

Sunscreen Formulas Could be Getting a Makeover

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Better sunscreen with improved compounds of key ingredients may hit the shelves soon. Researchers have found that rutile, a form of the popular mineral sunscreen titanium dioxide (TiO₂) is **safer than other forms** and still effective, *ScienceDaily* reports.

While TiO₂ is generally considered safe when applied to healthy skin, new findings suggest that it can create damaging free radicals when exposed to ultraviolet (UV) light. According to the study, published in *Chemical Research in Toxicology*, the researchers **tested three forms of TiO₂** on pig skin exposed to low ultraviolet light. They found that rutile, one of the two most common crystalline forms of TiO₂, has little effect on skin and washes off easily. The other commonly used form, anatase, caused damage to the outermost layer of skin even in the lowest levels of UV light and proved more difficult to remove.

The researchers' findings may lead to more widespread use of rutile over other forms of TiO₂ in sunscreens. "The present findings strongly encourage the use of the less reactive, negatively charged rutile to produce safer TiO₂-based cosmetic and pharmaceutical products," Francesco Turci, Ph.D., of the University of Torino's Chemistry Department, and his colleagues concluded in the report.



To prevent premature aging of the skin and reduce the chances of skin cancer, dermatologists recommend applying a broad-spectrum, water-resistant sunscreen with a sun protection factor (SPF) of at least 30 every day for proper protection against harmful UV rays.

"It's not just the days at the beach that age us, but the daily short-term exposure over years and years. Use sunscreen every day, 365 times a year, in a daily moisturizer," **Paul Jarrod Frank, M.D., PC**, cosmetic dermatologist and founder of 5th Avenue Dermatology Surgery and Laser Center in New York City, told Daily Glow.

Jessica Wu, M.D., assistant clinical professor of dermatology at USC Medical School and a dermatologist in Los Angeles, recommends **applying sunscreen** to the skin in a thin, even layer, making sure to reapply every three to four hours and after sweating or getting out of the water.

Tell us: What type of sunscreen do you use?

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