Sunscreen in 2026: Doping, Regulatory Changes, and Impact on Vitamin D Levels

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Sunscreen continues to be the foundation of successful skin cancer prevention. Daily sunscreen application and reapplication are recommended to prevent all types of skin cancer, with the strongest body of evidence supporting prevention of squamous cell carcinoma.[1] Sunscreens have been used safely for decades; since my last update in 2024,[2] no evidence of harm has emerged, despite the fact that organic (chemical) sunscreen filters are absorbed systemically.[3]

So, what's happening with sunscreen in 2026? Let's review some hot news and fresh controversies.

Sunscreen Doping Is Pervasive

Sunscreen "doping" signifies the sneaky addition of UV filters that have not been approved by the US Food and Drug Administration (FDA) into sunscreens under the guise of inactive ingredients. Why would a manufacturer do such a thing? To enhance a sunscreen's UV absorption without having to increase the concentration of zinc oxide/titanium dioxide (which creates an undesirable white cast) or exceeding the maximum permitted concentration of chemical active ingredients.[4,5] In a 2025 analysis of the top 150 sunscreens sold on Amazon, 48.3% contained these covert UV filters, including almost half of those marketed as mineral-only products.[6] The most prevalent doping ingredient was butyloctyl salicylate, which is chemically and functionally related to the FDA-approved chemical UV filter octisalate (ethylhexyl salicylate).[5]

The practice of sunscreen doping is deceptive. Can a product be accurately marketed as mineral sunscreen if it contains ingredients that function as chemical UV filters but are not classified as active ingredients by the FDA? The bigger picture is that sunscreen doping is a symptom of regulatory malaise specific to the United States. Regulation of sunscreens as over-the-counter drugs plus the FDA's stringent requirements for UV filters to be generally recognized as safe and effective (GRASE) have stymied the approval process to the extent that no new active ingredients have been approved since 1999.[2] The FDA allows 16 active ingredients compared to about 30 in Europe and Asia—not for lack of safety evaluations prior to approval in those regions.[7] In the United States, getting a new active sunscreen ingredient approved is far more onerous and costly than the streamlined processes that are in place abroad. This restricts sunscreen innovation; in particular, the US market lacks the wide variety of international options for protection against long-wave UVA radiation, remaining limited to just avobenzone and zinc oxide. Since long-wave UVA plays a major role in photoaging, this represents a gap in protection compared to international sunscreen offerings.[1,7] Due to domestic sunscreen limitations, some Americans have turned to purchasing non–FDA-approved sunscreens abroad or through online channels.[8]

New Sunscreen Filter Pending Approval, and Hope for Regulatory Changes

Let's move on to a more positive development. A new sunscreen filter is *actually* nearing approval in the United States! Bemotrizinol, also known as bis-ethylhexyloxyphenol methoxyphenyl triazine, is a broad-spectrum chemical UVA/UVB blocker that would represent the first new active ingredient to become available in the United States since 1999.[9] It satisfies the FDA requirement for minimal systemic absorption and GRASE status and has been used with a clean safety record since 2000 in Europe.[10] The icing on top is that bemotrizinol seems to be minimally allergenic, with only a few published reports of contact dermatitis over several decades of use.[11,12]

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Yes, as I write, the FDA is on the cusp of approving bemotrizinol, a great broad-spectrum sunscreen ingredient, to one day be added to the products on our shelves. The cynic in me can't help but point out that it took more than 20 years of effort and an estimated $20 million to get us to this point of near-approval of *one* new sunscreen filter.[13]

Perhaps things won't be so difficult in the future. In late 2025, the bipartisan Supporting Accessible, Flexible, and Effective (SAFE) Sunscreen Standards Act was signed into law.[14] The SAFE Sunscreen Standards Act calls on the FDA to be more flexible and allow for the use of real-world evidence and observational studies to demonstrate safety and effectiveness of active ingredients used in sunscreens. We can only hope that real change is forthcoming and that future sunscreen approvals won't require decades of work and millions of dollars, as in the case of bemotrizinol.

Daily Sunscreen Use Linked to Reduction in Vitamin D Levels

The UVB wavelengths that cause sunburn overlap with those that initiate vitamin D production in the skin, generating concerns about sunscreen use reducing vitamin D levels. Nevertheless, in 2019, expert opinion and a systematic literature review determined that routine use of sunscreen was unlikely to be associated with a reduction in vitamin D levels.[15,16] However, a major limitation at that time was a lack of studies examining vitamin D status in individuals using high–sun protection factor (SPF) sunscreens.

Now we have results from the first field study assessing the impact of long-term daily application of higher SPF sunscreen on vitamin D levels. In the Australian Sun-D Trial, Tran et al[17] randomly assigned 639 participants to either an intervention group (routine application of SPF 50+ sunscreen on days forecasted to have a UV index ≥3) or a control group (discretionary sunscreen use). Vitamin D levels were measured at baseline in the winter/spring, at the end of summer, and then at the end of the following winter. At the end of summer, vitamin D levels increased in both groups but less in the intervention group, then decreased similarly in both groups by winter. Routine sunscreen application was associated with a decrease of 5.2 nmol/L (2.1 ng/mL) in vitamin D levels, which the authors rightfully considered to be modest. Additionally, vitamin D deficiency (defined as <50 nmol/L [<20 ng/mL]) was detected in more of the intervention group compared to the control group (45.7% vs 36.9%). The study reasonably concluded that sunscreen continues to be essential in preventing skin cancers but regular users may require vitamin D testing and/or supplementation.[17]

Looking Ahead

In this update, I discussed several important pieces of sunscreen news. If you check your favorite mineral sunscreen's ingredients list, odds are you will find it also contains inactive doping ingredients shown to secretly enhance UV protection. Perhaps manufacturers won't have to dope sunscreens in the United States forever if regulatory reforms facilitate the approval of active ingredients such as bemotrizinol used safely in other countries without huge investments of time and money. For daily sunscreen users, consider checking and/or empirically supplementing vitamin D.

None of this should discourage us from recommending regular consistent sunscreen application and reapplication to our patients. There continues to be a lack of evidence of harms associated with systemic absorption of chemical UV filters in humans, and sunscreen will continue to function as an indispensable component of skin cancer prevention for the foreseeable future.

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