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## Mineral Sunscreen Properties Explained: Science Debunks Common Natural Sunscreen Myths

There exists a great amount of confusion about how mineral sunscreens work, what ideal particle sizes are, and which ones perform more efficiently for broad spectrum UVA and UVB protection. This issue of Kabana Label Reader's Column seeks to explain mineral sunscreen properties in simple terms, and debunk the myths being perpetuated by both the sunscreen industry and the popular media.

Two mineral sunscreens exist: Titanium Dioxide and Zinc Oxide. Both of these chemicals are solids that cannot dissolve in bodily fluids, and as such each stays on the surface of your skin where it needs to be for ideal sunscreen protection. They are not created equal however. The sunscreen industry and media often refer to these minerals as 'sunblocks,' or 'physical' sunscreens, but these terms are misleading.

### **Myth**

Mineral sunscreens block UV by scattering and reflecting UV radiation.

### **Reality**

This is perhaps the most popular sunscreen myth and is simply wrong. Mineral sunscreens perform similarly to their carbon based petrochemical cousins in that they **absorb** UV radiation, but with a much broader effective range. They look white because indeed these minerals do reflect and scatter light in the visible spectrum, which we can see. Unfortunately, manufacturers, dermatologists, and the media, regularly perpetuate this myth because they don't understand the physical chemistry associated with these minerals and make the easy yet incorrect assumption that they perform the same in the UV as in the visible spectrum. An easy to understand educational discussion on this can be found here. If you want to learn more in depth about these compounds, search "wide-band-gap semiconductors" on google.

### **Myth**

Titanium Dioxide and Zinc Oxide are equally good UV absorbers.

### **Reality**

Zinc Oxide is a better sunscreen active ingredient, for the following reasons:

1. Zinc Oxide has a broader UVA spectral absorbance than Titanium Dioxide
2. Zinc Oxide is safer from oxidative free radical production and chemical damage
3. Zinc Oxide is not made from a toxic heavy metal
4. Zinc Oxide is the ONLY sunscreen that is FDA-approved for use on babies younger than 6 months of age. (This is despite the fact that many mass market manufacturers market 'baby' formulas full of petrochemicals that are NOT approved for use on babies!)



The last fact illustrates that Zinc Oxide is the also the safest sunscreen on the market and the only one you should be using on your children.

### **Myth**

Both micronized and nanoparticle mineral sunscreens are unsafe.

### **Reality**

Every mineral sunscreen product on the market uses either micronized or nanoparticles in their formulas. The size larger than micronized is milli-sized, which borders on the size of fine grains of sand and would be useless as a sunscreen because it would be gritty and completely white if applied evenly. Micronized mineral sunscreens have been on the market for decades and micronized Zinc Oxide is the safest sunscreen on the planet, excepting shade. Recently, the media and environmentalists have raised safety questions about nanoparticles used in sunscreens. These questions are largely unanswered at present, so Kabana has decided not to use nanoparticle Zinc Oxide in any of our products because it's simply not worth the added risk if any exists. The only way for you to tell whether or not a manufacturer uses nanoparticles is if they say they don't! Look for 'non-nano' on labels.

### **Myth**

The Higher the SPF, the Better.

### **Reality**

Actually, anything above SPF 15 is largely a marketing gimmick that chemical manufacturers use to sell more of their products, charge you more money, and get you to put ever higher concentrations of their toxic petrochemicals on and in your body. The facts are, SPF 15 provides 93.3% UV absorption; SPF 20 provides 95%, SPF 30 only provides 96.7%. [You can see on this graph](#) that each additional unit of SPF protection above SPF 15 provides very little additional protection. It's also important to remember that SPF only indicates UVB protection. An SPF 70 product may have virtually no UVA protection! The only reason Kabana can understand why FDA invented the SPF metric instead of simply providing the percentage of protection, as in 95% (SPF 20 equivalent), is because the chemical lobby wanted a metric that was more marketable (and unclear and misleading). They've succeeded, because very few consumers actually understand what SPF means.

**The bottom line:** use mineral sunscreen. [Green Screen](#) has the most effective, safest, fully disclosed and understandable ingredients on the market. Read our labels and you will understand why Green Screen sunscreen is the best for you and your family's health and well-being.

Current product offerings are:

**Green Screen Organic SPF 20 Sunscreen** a non-nano organic ingredient UVA & UVB sunscreen

**Kabana Crème** an ultra nourishing moisturizing crème

**Sugar, Baby!** a fabulously rich sugar scrub

**Green Screen SPF 15 Sunscreen** a highly moisturizing broad spectrum UVA & UVB sunscreen

**Liplovers Natural Lip Balm** with all natural flavors

**Sunsei** UV soap providing zinc oxide UV protection

**Kabana UV Protective Shower Gel and Shampoo** a castile gel version of Sunsei

**Kabana Naturally Effective Deodorant** 6 natural ingredients keep you fresh all day

[Green Screen Organic SPF 20 Sunscreen](#) is available worldwide online at [www.kabanaskincare.com](http://www.kabanaskincare.com) several North Pacific Whole Foods and select natural product retailers nationwide. We are actively seeking to expand distribution; please direct all inquiries, including media, to [erik@kabanaskincare.com](mailto:erik@kabanaskincare.com)

For more information about sunscreens, sunscreen manufacturers, the FDA and you as a consumer, go to:

[http://www.kabanaskincare.com/kabana\\_label\\_reader\\_column.htm](http://www.kabanaskincare.com/kabana_label_reader_column.htm)

Love your skin. Kabana does.™



Ask for Green Screen Organic SPF 20 Sunscreen at local Natural Products Retailers near you.

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