Artificial tanning (Sunless tan)

Artificial tanning (sunless tan):

- Artificial sun tanning preparation contain a substance called **dihydroxyacetone** in concentrations of 2.5 – 10%.
- This substance reacts with amino acids in horny layer of the epidermis. Within a few hours a suntan-like color appears in the skin which may last for three to five days
- The color resulting from this substance disappears gradually as the cells of the outer layers of the epidermis proceeds towards the surface of the skin and are shed naturally
- Dihydroxyacetone does not protect the skin from the sun's rays. So an effective sunscreen must be used during exposure to the sun

DHA

- DHA is a prodye
- About three to four hours a tan color begins to appear
- The reaction is complete in about 24 hours
- Areas of thicker skin react more with DHA so areas around fingernails, palms and soles react to produce a stronger color
- Apply the product with gloves
- DHA reacts with protein in the SC the outermost surface of the skin forming a brown color
- The color stays until the skin is sloughed off
- One problem with DHA tan is the odor during the development of the brown color
- The odor is a sign that tanning reaction is occurring
- This is the same reaction that causes carmelization of food such as sugar and the browning of the outside of breads

Erythrulose

- Erythrulose is a natural keto-sugar which **reacts with the amino acids of keratin in the epidermis of the skin to produce a brownish coloration**, similar to how DHA reacts
- Applied by itself, erythrulose takes longer to produce a tan, and the resulting tan fades quicker. The tan produced is also more red than brown in appearance. However, when combined with DHA, the tan reportedly lasts longer, fades better, and provides a more attractive tone. Erythrulose, however, has also been shown to increase production of free radicals similar to the effect seen with DHA

Precautions:

- Care should be taken to avoid wetting the body for about an hour after applying the preparation since this would prevent the appearance of artificial tan
- The preparation should not be allowed to get onto the scalp hair or the eyebrows since it may change the color of the hair
- The substance should be kept away from clothing since it may leave stains
- Before using the preparation it should be tried out first on a concealed area to check that there is no adverse reaction and to confirm that the skin color is the desired shade

Precautions:

- A thin, even layer of the preparation should be applied so as to avoid the appearance of uneven blotchy color of different shades
- The hands should be washed after using the preparation to avoid staining the palms
- A soap with basic pH should not be used to wash the body before applying the preparation since the resulting color will tend to be more yellow rather than the desired brown shade
- If a single application of the preparation does not produce a dark enough tan, it may be reapplied a few hours later

What does this mean for DHA spray "tanning" booths?

As noted above, the use of DHA in "tanning" booths as an all-over spray has not been approved by the FDA, since safety data to support this use has not been submitted to the Agency for review and evaluation, When using DHA-containing products as an all-over spray or mist in a commercial spray "tanning" booth, it may be difficult to avoid exposure in a manner for which DHA is not approved, including the area of the eyes, lips, or mucous membrane, or even internally.

Consequently, FDA advises asking the following questions when considering commercial facilities where DHA is applied by spraying or misting:

- Are consumers protected from exposure in the entire area of the eyes, in addition to the eyes themselves?
- Are consumers protected from exposure on the lips and all parts of the body covered by mucous membrane?
- Are consumers protected from internal exposure caused by inhaling or ingesting the product?

If the answer to any of these questions is "no," the consumer is not protected from the unapproved use of this color additive. Consumers should request measures to protect their eyes and mucous membranes and prevent inhalation.

Has FDA received reports of adverse reactions associated with sunless tanners?

FDA has received reports from consumers stating that they have experienced adverse events associated with sunless tanning, including rashes and, primarily in the case of spray tanning booths, coughing, dizziness, and fainting. It is uncertain what, if any, ingredient or combination of ingredients in the sunless tanning products might have caused these adverse events, whether an individual's allergic reaction might have played a part, or whether factors unrelated to the sunless tanning products may have been involved, such as pre-existing medical conditions.

Under the authority of the Fair Packaging and Labeling Act (FPLA), FDA requires ingredient declarations on cosmetics sold on a retail basis to consumers. In this way, consumers can know what ingredients are contained in the products they purchase and avoid ingredients to which they may be sensitive. However, the FPLA does not apply to products used exclusively by professionals, such as those used in spray tanning booths.

Accelerators: cosmetics that enhance tanning

- One method to enhance the tanning process is to alter the biophysical properties of the skin allowing more UV radiation to penetrate to the melanocyte layer of the epidermis
- Oils permit greater amounts of UV radiation to enter the skin
- They have SPF of less than 1
- Meaning that a burn develops faster in the presence of oil on the skin than in the absence of the oil on the skin. some lotions may have a similar effect

Tanning oils:

- These are oils that are applied to the skin
- The skin color achieved using these oils is no different from the normal color that result from exposure to the sun without these oils

Tanning oils:

Warnings

- They do not protect the skin from the sun. On the contrary, they may concentrate the sun's rays on those areas of skin covered with them and so lead to more sever damage from sun
- They may result in the appearance of :

- Miliaria
- Acne

Miliaria: results from obstruction of the sweat glands by the tanning oil

Acne: results from obstruction of sebaceous glands by the tanning oil

Tanning bed

From Wikipedia, the free encyclopedia

"Sun lamp" redirects here. For lights used in horticulture, see grow light.

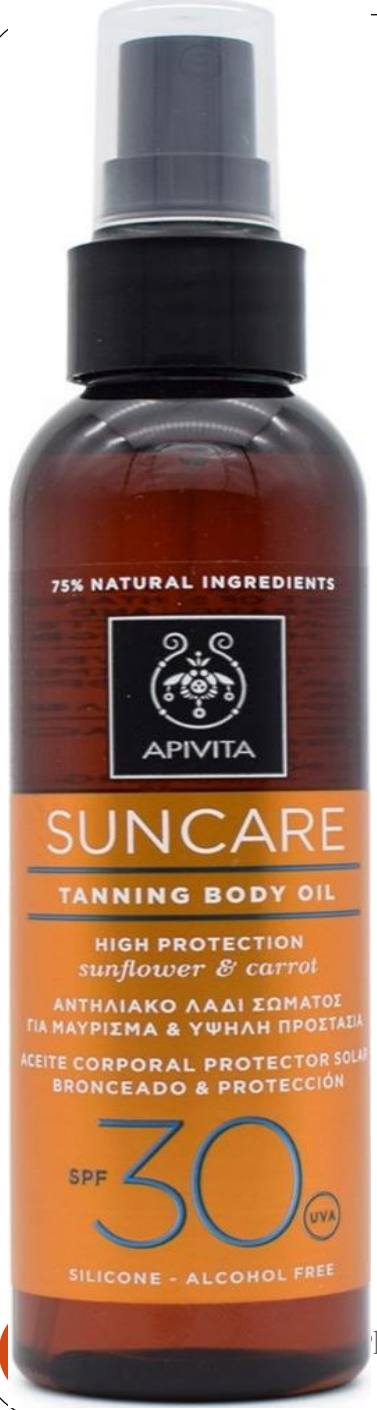
A **sunbed** (British English), **tanning bed** (American English) or **sun tanning bed** is a device that emits ultraviolet radiation (typically 95% UVA and 5% UVB, +/-3%)[citation needed] to produce a cosmetic tan. Regular tanning beds use several fluorescent lamps that have phosphor blends designed to emit UV in a spectrum that is somewhat similar to the sun. Smaller, home tanning beds usually have 12 to 28 100 watt lamps while systems found in tanning salons can consist of 24 to 60 lamps, each of 100 to 200 watts. [citation needed]

There are also "high pressure" tanning beds that generate primarily UVA with some UVB by using highly specialized quartz lamps, reflector systems and filters. These are much more expensive, thus less commonly used. A tanning booth is similar to a tanning bed, but the person stands while tanning and the typical power output of booths is higher.

Because of the adverse effects on human health of overexposure to UV radiation, including skin cancer, cataracts, and premature skin aging, the World Health Organization does not recommend the use of UV tanning devices for cosmetic reasons. Studies have shown that tanning bed usage is associated with an increased risk of skin cancer, including melanoma.[1][2] Misusing a sunbed by not wearing goggles may also lead to a condition known as arc eye (snow blindness). Occasional acute injuries occur where users carelessly fall asleep, as in the case of Marty Cordova.[3]

A tanning bed, with lights off

- Water
(Aqua), Propanediol, **Dihydroxyacetone,** Glycerin, Aloe Barbadensis Leaf Juice Powder*, Heptyl Undecylenate, Argan Oil Polyglyceryl-6 Esters, Centella Asiatica Meristem Cell Culture, Hydrolyzed Algin, Caprylic/Capric Glycerides Polyglycerin-10 Esters, Sodium Hyaluronate, Chlorella Vulgaris Extract, Hibiscus Sabdariffa Flower Extract*, Chamomilla Recutita (Matricaria) Flower Extract*, Ascorbyl Palmitate, Vitis Vinifera (Grape) Seed Oil*, Citrus Aurantium Bergamia (Bergamot) Fruit Oil*, Cetearyl Glucoside, Alcohol Denat, Maris Aqua, Polyglyceryl-4 Caprate, Cyamopsis Tetragonoloba (Guar) Gum, Xanthan Gum, Fragrance, Gluconolactone, Potassium Sorbate, Sodium Benzoate



- Coco-Caprylate, Coco-Caprylate/Caprate, Cocoglycerides, Diethylamino Hydroxybenzoyl Hexyl Benzoate, Ethylhexyl Methoxycinnamate, Isoamyl Laurate, Dicaprylyl Carbonate, Ethylhexyl Salicylate, Bis-Ethylhexyloxyphenol Methoxyphenyl Triazine, Helianthus Annuus Hybrid Oil*, Undecane, Ethylhexyl Triazone, Tocopheryl Acetate, Olea Europaea Fruit Oil*, Daucus Carota Sativa Root Extract, Vitis Vinifera Seed Oil*, Lycopene, Beta-Carotene, Glycine Soja Oil, Helianthus Annuus Seed Oil*, Punica Granatum Seed Oil*, Tridecane, Brassica Campestris Seed Oil, Rosmarinus Officinalis Leaf Extract, Tocopherol, Sorbic Acid, Parfum