

## The Right Sunscreen

### Cut Through the Hype and Learn What Works

Jason Barbara

According to the American Cancer Society, more than 2 million people are diagnosed with skin cancer in the United States each year. There are more than 2,000 over-the-counter sunscreen formulas on the market today. How can you tell which sunscreens are the safest, most effective, and represent the best value for your money? In most cases, the answer comes down to the difference between the two types of filtering ingredients.

### Chemical or Physical?

The UV radiation in sunlight consists of UV-A, UV-B, and UV-C rays. UV-A and UV-B are both responsible for photoaging, skin cancer, sunburn,

Work by absorbing UV radiation; Require application 30 minutes before sun exposure; Provide partial protection from UV spectrum; May irritate the skin and eyes; Not regulated for safety by the US Food and Drug Administration (FDA)--some may even be carcinogenic; Not photostable (exposure to sunlight degrades effectiveness); Avobenzone is the most commonly used chemical filter ingredient.

### Physical UV Filters

Work by reflecting UV radiation; Start protecting immediately upon use; Provide full broad-spectrum protection; Non-irritating to skin and eyes; Safe, as particles do not penetrate the skin; Highly photostable (exposure to sunlight

*Healthy skin is only a touch away.*

-Lori Murtagh



Protection from harmful UV rays can do wonders for your skin.

tanning, and wrinkling. UV-C is not a factor in skin health, as it is absorbed by the Earth's atmosphere and does not reach us in significant amounts. Broad-spectrum sunscreen protects against both UV-A and UV-B. This protection can work in one of two ways: chemical or physical.

does not change effectiveness).

Zinc oxide and titanium dioxide are the most commonly used physical filter ingredients. Clothing and shade structures also count as physical filters.

### Chemical UV Filters

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### Office Hours and Contact

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## How Stable Is It?

One of the most important factors in the effectiveness of a sunscreen formula is also one of the least known to the general public. Photostability is an ingredient's ability to remain effective after exposure to sunlight. Many people are aware that this is an issue for numerous skin care ingredients, but may be surprised to learn that some active ingredients in sunscreen--a product whose sole purpose involves being exposed to sunlight--are not photostable. In addition, the FDA's new rules do not require sunscreen ingredients to be tested for photostability. Yet, many consumers expect that their sunscreen will protect them for longer than one hour.

Physical filters such as zinc oxide and titanium dioxide are photostable. Studies have shown that these ingredients suffer no degradation after more than two hours of sun exposure. However, the chemical filter avobenzone is not at all photostable, and degrades almost completely in less than one hour. Even worse, avobenzone also degrades on contact with other UV filters such as zinc oxide or titanium dioxide, and with metal ions such as iron oxide, which is commonly found in makeup. This goes a long way toward explaining why many consumers experience sunburn even after applying sunscreen as directed.

## Health Concerns

Effectiveness is not the only thing to consider in any product being applied to the face or body. Significant health concerns have also been raised about many sunscreen ingredients. Here are some issues to consider.

Avobenzone has been found to generate free radicals beyond acceptable safety levels after sitting on the skin for just one hour, and children and pregnant women have been advised not to use products containing it.

Octocrylene, which is known to act as an endocrine disrupter, is used in many sunscreens as a stabilizer. It can also cause skin irritation. According to the Archives of Dermatology, "Octocrylene appears to be a strong allergen leading

to contact dermatitis in children and mostly photoallergic contact dermatitis in adults."

Chemical UV filters can also have harmful effects on the environment. Octocrylene does not seem to be effectively contained in wastewater treatment plants, and studies in Switzerland have indicated that it accumulates in fish. Oxybenzone, a chemical UV-B filter often used in combination with avobenzone, has been found to negatively impact reef ecosystems and biodiversity.

Physical UV filters, in contrast, have an excellent safety profile. The FDA has long considered zinc oxide to be a safe ingredient for both external use and as a food additive, even in infant formula.

Considering all these factors, physical UV blockers represent the best choice overall. The main challenge in getting consumers to use sunscreens based on physical filters is purely cosmetic: zinc oxide and titanium dioxide tend to feel

thick and greasy, and are visible on the skin, leaving a white residue. However, new advances mean there are now an increasing number of sunscreens that use these ingredients in formulations that allow for clear application.

When evaluating a sunscreen, the most important considerations should be safety and effectiveness. Carefully examine the ingredients and make use of all available information to make the best choices for yourself and your family.

*Jason Barbaria is director of marketing at Dermagenics, a skin care line that includes sunscreen, cleansers, and moisturizers.*



Learn what to look for to get the right sunscreen.

# Enzyme Power

Lisa VanBockern

As we age, natural exfoliation can take up to 40 days or more, which leads to a buildup of dead skin cells. This means fine lines, uneven skin tone, and in some cases, acne. Incorporating natural fruit enzymes into your skin care regimen is a great way to clean, correct, and polish the skin, as well as deliver nutrition to skin cells.

## Good-Bye Dead Skin

In the late 1800s, papain (found in unripe papaya) was first explored and recognized as an enzyme useful in digesting protein. This makes papaya useful for light exfoliation, as it operates in a way that's similar to digestive enzymes breaking down food in the stomach; it digests dead skin to reveal fresh, healthy cells.

## Fruit Antioxidants

Fruit enzymes also offer antioxidant benefits to the skin. To visualize oxidation, think of an apple that's been cut and left out in the open. It turns brown. Yet, if you squeeze a lemon over the apple right after slicing it, it stays

fresh and looks more appetizing. While we wouldn't want lemon juice (at 100 percent L-ascorbic acid) on our skin, we do want the benefits of a more gentle, buffered substance to stabilize pH and control acidity. Products including fruits like blueberry, kiwi, lemon, pomegranate, and pumpkin provide great antioxidant nutrition to the skin.

## Stay Hydrated

Natural enzymes in the epidermis require water, since water regulates almost every enzymatic action. This raises interesting questions: Do you drink enough water? Do you live in a dry climate or other environment where trans-epidermal water loss is great? If there is not enough water among skin cells, natural enzymes will not kick in. Adding water to your diet will further enhance enzymatic activity.

*Lisa VanBockern is founder and owner of Skin Script Skin Care of Tempe, Arizona. She is a formulator of corrective fruit enzyme products and educates on that topic. Her esthetic focus has been on corrective skin treatments for all ethnicities.*



Finding products with natural fruit enzymes can boost

## 3 Skin Care Considerations

"Before raiding the pantry for an at-home skin care recipe, remember that many ingredients in their natural state are neither safe nor effective for skin," says Ellen Clark, a licensed esthetician and founder of Control Corrective Skincare Systems ([www.controlcorrective.com](http://www.controlcorrective.com)). And even the safest ingredient may prompt an allergic reaction. Clark urges do-it-yourselfers to consider the following before formulating at home:

1. Perform a patch test. Before experimenting on your skin, you should ideally see an esthetician for a complete skin analysis and personalized recommendations for appropriate at-home skin care. At the very least, perform a patch test by putting a small amount of the product on your neck just

behind your ear; wait until you're sure it has not caused any adverse reactions.

2. Natural isn't always skin-friendly. Many ingredients must be formulated for skin and are not safe in their natural state. For example, if left on too long, natural acids found in citrus can cause burns and irritation.

3. Professional skin care is the best recipe. Adopt a professional regimen that is specifically formulated for your skin type. And don't forget to visit your esthetician regularly!

*Throughout history 'tender loving care' has uniformly been recognized as a valuable element in healing.*

-Larry Dossey

#### A SPECIAL NOTE FROM LORI

Spring has sprung and our skin is screaming for sunscreen! As the first article discusses, physical sunscreens are a wonderful broad spectrum sunscreen.

Dermalogica has two hero product moisturizers containing titanium dioxide and zinc oxide: Super Sensitive Shield spf30 and UltraSensitive Tint spf30. I can't say enough about both! Both contain an ultracalming complex. The Super Sensitive Shield also has anti-oxidants to help with free radicals and a "smart booster" that allows the sunscreen not to kick in until exposed to UV light! Ultrasensitive Tint is for those that love a little tint or prefer it instead of makeup.

My Hale and Hush line has the Broad Spectrum SPF30 moisturizer. With its specialized amino acid & algae blend, it's the perfect combination of sun, sensitivity and age defense.

Using a daily moisturizer with sunscreen 365 days is our first line of skin defense! Apply it each morning so that our skin holds the water we drink, is protected against harmful UV rays, and will be better equipped at resisting premature aging!

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