



Sunless Tanning Systems

The Safest, Fastest Way To A Deep Dark Tan!

Understanding The Science Behind Sunless Tanning

The first point that needs to be addressed is that a sunless tan and a natural tan only share one thing in common; they both fade for the same reason. The reason any tan fades is due to the natural exfoliation of the dead or "horny" layer of the skin. This is the outermost layer. Every day the body sheds dead skin cells and on average the human body regenerates an entirely new outer layer of skin every thirty to forty days. This is a gradual daily process and shares nothing in common with the way a snake sheds its skin. This is the reason that a sunless or natural tan only lasts for a short period of time without reapplying the sunless tanner or repeatedly exposing yourself to ultraviolet light sources.

A natural tan is produced by ultraviolet light that stimulates melanocytes into producing melanin. Melanin is responsible for our skin pigmentation and our ability to tan naturally. Melanin is produced and transferred to the outer layer of our skin. The various skin types from Albino to Negro all are based on the body's ability to produce melanin or lack thereof.

A sunless tan is produced by a chemical reaction between the keratin proteins in the horny layer of the skin and the self tanning agent Dihydroxyacetone (DHA). DHA is a monosaccharide (colorless sugar) derived from the refining of vegetable based glycerin produced from sugar cane or sugar beets. It has been approved by the FDA for use in topically applied cosmetic products for over thirty years. The interaction of keratin proteins and DHA to induce darkening of the skin is called the "Maillard" reaction. DHA reacts with these proteins over time, usually three to twelve hours to darken the skin. In describing this process to a customer while avoiding technical jargon the following analogy may be used. Describe what happens to an apple when it is cut in half and exposed to the air. It slowly turns brown in color over several hours. This is exactly what happens with sunless tanners.

Many sunless tanners of the day contain bronzers that are nothing more than a blend of FD & C dyes to produce a reddish brown color. Bronzers have nothing to do with tan. They are simply included to give initial gratification to the end user and do nothing to enhance the sunless tan. In fact, these dyes rub off on clothing and stain certain fabrics. In some cases they can be irritating to the skin and when used in hand applied products stain the palms unless gloves are used.

The longevity of a sunless or natural tan is based on lifestyle, skin condition, and the ability to follow a daily moisturizing regiment. Immersing the body in water for long periods of time, vigorous exercise causing perspiration, exposure to the elements and failure to hydrate the skin all accelerate the body's natural exfoliation process and drastically reduce a tan's longevity. For these reasons, results will vary from person to person.

In addition, different people will obtain different results from the same sunless tanning product. The reason lies in body chemistry. DHA is very sensitive to body pH levels. The more acidic the skin, (lower pH) the better the results will be from the reaction. This is why exfoliating the skin prior to applying sunless tanners is advised. The exfoliating process helps remove alkaline soap residues and dead skin cells that can directly affect results.