

## IN-DEPTH REVIEW

**#1 Dermatologist Recommended: A Clinician's Guide to Self-Tanning**Kristen Kay<sup>1</sup>, Janice Wilson, MD<sup>2</sup><sup>1</sup> University of Texas Medical Branch at Galveston School of Medicine, Galveston, Texas<sup>2</sup> University of Texas Medical Branch at Galveston Department of Dermatology**ABSTRACT**

Skin tanning is an evolving area of focus for dermatologists. For hundreds of years, fair skin was socially preferred. That is until Coco Chanel returned from the French Riviera in 1923 sporting a sun-tan. Since then, tanned skin has become a booming industry. As the perception of tanning evolved, so did the methods to attain it. Today, skin tanning is achieved by: outdoor UV tanning, indoor UV tanning, spray-tanning, or cosmetic self-tanning products. Dermatologists counsel against UV tanning, as UV exposure is correlated with increased risks of both melanoma and non-melanoma skin cancers. The question that remains to be investigated is the skin safety of self-tanning products. In this review, 20 products were chosen from five major U.S. retailers (Walmart, CVS, Sephora, Ulta, and Amazon). The product ingredients were then analyzed for skin safety. The resulting data suggests that there is no major difference in the number of ingredients that have been deemed safe by the major U.S. cosmetic regulatory bodies among the products, and that cosmetic products are likely getting safer every year. Therefore, clinicians should focus on application counseling and reiterate FDA guidelines by discouraging spray-tanning and tanning pills.

**INTRODUCTION**

Skin tanning is an evolving area of focus for dermatologists. For hundreds of years, fair skin was socially preferred. That is until Coco Chanel returned from the French Riviera in 1923 sporting a sun-tan. Since then, tanned skin has become a booming industry. As the perception of tanning evolved, so did the methods to attain it. Today, skin tanning is achieved by: outdoor UV tanning, indoor UV tanning, spray-tanning, or cosmetic self-tanning products. Dermatologists counsel against UV tanning, as UV exposure is correlated with increased risks of both melanoma and non-melanoma skin cancers.<sup>1</sup>

The only ingredient in self-tanning products regulated by the FDA is the active coloring agent, dihydroxyacetone (DHA), and even it has use restrictions that are not generally included in advertisements.<sup>2</sup> Furthermore, the FDA is not required to approve every product that enters the market; they reserve the right to act against companies whose products violate its safety protocols.<sup>3</sup> With millions of products on the market, it is possible that even the most popular products on the market contain questionable ingredients and escape detection by the FDA. Thus, there is clinical importance in investigating the safety of these products. Additionally, reduction in indoor tanning is an

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objective of the CDC's *Healthy People 2020*, reinforcing the continued importance of science-based clinical counseling when it comes to tanning.<sup>4</sup>

With rates of melanoma increasing sharply in recent years, especially among young women, intentional tanning behaviors are being reassessed.<sup>5</sup> One survey of 2668 undergraduate students found that 64.9% of respondents had participated in outdoor tanning, 50.7% of respondents had participated in indoor tanning and 21.2% of respondents had participated in self-tanning.<sup>6</sup> Even with such prevalent tanning behavior, public knowledge is still lacking when it comes to recommended tanning practices. For instance, the FDA directly discourages both indoor tanning and spray tanning, indoor UV tanning is considered a human carcinogen, and the active ingredient DHA is not safe for inhalation or contact with mucous membranes. Meanwhile, practices such as UV protection and sunscreen use are still endorsed by the FDA.

## METHODS

Four products listed first on the websites—thus assumed to be most highly advertised—of five major U.S. retailers (Walmart, CVS, Sephora, Ulta, and Amazon), were chosen for ingredient review and assessment of skin safety (excluding any repeat products). Products and their ingredients are listed in supplemental materials. The ingredients of the individual products were those listed on the website on which they were sold; apart from *Tan Physics: True Color Sunless Tanner Tanning Lotion*, for which the ingredients were obtained by contacting the company directly. Each ingredient was assessed for known properties and use, focusing on skin safety and potential for skin irritation, sensitization, etc. After reviewing

skin safety data provided and compiled by the appropriate U.S. regulatory body, products were evaluated for estimated skin and use safety. Products that mentioned Dermatologists in their advertising were also noted. Lastly, recommendations for self-tanning are discussed based on assessed skin safety, as well as FDA and American Academy of Dermatology Association (AAD) recommendations.

## BACKGROUND INFORMATION

### History of Tanning

Tanned skin was popularized by designer Coco Chanel in 1923 when she returned from summer vacation with a suntan. Soon after in the 1930s, self-tanning cosmetics became available. The industry intensified when indoor tanning beds were introduced in 1978. Indoor tanning bed use was popularized in the 1980s and early 2000s, causing dermatologists to adjust the way they counsel patients about sun exposure - especially when, in 2009, the International Agency for Research on Cancer classified indoor tanning as carcinogenic to humans.<sup>7</sup>

Some evidence suggests that indoor tanning bed use has declined in recent years, with one study estimating a decrease from 3.73 million persons using indoor tanning beds four or more times in six months in 2011 to an estimated 2.10 million persons using indoor tanning beds with the same frequency in 2020.<sup>8,9</sup> Others disagree, suggesting that 30 million Americans, or 10% of the population, participate in indoor UV tanning, also noting an increase in melanoma diagnoses in women aged 15-39, correlated with increased UV tanning among the demographic.<sup>5</sup>

Self-tanning products have increased in complexity over the years. Originally simple dyes applied to the skin, today they encompass multiple formulations including, mists, sprays, waters, mousses, foams, and lotions.

## Dihydroxyacetone

Dihydroxyacetone (DHA) is the only skin coloring agent currently approved for use by the FDA for self-tanning purposes. It is not approved for contact with mucous membranes, ingestion, or inhalation.<sup>3</sup> DHA is a three-carbon sugar that was originally introduced as a food sweetener. It was then studied in children with glycogen storage diseases. Some of the children would regurgitate the material causing it to contact their skin giving it a darker coloring. It does so via a non-enzymatic glycation reaction with amino acids such as leucine and valine in the stratum corneum, known as the Maillard reaction.<sup>2</sup>

## The Cosmetic Ingredient Review

The Cosmetic Ingredient Review (CIR) was founded in 1976 by the Cosmetic, Toiletry and Fragrance Association (now known as the Personal Care Products Council) with the support of the U.S. FDA. The panel is funded by this entity, but its review process is independent of federal and cosmetic industry influence. Per the CIR website, “The panel consists of a 7-member Steering Committee chaired by the President and CEO of the Council with a dermatologist representing the American Academy of Dermatology, a toxicologist representing the Society of Toxicology, a consumer representative representing the Consumer Federation of America, an industry scientist, Chair of the Expert Panel for Cosmetic ingredient Safety and the Council’s Executive Vice President for Science.”<sup>10</sup> They review individual

ingredients used in cosmetic products and have the ability to review all published and solicit unpublished data.<sup>10</sup> They make recommendations for manufacturing standards, determine if individual ingredients are safe, safe with qualifications, unsafe, restricted, use not supported, etc. (**Table 1**).

## Research Institute for Fragrance Materials

The Research Institute for Fragrance Materials (RIFM) functions similarly to the CIR but reviews ingredients that are used solely for fragrance in cosmetics. This panel is considered a global authority on fragrance safety. The Expert Panel for Fragrance Safety, the governing board of the RIFM, is comprised of internationally known academic dermatologists, pathologists, toxicologists, and environmental scientists. They provide strategic guidance and interpret data to determine its relevance to human health and environmental safety.

## Voluntary Cosmetic Registration Program

The Voluntary Cosmetic Registration Program was started by the FDA as a tool to aid in post-market surveillance of cosmetic products in the United States as well as a tool to aid the CIR in prioritizing ingredients for scientific review. Cosmetic companies can disclose the ingredients in their products to this database on a voluntary basis. It applies only to products being sold to consumers in the U.S. and not to professional products.<sup>11</sup>

## Sensitization Testing

Human Repeat Insult Patch Testing (HRIPT) is the standard human clinical test used for cosmetics and pharmaceutical products. It is used to help predict the likelihood for induced allergic contact dermatitis of topically applied products. There are two phases, induction and challenge phases. The

RIFM protocol for patch testing can be found on their website.<sup>14</sup> HRIPT can be done using occlusive or semi-occlusive methodologies.

For fragrance ingredients, sensitization testing is moving towards a Quantitative Risk Assessment (QRA) method due to ethical concerns with HRIPT. Per the RIFM website, both acceptable exposure level (AEL) and consumer exposure level (CEL) are calculated; the ratio of AEL to CEL must be favorable for the fragrance ingredient in each product type.<sup>15</sup>

## Functions of Cosmetic Ingredients

Summarized in **Table 2**.

## Cosmetics and the FDA

Via the Federal Food Drug and Cosmetic Act, the FDA retains the right to take action against companies that make unsafe products or products that violate their guidelines. They directly regulate dyes and colorants (discussed next) as well as ingredients considered drugs (such as sunscreens). Of note, sunscreen products are currently under investigation by the FDA due to the systemic absorption of sunscreen ingredients. However, sunscreen use is still recommended by both the FDA and the AAD. The FDA also makes a direct comment discouraging the use of oral tanning pills. Tanning pills will not be discussed in this review.

The “#1 Dermatologist Recommended” label is unreliable. It can refer to data from large clinical trials or simply a survey of a handful of providers. Furthermore, the terms “for sensitive skin” and “hypoallergenic” are not regulated by the FDA.<sup>13</sup>

Additionally, per the FDA, ingredients are to be listed in decreasing order of

predominance in the formula and by their “harmonized” nomenclature (“their common or usual names.”) Ingredients must be visible on the packaging, listed on the product catalog (or website), included when mailed, or instructions must be made available for how to obtain an ingredient list.<sup>14</sup> Cosmetic products containing sunscreen must meet the standards set for both cosmetics and drugs.<sup>14</sup>

## Dyes and Colorants

Dyes and coloring agents are regulated by the FDA and are thus named in a standardized manner. Coloring agents labeled FD&C are safe for use in food products and cosmetics (FD&C refers to the Food Drugs and Cosmetics Act). The nomenclature D&C signifies that the colorant is not safe for use in food products and is only to be used in drugs and cosmetics.<sup>15</sup> Of note, in Europe, dyes and colorants may be listed using their Cosmetic Ingredient (CI) number. In the United States, the CI number may be listed after the standard D&C or FD&C nomenclature.<sup>14</sup>

## INDIVIDUAL INGREDIENTS

Individual ingredient review is summarized in the **Supplement**.

## FINDINGS

After compilation of review status and safety data, of all 213 listed ingredients, it was found that 32 ingredients had not been reviewed by the FDA, CIR or RIFM. An additional 4 ingredients had been reviewed by the CIR, but it was determined that not enough data was available to determine their safety.

Lastly, another 4 ingredients are currently under review. Of the 20 products, 3 contained

**Table 1.** Aspects of ingredients reviewed by the CIR.

Some aspects of ingredients reviewed by the CIR:
• Ingredients are assessed for impurities and contaminants via data sourced from manufacturers
• Animal studies on dermal irritation, sensitization as well as ocular irritation
• Human dermal studies for irritation, sensitization
• Phototoxicity, photosensitization, genotoxicity, and carcinogenicity
• Reported use: number of products, maximum concentration found in use and function in cosmetics
• Inhalation studies if applicable
• Metabolism and systemic absorption and excretion if applicable
• Systemic effects such as potential reprotoxic effects
• Oral and dermal LD50 levels (LD50 is the amount of a material, given all at once, which causes the death of 50% of a group of test subjects)

**Table 2.** Cosmetic ingredient functions.

Cosmetic Ingredient Functions
• Skin conditioning agents: increase the water content of the top layers of the skin <sup>12</sup>
• Preservatives: extend shelf-life by inhibiting the growth of microorganisms <sup>16</sup>
• Thickening agents: create desired viscosity <sup>16</sup>
• Emollients: prevent water loss through the skin <sup>16</sup>
• Coloring agents and fragrances act accordingly <sup>16</sup>
• Emulsifying agents: keep unlike ingredients from separating <sup>16</sup>

only ingredients that had been deemed safe by the three regulatory bodies: Tarte’s Brazilliance PLUS, St. Tropez’s Self-tan Classic Bronzing Mousse and the Banana Boat Summer Color Self-Tanning Lotion. Products and correlating numbers of unreviewed ingredients are listed in **Table 3**. Lastly, 5 of 20 products directly mentioned dermatologists in advertising.

There was a mean number of 2.65 unreviewed ingredients in each product, with the mode of the data set (5 products each) containing only 1 or 2 unreviewed ingredients. The set had a standard deviation of 2.43. The two products containing the

highest number of unreviewed ingredients were Tan Physics: True Color Sunless Tanner Tanning Lotion and Coco & Eve: Sunny Honey Bali Bronzing Self-Tanner Mousse, both with 8 unreviewed ingredients. Both are listed for sale on Amazon. Of note, after contacting Tan Physics directly, the ingredient list shared by the company did not match that which was listed on Amazon.

All five retailers sell products that contain ingredients that are unreviewed. Though an unreviewed ingredient is not necessarily unsafe. Using a paired t-test, there was a significant difference in the number of reviewed and unreviewed ingredients, with a

P-value less than 0.0001 (**Table 4**). Of all 213 ingredients, 80.8% have been reviewed and deemed safe by their respective regulatory body with another 0.2% currently under

review. (**Figure 1**) Most importantly, 0 products contained ingredients deemed unsafe by the CIR, FDA, or RIFM, suggesting that self-tanning products, and likely

**Table 3.** Reviewed and unreviewed ingredients in each respective product.

\*Italicized products directly mentioned dermatologists in product’s associated advertising.

Brand & Product Name	Number of Unsafe Ingredients	Number of Unreviewed Ingredients	Total Number of Ingredients	Percentage of Unreviewed Ingredients
St. Tropez: Self-tan Classic Bronzing Mousse	0	0	32	0.0%
<i>Supergoop!: Healthy Glow Sunless Tan Broad Spectrum Sunscreen SPF 40</i>	0	5	33	15.2%
Tan-Luxe: THE WATER Hydrating Self-Tan Water	0	1	25	4.0%
Isle of Paradise: Glow Clear, Color Correcting Self-Tan Water	0	5	28	17.9%
Loving Tan: 2HR Express Self-Tanning Mousse Dark	0	2	20	10.0%
Bondi Sands: Self-Tanning Foam	0	1	20	5.0%
<i>Tarte: Brazilliance PLUS</i>	0	0	34	0.0%
Ulta: Bronze Glow Self-Tanning Tinted Mist	0	3	13	23.1%

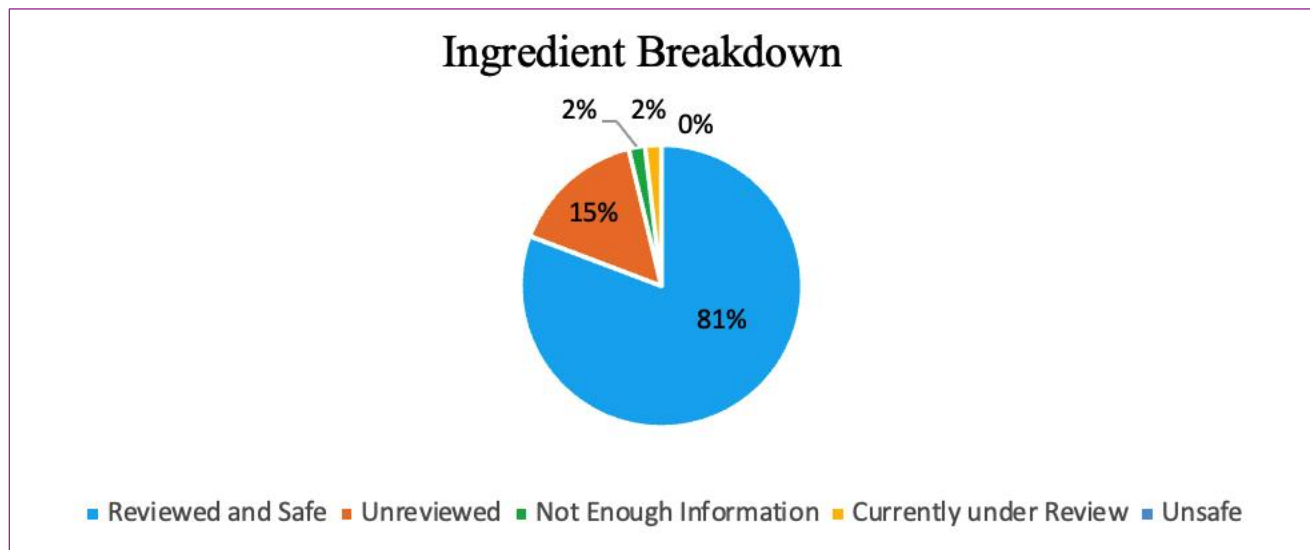
# SKIN

Beauty by Earth: Self-Tanner	0	4	17	23.5%
Jergens: Natural Glow Instant Sun Body Mousse	0	2	17	11.8%
Tan Physics: True Color Sunless Tanner Tanning Lotion	0	8	34	23.5%
Coco & Eve: Sunny Honey Bali Bronzing Self-Tanner Mousse	0	8	34	23.5%
L'Oreal Paris: Sublime Bronze Hydrating Self-Tanning Milk	0	1	33	3.0%
Banana Boat: Summer Color Self-Tanning Lotion	0	0	26	0.0%
B. Tan: Darkest Tan Possible Sunless Tanning Mousse	0	2	28	7.1%
<i>Neutrogena: Build-A-Tan Gradual Sunless Tanning Lotion</i>	0	2	26	7.7%
<i>Hawaiian Tropic: Sunless Tanning Foam</i>	0	1	16	6.3%
Sally Hansen: Airbrush Legs Tanning Water	0	1	12	8.3%
CVS Health: Deep Color	0	2	16	12.5%

Sunless Tan Mist Spray				
<i>Tanologist: Self-Tan Water</i>	0	5	29	17.2%

**Table 4.** Statistical significance of total reviewed versus unreviewed ingredients.  
\*P-value obtained by the paired t-test.

	Mean	Standard Deviation	Q1	Q3	P-value*
Reviewed	22	7.22	15	26	<.0001
Unreviewed	2.65	2.43	1	4.5	



**Figure 1.** Individual ingredient review status breakdown.

cosmetics in general, are not only reasonably safe but will continue to become safer in the coming years as more ingredients are reviewed. There was also no notable association between the number of unreviewed ingredients and formulation.

Self-tanning has long been a tool recommended by dermatologists to limit UV exposure. After review of 20 self-tanning products and their ingredients, there is evidence to suggest that self-tanning cosmetics are likely safe and will continue to get safer in the coming years, as the CIR, FDA, and RIFM continue to review ingredients. Additionally, the number of ingredients that have been reviewed as safe

## DISCUSSION



among the products is statistically significant when compared to the number of unreviewed ingredients. This is good news for dermatologists, as one out of four of the chosen products directly mentions dermatology/dermatologists in their advertising.

Three products, Tarte's Brazilliance PLUS, St. Tropez's Self-tan Classic Bronzing Mousse, and the Banana Boat Summer Color Self-Tanning Lotion contain only ingredients that have been deemed safe by the regulatory bodies. However, it is unlikely that they are significantly safer than other options. When considering affordability, there was no significant difference in the number of unreviewed ingredients in expensive versus more affordable products.

Therefore, since self-tanning is still considered a viable alternative to UV tanning by the AAD and the products are likely safe, the focus then turns to recommended application method of self-tanning products. The active coloring ingredient alone, DHA, is not recommended for contact with mucous membranes, and spray tanning is explicitly discouraged by the FDA. Thus, dermatologists should counsel patients on good tanning practices. Lotions, foams, and mousse formulations provide the most control with application. These formulas allow users to precisely apply the cosmetic, with a tanning mitt or hand the product can be applied to body surfaces while avoiding mucous membranes. Mists and waters, while again considered safe by the CIR, allow for less control, and have some risk of inhalation.

It is also important to remember when counseling and thinking about cosmetics in general, that all cosmetics contain ingredients that are absorbed into the bloodstream, and which actively interact with the skin. Additionally, fragrances in products

are the most common cause of contact dermatitis.

Patients with a food allergy to various ingredients described in this report rarely have an atopic reaction to the ingredient when applied topically, due to chemical changes to the proteins during manufacturing. Therefore, patients can be counseled against the need to avoid products containing their allergen. Lastly, is the role of advertising in patient cosmetic consumption. Products labeling themselves as "#1 Dermatologist recommended" are no safer than other options, and this claim can be used with data as simple as a small sample size survey of providers.

## CONCLUSION

Based on the results of this review, in the absence of a known ingredient allergy, patients do not need to investigate the ingredients of every cosmetic product that they purchase/use. The CIR lists ingredients of questionable use and those that are contraindicated for use on their website; however, none of the ingredients found in any of the twenty selected products were found on those lists. Therefore, there is likely little practicality for clinicians to monitor or have knowledge of these ingredients. One limitation of this review is small sample size.

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## Supplement. Product list with the individual ingredients included.

### Sephora:

1. St. Tropez — Self-tan Classic Bronzing Mousse (32 ingredients)
  - a) Water, Dihydroxyacetone, PPG-5-Ceteth-20, Propylene Glycol, Glycerin, Ethoxydiglycol, Coco-Glucoside, Caramel, Phenoxyethanol, Parfum, Sodium Metabisulfite, Hydrolyzed Jojoba Esters, Hydroxyethylcellulose, Tocopherol, Decylene Glycol, Caprylyl Glycol, d-limonene, Anisyl Alcohol, Sodium Hydroxide, Linalool, Hexyl Cinnamal, Benzyl Salicylate, Butylphenyl Methylpropional, Citronellol, Hydroxycitronellal, Alpha-isomethyl Ionone, Coumarin, CI 14700 (Red 4), CI 19140 (Yellow 5), CI 42090 (Blue 1).
2. Supergoop! — Healthy Glow Sunless Tan Broad Spectrum Sunscreen SPF 40 (33 ingredients) “Dermatologist tested”
  - a) Avobenzone 2%, Homosalate 10%, Octinoxate 5%, Octisalate 5%;
  - b) Water, Dihydroxyacetone, Diethylhexyl Carbonate, Propanediol, Saccharomyces Ferment, Styrene/Acrylates Copolymer, Trimethylpentanediol/Adipic Acid Copolymer, Cetearth-25, Glyceryl Stearate, Glyceryl Caprylate, Cetearyl Alcohol, Polyester-7, Microcrystalline Cellulose, Disodium Ethylene Dicocamide PEG-15 Disulfate, Panthenol, Neopentyl Glycol Diheptanoate, Diethylhexyl Syringylidenemalonate, Sodium Metabisulfite, Chlorphenesin, Citrus Aurantium Dulcis (Orange) Peel Extract, Sodium Lauroyl Glutamate, Stearic Acid, Tocopherol, Cellulose Gum, Aloe Barbadensis Leaf Juice, Citric Acid, Glyceryl Undecylenate, Caprylic/Capric Triglyceride.
3. Tan-Luxe – THE WATER Hydrating Self-Tan Water (25 ingredients)
  - a) Water, Propylene Glycol, Dihydroxyacetone, Glycerin, Ethoxydiglycol, Aloe Barbadensis Leaf Juice, Erythulose, Ascorbic Acid, Tocopheryl Acetate (Vitamin E Acetate), Rubus Idaeus (Raspberry) Seed Oil, Hydrolyzed Silk, Lecithin, Caffeine, Palmitoyl Carnitine, PEG-40 Hydrogenated Castor Oil, Glycereth-26, Panthenol, Fragrance, Limonene, Geraniol, Hexyl Cinnamal, Linalool, Hydroxycitronellal, Benzoic Acid, Phenoxyethanol, Triethylene Glycol.
4. Isle of Paradise – Glow Clear, Color Correcting Self-Tanning Mousse (28 ingredients)
  - a) Cocos Nucifera (Coconut) Water, Dihydroxyacetone, Propylene Glycol, Ethoxydiglycol, PEG-40 Hydrogenated Castor Oil, Glycerin, Decyl Glucoside, Glycereth-26, Erythulose, Tropaeolum Majus Flower/Leaf/Stem Extract, Panthenol, Aloe Barbadensis Extract, Citrus Grandis (Grapefruit) Peel Oil, Cocos Nucifera (Coconut) Oil, Eucalyptus Globulus Leaf Oil, Mentha Piperita (Peppermint) Oil, Persea Gratissima (Avocado) Oil, Salvia Hispanica Seed Oil, Salvia Officinalis (Sage) Oil, Agastache Mexicana Flower/Leaf/Stem Extract, Methoxyphenyl t-Butylphenyl Propanediol, Ascorbic Acid, Ethylhexylglycerin, Propanediol, Sodium Metabisulfite, Parfum (Fragrance), Phenoxyethanol, Triethylene Glycol

### Ulta:

5. Loving Tan – 2 HR Express Self-Tanning Mousse Dark (20 ingredients)
  - a) Deionized Water, Dihydroxyacetone, Propylene Glycol, Ethoxydiglycol, Erythulose, Witch Hazel, Decyl Glucoside, D Panthenol, Phenoxyethanol Ethyl Hexyl Glycerin, Julans Nigra (Black Walnut Extract), Aloe Barbadensis Leaf Juice (Aloe Vera), Fragrance, Hydroxypropyl Methylcellulose, Sodium Bisulfite, FD & C Red 40 (CI 16035), Red 33 (CI 14700), Yellow 5 (CI 19140), Caramel, FD & C Blue 1 (CI 42090).
6. Bondi Sands — Self Tanning Foam (20 ingredients)
  - a) Aqua (Water/Eau), Dihydroxyacetone, Propylene glycol, Trideceth-9, Aloe barbadensis leaf juice, Polysorbate 20, PEG-5 Ethylhexanoate, Glycerin, Ethoxydiglycol, Butylene glycol, Phenoxyethanol, Parfum (Fragrance), PEG-12 Dimethicone, CI 14700 (FD&C Red NO. 4), CI 19140 (FD&C Yellow NO. 5), Tocopheryl Acetate, Disodium EDTA, Benzyl Alcohol, Panthenol, CI 42090 (FD&C Blue NO. 1).
7. Tarte — Brazilliance PLUS (34 ingredients) “Dermatologist tested”
  - a) Water/Aqua/Eau, dihydroxyacetone, glycerin, glyceryl stearate, PEG-100 stearate, cetyl alcohol, dimethicone, parfum/fragrance, passiflora edulis seed oil, aloe barbadensis leaf juice, cetyl hydroxyethylcellulose, caprylyl glycol, hydroxyethyl acrylate/sodium acryloyldimethyl taurate copolymer, cetearyl alcohol, squalane, citric acid, cetearth-20, potassium sorbate, xanthan gum, polysorbate 60,

sodium metabisulfite, myristyl alcohol, stearyl alcohol, octyldodecanol, amyl cinnamal, limonene, silica, linalool, tocopherol, phenoxyethanol, chlorphenesin, red 40 (CI 16035), yellow 5 (CI 19140), blue 1 (CI 42090).

8. Ulta — Bronze Glow Self-Tanning Tinted Mist (13 ingredients)

- a) Water, SD Alcohol 40-B, Dihydroxyacetone, Polysorbate 20, Glycerin, Caramel, Citric Acid, Fragrance, Aloe Barbadosensis Leaf Juice, Erythulose, Glycerin, Tocopheryl Acetate, Camellia Oleifera (Green Tea) Leaf Extract

## Amazon:

9. Beauty by Earth — Self Tanner (17 ingredients)

- a) Water, Organic Aloe Vera Leaf Juice, Organic Shea Butter, Dihydroxyacetone (DHA), Cetyl Alcohol, Stearyl Alcohol, Organic Coconut Oil, Glycerin (Vegetable), Organic Japanese Green Tea Leaf Extract, Organic Pomegranate Extract, Organic Witch Hazel Extract, Organic Cranberry Fruit Extract, Organic Jojoba Seed Oil, Organic Argan Oil, Radish Root Ferment Filtrate, Coconut Pulp Extract, Vanilla Fruit Extract

10. Jergens — Natural Glow Instant Sun Body Mousse (17 ingredients)

- a) Water, Glycerin, Dihydroxyacetone, Alcohol Denat., Decyl Glucoside, Ceteareth-25, Hydroxyethyl Acrylate/Sodium Acrylodimethyl Taurate Copolymer, Methylparaben, Fragrance, Citric Acid, Sodium Benzoate, Benzyl Alcohol, Erythulose, Orange 4, Ext. Violet 2, Yellow 10, Red 4.

11. Tan Physics — True Color Sunless Tanner Tanning Lotion (34 ingredients)

- a) Dihydroxyacetone, Caramel, Caprylic/Capric Triglyceride, Citrus Nobilis (Mandarin Orange) Peel Extract, Argania Spinosa (Argan) Oil, Retinyl Palmitate, Ascorbyl Palmitate, Tocopheryl Acetate, Saccharomyces/Magnesium Ferment Hydrolysate, Saccharomyces Potassium Ferment Hydrolysate, Adenosine Triphosphate, Palmitoyl Oligopeptide, Palmitoyl Tetrapeptide-7, Glycerin, Butylene Glycol, Carbomer, Polysorbate 20, Olea Europaea (Olive) Oil, Triticum Aestivum (Wheat) Peptide, Avena Sativa (Oat) Peptide, Glycine Soja (Soy) Peptide, Yeast Extract, Cupric Sulfate, Zinc Sulfate, Banana (Musa Sapientum) Fruit Extract, Juglans Regia (Walnut) Extract, Hydrolyzed Collagen, Tyrosine, Panthenol Polyacrylamide, C13-14 Isoparaffin, Laureth -7, Phenoxyethanol, Dimethicone, D&C Red 33 (CI 17200)

12. Coco & Eve — Sunny Honey Bali Bronzing Self-Tanner Mousse (34 ingredients)

- a) Aqua (Water), Dihydroxyacetone, Pentylene Glycol, Glycerin, PEG-40 Hydrogenated Castor Oil, Trideceth-9, Hydroxypropyl Methylcellulose, Parfum (Fragrance), Coconut Oil Glycereth-8 Esters, Sodium Cocoyl Glutamate, Citric Acid, Sodium Benzoate, Erythulose, Potassium Sorbate, Propylene Glycol, Benzyl Alcohol, Trisodium Ethylenediamine Disuccinate, Lotus Maritimus Flower/Leaf Extract, Musa Sapientum (Banana) Extract, Citrus Aurantium Dulcis (Orange) Peel Extract, Citrus Nobilis (Mandarin Oil Green) Extract, Carica Papaya (Papaya) Fruit Extract, Cocos Nucifera (Coconut) Fruit Extract, Ficus Carica (Fig) Fruit Extract, Garcinia Mangostana Fruit Extract, Mangifera Indica (Mango) Fruit Extract, Theobroma Cacao (Cocoa) Seed Extract, Coumarin, Limonene, Butylphenyl Methylpropional, Benzyl Salicylate, CI 14700 (Red 4), CI 19140 (Yellow 5), CI 42090 (Blue 1).

## Walmart:

13. L'Oreal Paris — Sublime Bronze Hydrating Self-Tanning Milk (33 ingredients)

- a) Aqua/Water, Glycerin, C12-15 Alkyl Benzoate, Dihydroxyacetone, Alcohol Denat., Propylene Glycol, Cyclohexasiloxane, Ethylhexyl Methoxycinnamate, Cetyl Alcohol, PEG-100 Stearate, Glyceryl Stearate, Phenoxyethanol, Sodium Polyacryloyldimethyl Taurate, Mel/Honey, Dimethicone, Isohexadecane, Tri-C14-15 Alkyl Citrate, Tocopherol, Xanthan Gum, Disodium EDTA, Polysorbate 80, Linalool, Benzyl Salicylate, Sorbitan Oleate, Benzyl Alcohol, Hydroxycitronellal, Hexyl Cinnamal, Citronellol, Alpha-Isomethyl Ionone, Coumarin, Benzyl Benzoate, Limonene, Parfum/Fragrance.

14. Banana Boat — Summer Color Self-Tanning Lotion (26 ingredients)

- a) Water, caprylic/capric triglyceride, C12-15 Alkyl Benzoate, propylene glycol, cetyl alcohol, stearyl alcohol, glyceryl stearate, PEG-100 stearate, petrolatum, dimethacone, phenoxyethanol, PEG-7 Glyceryl Cocoate,

palmitic acid, stearic acid, steareth-20, steareth-2, fragrance, disodium EDTA, tocopherol, methylparaben, butylparaben, ethylparaben, isobutylparaben, propylparaben, aloe barbadensis leaf juice, dihydroxyacetone

15. B. Tan — Darkest Tan Possible Sunless Tanning Mousse (28 ingredients)

- a) Aqua (Water), Propylene Glycol, Dihydroxyacetone, PEG-6 Caprylic/Capric Glycerides, Caramel, Dihydroxypropyl PEG-5 Linoleammonium Chloride, PEG-7 Glyceryl Cocoate, Phenoxyethanol, Caprylyl Glycol, Potassium Sorbate, Hexylene Glycol, Melanin, Argania Spinosa (Argan) Kernel Oil, Macadamia Integrifolia (Macadamia) Seed Oil, Cocos Nucifera (Coconut) Oil, Simmondsia Chinensis (Jojoba) Seed Oil, Rosa Canina (Rosehip) Fruit Oil, Vitis Vinifera (Grape) Seed Oil, Persea Gratissima (Avocado) Oil, Cucumis Sativus (Cucumber) Fruit Extract, Ascorbic Acid (Vitamin C), Tocopheryl Acetate (Vitamin E), Yellow 5 (CI 19140), Green 5 (CI 61570), Red 40 (CI 16035), Red 33 (CI 17200), Blue 1 (CI 42090), Yellow 6 (CI 15985)

16. Neutrogena — Build-A-Tan Gradual Sunless Tanning Lotion (26 ingredients) “Dermatologist recommended brand”

- a) Water, Dihydroxyacetone, Methylpropanediol, Ethylhexyl Hydroxystearate Benzoate, C12-15 Alkyl Benzoate, Glycerin, Methyl Gluceth-20 Benzoate, Glyceryl Stearate, PEG- 100 Stearate, Cetyl Alcohol, Sorbitol, Stearyl Alcohol, Magnesium Aluminum Silicate, Xanthan Gum, Tetrasodium EDTA, Sodium Citrate, Polysorbate 20, Hydroxyethyl Acrylate/Sodium Acryloyldimethyltaurate Copolymer, Polysorbate 60, Citric Acid, Phenoxyethanol, Methylparaben, Ethylparaben, Propylparaben, BHT, Fragrance (1206-98).

## CVS:

17. Hawaiian Tropic — Sunless Tanning Foam (16 ingredients) “Dermatologist-tested”

- a) Water, Alcohol denat, propylene glycol, glycerin, butane, isobutane, propane, ethoxydiglycol, peg-60 hydrogenated castor oil, polysorbate 20, fragrance, tocopheryl acetate, dihydroxyacetone, yellow 5, red 4, blue 1

18. Sally Hansen — Airbrush Legs Tanning Water (12 ingredients)

- a) Aqua/Water/Eau, Dihydroxyacetone, Propanediol, Glycerin, Alcohol, Ppg-1-Peg-9 Lauryl Glycol Ether, Benzyl Salicylate, Bht, Citric Acid, Hexyl Cinnamal, Phenoxyethanol, Parfum/Fragrance 31

19. CVS Health — Deep Color Sunless Tan Mist Spray (16 ingredients)

- a) Water, Hamamelis Virginiana (Witch Hazel) Water, Ethoxydiglycol, Dihydroxyacetone, Dipropylene Glycol, Dimethyl Isosorbide, Isoceteth-20, Methyl Gluceth-20, Glycereth-7, Propylene Glycol, Diazolidinyl Urea, Methylparaben, Propylparaben, Sodium PCA, Citric Acid, Fragrance.

20. Tanologist — Self-Tan Water (29 ingredients) “Dermatologically tested and approved”

- a) Aqua (Water), Dihydroxyacetone, Propylene Glycol, Glycerin, Ethoxydiglycol, Glycereth-26, Commiphora Mukul Resin Extract, Coleus Forskohlii Root Extract, Panthenol, Ascorbic Acid, Erythrose, Tocopheryl Acetate (Vitamin E Acetate), Aloe Barbadensis Extract, Calendula Officinalis Flower Oil, Citrus Paradisi (Grapefruit) Fruit Extract, Juniperus Communis Fruit Oil, Lycium Barbarum Fruit Extract, Punica Granatum Extract, PEG-40 Hydrogenated Castor Oil, Dipropylene Glycol, Parfum (Fragrance), Hexyl Cinnamal, Limonene, Linalool, Geraniol, Hydroxycitronellal, Citric Acid, Phenoxyethanol, Triethylene Glycol