

Pearl - A New Functional Ingredient?

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Papers have been written and studies have been conducted on the following subject but of late it has received more and more attention due to the importance of its potential anti-aging properties. Mankind has always been looking for ways to improve upon the appearance and beauty of women (and now men?) - and to extend the benefits of youth and vitality, and to reduce or eliminate the evidence of time and visual aging. This has been in practice since recorded history, by various cultures using natural ingredients available to them in normal every-day life, but most recently by cosmetic formulators and marketing professionals alike.

Today, efforts to achieve this have focused on cosmetic surgery, injections, implants, laser treatments, and other invasive medical procedures and potentially hazardous skin treatments. But for those people who want to avoid the scalpel or expensive and painful surgeries, procedures and treatments, the cosmetics industry is constantly developing more sophisticated age-defying creams, lotions and so-called miracle products. There are many different groupings of personal care and other treatment type products available to serve this purpose. Many use all-natural or organic ingredients, like fruit and plant extracts or even clays and mud. Many combine antioxidants, alpha-hydroxy or fruit acids, and essential oils in an attempt to offer wrinkle relief that mimic the painful and potentially dangerous side effects associated with Botox injections. Treatments such as Strivectin are an example of just such products.

Now, cosmetics manufacturers are seeking the Fountain of Youth or the Holy Grail in a somewhat surprising and unexpected source - pearl. Specifically, natural pearl essence or what we all know as mother-of-pearl, or nacre as it is also called. The use of natural ingredients has become increasingly important recently. Although I will not be writing about the visual effect normally associated with this pearl as would be expected, I will however be writing about the physical effects claimed to be offered by this pearl. This is a slightly different take on what we would expect from a pearl pigment.

The mother-of-pearl of a pearl-producing oyster, whether this natural nacre is found in pearls themselves or in the oyster's shell, contains the same essential amino acid complexes that heal and maintain the cells in the human body. Deficiency of any one of these key amino acids can cause skin to look coarse and wrinkled. Researchers who have worked to develop skin creams and other personal care products based on nacre claim that various components of pearl can stimulate the metabolic activities of the genetic material in a cell, the DNA, and thus can promote and accelerate cell renewal. This action involving the function of DNA is similar to a starfish losing one of its arms.

It has the ability to regenerate a new one to replace the one that was lost. These functions have been passed along to the cosmetics industry in the form of cosmetic ingredients for marketing and label claims, to say that a product can function the same way as in the real world simply because the product contains the same natural substances that serve this purpose. But all this is true only for natural pearl, not the synthetic pearls, or micas, that many cosmetic companies use for visual effects. These natural pearls were historically used in nail lacquer applications. Although somewhat expensive, the price markup on cosmetics

still makes them cost effective. But the research which looks for functional anti-aging ingredients moves on. It is one of the most important segments of the cosmetics industry.

Mother-of-pearl, or nacre, is produced by certain species of oyster to line the inside of their shells, preventing irritation from the rough outer shell and helping to protect against parasites. It is so named because when an irritant gets inside of a shell, the oyster protects itself by coating the irritant with the same material as its lining, creating a pearl. Mother-of-pearl is composed of alternating layers of conchiolin and calcium carbonate crystals in the form of aragonite. Conchiolin is one of a category of proteins called keratin; other types of keratin are major components of hair and skin.

Like most human tissue, nacre stores in its mineral-based organic structure a variety of molecules which have varied amounts of bioactivity. These molecules contain proteins and amino acids that have been proven to have substantive effects on the skin by reducing the appearance of lines and wrinkles, by firming, toning, and illuminating the appearance of the skin. Although still in continuing stages, the research moves forward on mother-of-pearl and its possible cosmetic applications. Effect pigment companies are always looking for the next generation of ingredients for cosmetics to provide new innovative functionality with their materials. This will no doubt be the major point of difference in the cosmetics and personal care industry. As well as having visual properties, it will have functional anti-aging properties as well.

Many cosmetic and personal care product companies, especially in the spa market which specialize in herbal remedies, combine hydrolyzed pearl powder with herbal ingredients like green tea, ginkgo, licorice, ginseng and other extracts, as well as vitamins A, C, and E which are used as antioxidants. This combination is used in creams, lotions treatment and personal care products intended to rejuvenate dull, dry skin; reduce the appearance of fine lines and wrinkles; smooth and firm skin; regulate discoloration and scarring; lighten the skin and remove blotchiness; and even reduce redness and blemishes. They have been added to fight and scavenge free radicals that have been linked to the aging process. But despite all the press, hooplah and marketing claims in the form of billions of advertising dollars, there's no proof that such cosmetics have anything other than a temporary effect on human skin.

It has been recently stated that antioxidants and other ingredients used in cosmetics serve a distinct purpose, but the levels of antioxidants and other ingredients must be clearly determined and defined in order for them to be effective. Mother-of-pearl may contain some of the same proteins and amino acids as human skin, but the two cannot come together and one entity, so any benefits that may come from adding it to the skin, such as firming of the cellular structure or stimulation of new growth, are likely to stop very soon after the product is not used any longer. None of this will stop the multi-billion dollar-plus global cosmetics industry from trying to market such claims. With additional testing and research, maybe one day pearls really will help us look and feel younger. But we shall certainly see.