

## **Understanding DHA use in Sunless Products The Story of DHA (Dihydroxyacetone)**

DHA was first used as an active ingredient during research on the treatment of diabetics, some of whom tolerated DHA better than glucose.

In 1957, the tanning properties of DHA were discovered in a children's hospital. DHA was administered orally as a treatment of a childhood glycogen storage disease. The doctor noticed that children that spit up some of the DHA mixture developed brown spots where the DHA splashed on the skin. The doctor experimented by rubbing the mixture on her own skin. She tanned as well. The first scientific papers on DHA were published in 1960. DHA's physicochemical properties, tanning mechanics and skin tolerance have been explored since these studies resulting in improved methods of application, and results that produce a more natural looking uniform tan. Present day production of DHA still relies on fermentation, as it did in the late 1800's.

### **The Browning Action**

When DHA is applied to the skin; a brown "tan" forms in about 2 to 3 hours. The tan continues to darken for approximately 6 hours. The result can be a quite pleasing dark tan. The tan is absolutely water-resistant and diminishes only as the dead cells of the stratum corneum flake off – usually in 4-5 days. Some people expect a tan to provide UV protection. However, unlike the melanin pigments, the DHA-derived polymers do not absorb significant amounts of UV light, and therefore, cannot protect against UVB radiation. However, a DHA tan can be considered a UVA sunscreen to some extent.

### **The FDA's position on DHA**

DHA is a food grade product and is approved for ingestion by the FDA. In fact the largest user of DHA in the world is the health supplement industry. Because DHA is a Pyruvite or fat burner, it is found in many weight loss products. DHA has also been approved for application in creams and lotions and has no known detrimental effects on the body when applied topically. It has been a common ingredient in most sunless tanning lotions for many years. DHA has not been specifically evaluated for use in spray-on tanning systems. However, this lack of evaluation should not be considered a negative statement of great concern. As a comparison, the ink used in permanent tattooing has never been evaluated for that use by the FDA either.

Norvell Sunless Spray Solutions contain no known toxins or allergens. However, as with ANY substance, repeated exposure to, or inhalation of, airborne matter may cause irritation or discomfort. Common sense tells us to recommend that people who will be using the product on a daily basis should wear some type of air filtering mask to reduce contact. Customers should be advised to hold their breath when the product is applied near the mouth or nostrils. Technicians need to remember to NOT spray directly into the slits of the eyes or advise clients to wear eye protection such as

VIEWkeepers® or WINK-EASE® ([www.eyepro.net](http://www.eyepro.net)). Customers should be advised to apply a lip balm prior to tanning to avoid application of DHA to the lips, as lips will not show a color benefit from the application of DHA.

## **MEDICAL CONCERNS ASSOCIATED WITH SPRAY TANNING**

### **Can a pregnant women be safely sprayed?**

Norvell Sunless Spay Solution is a non-toxic, food grade product. We have NOT received information from any medical authority that would indicate detrimental effects to an expectant mother and we have not heard of anyone be advised not to tan by their physician. However, as you would before using ANY product, on a expectant mother, we recommend each customer consult with their personal physician before receiving a DHA tan application.

### **Does DHA pose a risk to diabetics?**

We have received no feedback from any medical authority that would indicate a risk to a diabetic person. However, as mentioned above, common sense tells us anyone with any medical condition should consult with their physician before receiving a DHA tan application.

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