—shorter chain amino acids, which are more available to build up and repair the skin.

Palmitoyl pentapeptide-3: Also known as Matrixyl, it is an amazing anti-aging peptide ingredient and was the one introduced at the 2002 IAD meeting. According to presented research, this ingredient was proven to stimulate the development of new collagen, elastin and GAGs in the dermal layer of the skin as no other topical ingredient has. Matrixyl is a "pentapeptide," a combination of five amino acid peptides in a chain. It creates a healing and repair response in the dermis. It also stimulates

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the production of fibrectin and GAGs, important components of the dermal matrix. But Matrixyl is not a miracle, overnight treatment. It takes time and commitment, but will noticeably increase skin thickness and function, making skin younger and more healthy looking.

Estheticians must be up to date with the latest skin care ingredients. Doing so allows them to make educated choices in choosing the best product or treatment possible for their clients.

Acetyl hexapeptide-3: Also known as Argireline, it is another anti-aging peptide ingredient, developed by Lipotec, Barcelona, Spain. This is the ingredient companies use in products marketed as being similar to Botox. It is a six-amino-acid chain that works similar to Botox as it keeps the signal protein (catecholamine) from connecting to the cell to trigger a muscle contraction, but without the paralysis—the face is still capable of natural expressions and movement.

Palmitoyl tetrapeptide-3: Another peptide, it improves microcirculation, increasing the oxygen supply to tissues and strengthening and protecting the integrity of the collagen and elastin in the skin. It inhibits elastase and collagenase through this activity. Free radicals are minimized, as is the inflammation they cause, giving palmitoyl tetrapeptide-3 antioxidant properties. This results in a visible reduction of puffiness and dark circles around the eyes and a noticeable reduction in wrinkles and fine lines.

Palmitoyl tetrapeptide-3 is an active complex consisting of specially purified, biotechnologically produced soy and rice peptides, and yeast protein. It is primarily formulated into facial care products and anti-aging, anti-puffiness, and anti-dark circle creams and gels.

Peptides are the rage ingredients right now, and are beginning to move to their next generation of products. For example, they are being combined with other proven ingredients in resurfacing to make nonirritating treatments that produce the highest amount presently possible of regenerated collagen, elastin, fibroblasts, and GAGs in skin. The upshot? Client's can achieve a younger-than-ever result. Watch for these

great products for your use. They can make amazing changes on skin and will definitely add to any resurfacing protocol in skin care rooms or physicians' offices.

10. Dermox SRC

A highly effective complex ingredient, Dermox SRC is shown to control wrinkles as it naturally stimulates collagen synthesis. Vital skin cells are regenerated to their maximum capacity, with tests demonstrating an 85-percent increase in exfoliated cells, 84-percent increase in pro-collagen synthesis, 61-percent increase in elastin synthesis, and 85-percent increase in hyaluronic synthesis. The company that developed it is marketing it as a "facelift without surgery," a natural exfoliator and firmer. It is already in many products in the industry.

The Dermox SRC complex is a unique blend of the following ingredients: bamboo silica, which stimulates chondroblasts to produce chondroitin and hyaluronic acid, providing strength and resilience to collagen and elastin; pea extract, which contains amino acids and proteins for the production of collagen and elastin, and powerful antioxidants; and glucosamine, a natural exfoliator that activates dermal fibroblasts, which results in accelerated skin renewal and reduced wrinkles and lines.

Change is certain

Those of us who have been in the industry for more than the last decade have noted the huge changes in the efficacy of the ingredients in products. As a cosmetic chemist, I have been a witness to the magnificent, new, results-oriented ingredients available. It is important that estheticians stay current with these developments so that they can choose products that maintain the most available efficacy possible for the care of their clients. ■

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