

The Truth About Sunscreen in Makeup: Types of SPF and What Actually Works

Mineral or chemical-based? Liquid or spray? One ounce or two? Skin cancer expert covers all the sunscreen bases.

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Sun-shielding skincare is having a moment. In recent years, the protection afforded by daily layers of SPF has made its way into modern beauty routines, with foundations, creams and concealers offering some degree of sun protection. But is the 15% SPF as advertised on the bottle of your everyday foundation enough to protect your face from harmful rays? A recent proclamation from the [American Academy of Dermatology](#) says sunscreen makeup alone doesn't cut it.

We asked [Sapna Patel, MD](#), visiting professor of medical oncology at the University of Colorado Anschutz Medical Campus and [CU Cancer Center](#) member to give us some insight into appropriate skin protection.

What are some different kinds of sunscreens for everyday use?

We think of sun protection in two categories: mineral and chemical. You probably remember back in the day we used to call it "sunblock" – that isn't an accurate term though it is far closer for mineral sunscreen. It sits on top of the skin and is available as zinc oxide or titanium dioxide. Mineral sunscreens deflect ultraviolet A and B, or UVA and UVB, rays. In the 1980s, we would see beach volleyball players wear patches on their face under their eyes and on their nose – these were zinc oxide strips that deflected these rays.

While mineral sunscreen sits on top of the skin, chemical sunscreens are meant to be absorbed into the skin. They include ingredients such as oxybenzone, avobenzone and octinoxate. The chemicals penetrate our skin and break up UVA and UVB rays before they travel to deeper layers of the skin.

How are mineral and chemical sunscreens different?

While all sunscreen needs to be applied 20 to 30 minutes before sun exposure, chemical sunscreen especially needs time to absorb into the skin.

Since chemical sunscreens involve a chemical reaction, we feel it's not safe for babies and children

and recommend they use mineral sunscreen. Generally, most dermatologists and [skin cancer](#) doctors will prefer mineral over chemical sunscreen, and we also prefer actual application – liquid or stick – over spray. Spray sunscreens are chemical sunscreens, and spraying is not an effective way to apply; it doesn't ensure that we are getting the quantity we need for proper sun protection.

Since mineral sunscreens sit on top of the skin, you can feel like you can't rub it in. They're the ones that can give people a white, ghostly sheen. But there are brands with tinted and invisible mineral sunscreens making them more cosmetically appealing.

What is the difference between UVA and UVB rays, and how do different sunscreens interact with them?

UVA rays affect aging, fine lines and sun spots. Mineral sunscreen is the best defense against UVA rays. Chemical sunscreen will not protect as well against UVA rays, since they affect the surface of your skin (remember, mineral sunscreen deflects whereas chemical absorbs). UVB rays cause sunburns and are also major contributors to skin cancer.

What makes SPF makeup and tinted sunscreen less protective than regular sunscreen?

This boils down to the quantity of sun protective ingredient. Looking at pure sunscreen, you can see that the chemical or mineral makeup in the ingredients is in the double digits – 15% to 20% or more.

If you look at the back of your foundation or CC (color correcting) cream that promises sun protection, you are likely to see that the actual sun-blocking ingredient makes up 1% of the formula. That is not adequate! It would be like having a chocolate chip cookie that has 20 chips per cookie, and one that only has one chip per cookie.

We already laid out that mineral sunscreens are the ones to use in beauty regimens as they provide the anti-aging protection we need. But it's also important to know that not all SPF makeup uses mineral sun protection. There are also brands making more tinted mineral sunscreens, but it's also important to understand that these are meant to sit on top of sunscreen for full protection.

What is the recommended amount of daily sunscreen?

One ounce of sunscreen liquid is recommended for total body application. That's about a shot glass full of sunscreen, or the size of a golf ball. Again, this is for full body – for face specifically, we need to ensure our entire face, ears, behind the ears, neck, back of neck, decolletage and lips are all properly covered. We can't act like hats are our only defense – the sun can penetrate the weave in wide-brim hats.

It is also important to note that the second most common place we see melanoma is in the eyes, so we must make sure our eyewear is adequate. Make sure the sunglasses you wear have UV-dipped lenses.

Why is it recommended to wear sunscreen every day, even if we don't go outside?

Despite having an office job, we likely have exposure to UV every day – driving to work, sitting in a park or cafe, walking the dog – we are likely getting some UV just by being outdoors. It's also important to note that clouds are not protection from sun – they're just water vapor.

In the U.S., truck drivers get sun damage and skin cancers preferentially on the left-hand side of the body. Tinted windows do not protect from the sun's UV rays. When we do outdoor activities, water, snow and sand all reflect UV rays back at you, even on cloudy days.

There are some sunscreen bottles with UV indicators on them, so they turn blue or pink when exposed to UV rays. I had a patient who told me that she had one of these bottles in her bathroom. She has a wall of glass blocks that filter light in, and the bottle turned blue! This should tell you how exposed we are to the sun's rays even indoors, near a window.

How important is reapplying sunscreen?

It is very important. We get it! Reapplying is hard! You have a fully done face of makeup, or you just don't think about it throughout the day. Using sunscreen sticks or powders can make reapplication much easier. Even if you reapply imperfectly – powders can be a little spotty, or you're trying to be careful about makeup – it's better than not reapplying at all. The sunscreen you do use is more effective than the sunscreen you don't use!

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