



(Skin)

Is Your Vitamin C Serum To Blame For Your Skin Struggles?

What no one tells you about the popular ingredient.

●
by **DANIELLE COHEN**
March 21, 2024

We may receive a portion of sales if you purchase a product through a link in this article.

When it comes to notoriety, vitamin C falls within the upper echelons of skin care ingredients, comfortably nestled between the likes of hyaluronic acid and retinol. After all, between the name recognition, a host of proven benefits — including brightening and firming the skin, protecting against sun and environmental damage, diminishing dark spots, and reducing signs of aging — and seemingly endless offerings on the market, vitamin C might as well be an A-list celebrity. But like any

great celebrity, the ingredient has its fair share of controversies and naysayers — myself included.

ADVERTISEMENT

And it's not just the horrid hot dog water smell many serums have. My skin simply doesn't like the stuff, and it seems like **I'm not the only one**. On TikTok, esthetician and product developer **Alicia Lartey** was quick to point out the shortcomings of the revered antioxidant, while New York City-based board-certified dermatologist, **Dr. Mark Strom**, M.D., shared three reasons topical vitamin C might not be for everyone. There's also the **2021 review** published in *The Journal of Cosmetic Dermatology*, which evaluated the efficacy of various vitamin C formulations, and had mixed results at best. All this leads to the question: Are vitamin C's days on top numbered? I turned to a handful of top dermatologists for their take on the matter.

First, What Is Vitamin C?

According to **Dr. Joshua Zeichner**, M.D., a board-certified dermatologist and director of cosmetic and clinical research in dermatology at the Mount Sinai Hospital in New York City, vitamin C is a potent antioxidant that neutralizes free radical damage, blocks production of abnormal pigmentation, and acts as an essential cofactor for the production of healthy collagen. With such an impressive litany of benefits, it's no surprise it's a favorite among skin care enthusiasts.

ADVERTISEMENT

While it's often positioned as the star ingredient in all sorts of skin care products to help brighten overall skin tone and texture, as Dr. Corey L. Hartman, M.D., founder of Skin Wellness in Birmingham, Ala., aptly puts it: "It's not a magic bullet for everyone."

Because for all that there is to love about vitamin C — and admittedly there's quite a bit to love — there's as much to be skeptical about.



What Are The Downsides Of Vitamin C?

The problems with vitamin C are multi-pronged. To begin with, New York City-based board-certified dermatologist **Dr. Teresa Song**, M.D., points out that not all vitamin C products are made equal — the ingredient varies greatly in stability, concentration, and formulation, which can make it difficult to find the right formula for your particular needs.

Vitamin C is an inherently unstable molecule, meaning even the most stable form of the ingredient is prone to some instability if it's not stored properly (which, to be fair, me too). According to Song, vitamin C oxidizes quickly when exposed to light, heat, and air, rendering

the ingredient virtually ineffective and increasing the likelihood of skin irritation. And while brands themselves can do quite a bit to maintain vitamin C stability through dark-colored containers and air-tight packaging, there's still ample risk of user error. For example, a vitamin C product stored in the bathroom could potentially become unstable due to repeated exposure to steam and heat from hot showers. In short, the ingredient is particularly fussy. And that fussiness can lead to quite a bit of irritation, including flushing, peeling, itchiness, burning, and the formation of acne.

L-ascorbic acid, which is generally considered the most effective form of vitamin C and therefore one of the most popular, is also the most unstable, Zeichner says, which means it carries a high chance of irritation. In essence, vitamin C's efficacy is proportional to its concentration, which can be particularly irritating in higher formulations. But even the mildest forms of vitamin C come with a risk of inflammation and irritation. For that reason, **Dr. Ranella Hirsch**, M.D., a board-certified dermatologist in Boston, suggests those with sensitive skin or rosacea stay away from the ingredient.

ADVERTISEMENT

For melanated complexions, especially those that already have an increased risk of hyperpigmentation due to skin trauma (be it acne or pre-existing irritation), vitamin C can also be quite problematic.

“Vitamin C in higher concentrations poses risk of skin irritation, which on the mild end could result in redness, itching and burning,” Hartman explains. “Excess irritation, especially in skin of color, can result in hyperpigmentation, which is usually the exact opposite of what patients want when using a vitamin C product.”

Given vitamin C's proclivity toward instability and irritation, it can be fairly difficult to formulate with and, as a result, tends to be quite expensive. Spending \$100-plus on a single serum just isn't feasible for everyone. Some skin — and some lifestyles — simply aren't compatible with vitamin C.

ADVERTISEMENT



Can You Still Treat Hyperpigmentation If You Can't Tolerate Vitamin C?

It's hard to talk about vitamin C without mentioning hyperpigmentation. After all, it tends to be the gold standard, at least colloquially, at lightening those pesky dark spots. For those like me, who struggle with persistent hyperpigmentation but can't tolerate vitamin C very well, it can feel like we're stuck between a rock and a hard place.

But vitamin C isn't necessarily the hyperpigmentation superhero it's said to be. While it's great at brightening overall skin tone, it's not ideal at treating specific hyperpigmentation. Due to

its instability, the ingredient is rarely meant to be a standalone agent — according to Hirsch, vitamin C formulas usually feature other ingredients, many of which do a lot of heavy lifting fighting hyperpigmentation. Per Song, vitamin C is most effective for hyperpigmentation when coupled with other anti-pigment agents that can work synergistically to block multiple steps of the melanin synthesis pathway.

And as Hartman puts it, depending on what kind of hyperpigmentation you're dealing with, there are many other options that are likely more effective at treating those darker spots than vitamin C alone. In short, it's likely not the vitamin C itself (or at least the ingredient alone) in a vitamin C-centric formula that helps lighten hyperpigmentation — which is great news for people like me.

ADVERTISEMENT

Vitamin C Alternatives

More good news: There are plenty of ingredients and products that feature many, if not all, of vitamin C's benefits sans irritation and instability. Lightening agents like alpha arbutin, tranexamic acid, and azelaic acid are all powerful skin illuminators known to be gentler than vitamin C, Song says. Meanwhile, niacinamide has all the antioxidant benefits of vitamin C as well as its ability to visibly brighten skin — while causing far less irritation than its counterpart. Alpha hydroxy acids like glycolic and lactic acids can also help reduce the appearance of hyperpigmentation by chemically exfoliating the skin. Some skin care brands even use proprietary ingredients clinically proven to lighten dark spots and reduce signs of aging more effectively than vitamin C (more on that below).

ADVERTISEMENT



The Ordinary

Alpha Arbutin 2% + HA Hyperpigmentation Serum

\$12

This serum is kind to both the skin and wallet, evening out tone without running the risk of irritation. The addition of hyaluronic acid leaves skin feeling hydrated and nourished, while the alpha arbutin works to brighten over time.

See On Sephora →

ADVERTISEMENT



Mother Science

Molecular Hero Serum

\$89

After emptying out two bottles of this powerful baby, I can confidently say the Molecular Hero Serum is a top-tier vitamin C alternative. Hartman is also a fan thanks to its use of novel ingredient Malassezin, a powerful antioxidant clinically proven to be 10 times more powerful than vitamin C. Because it naturally occurs in the skin, Malassezin has the unique ability to target hyperpigmentation and signs of aging while improving the skin barrier.

[See On Mother Science →](#)

ADVERTISEMENT



Topicals

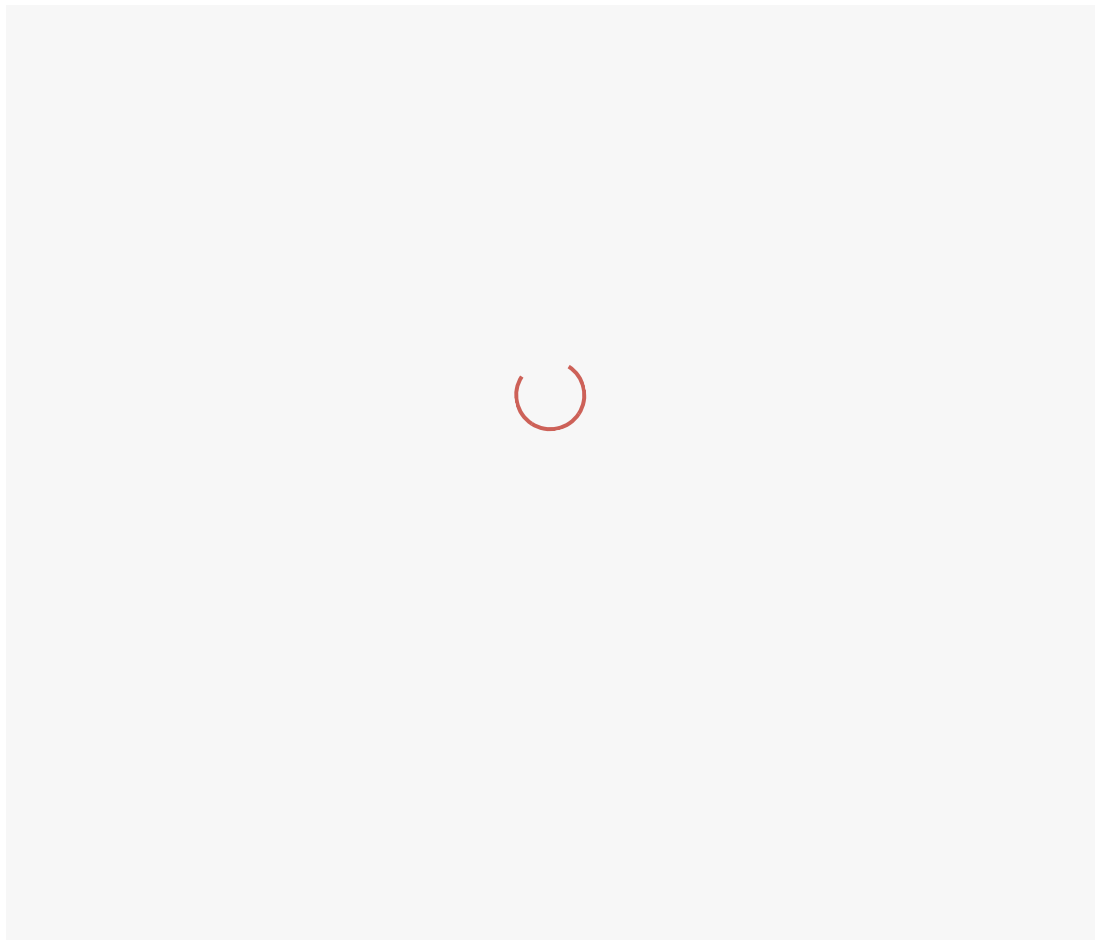
Faded Serum

\$38

Topicals' serum visibly fades stubborn post-blemish marks, dark patches, discoloration, and uneven skin tone thanks to its blend of tranexamic acid, niacinamide, and azelaic acid. It's gentle enough for daily use and is safe for all skin tones.

See On Sephora [→](#)

ADVERTISEMENT



MERIT Beauty

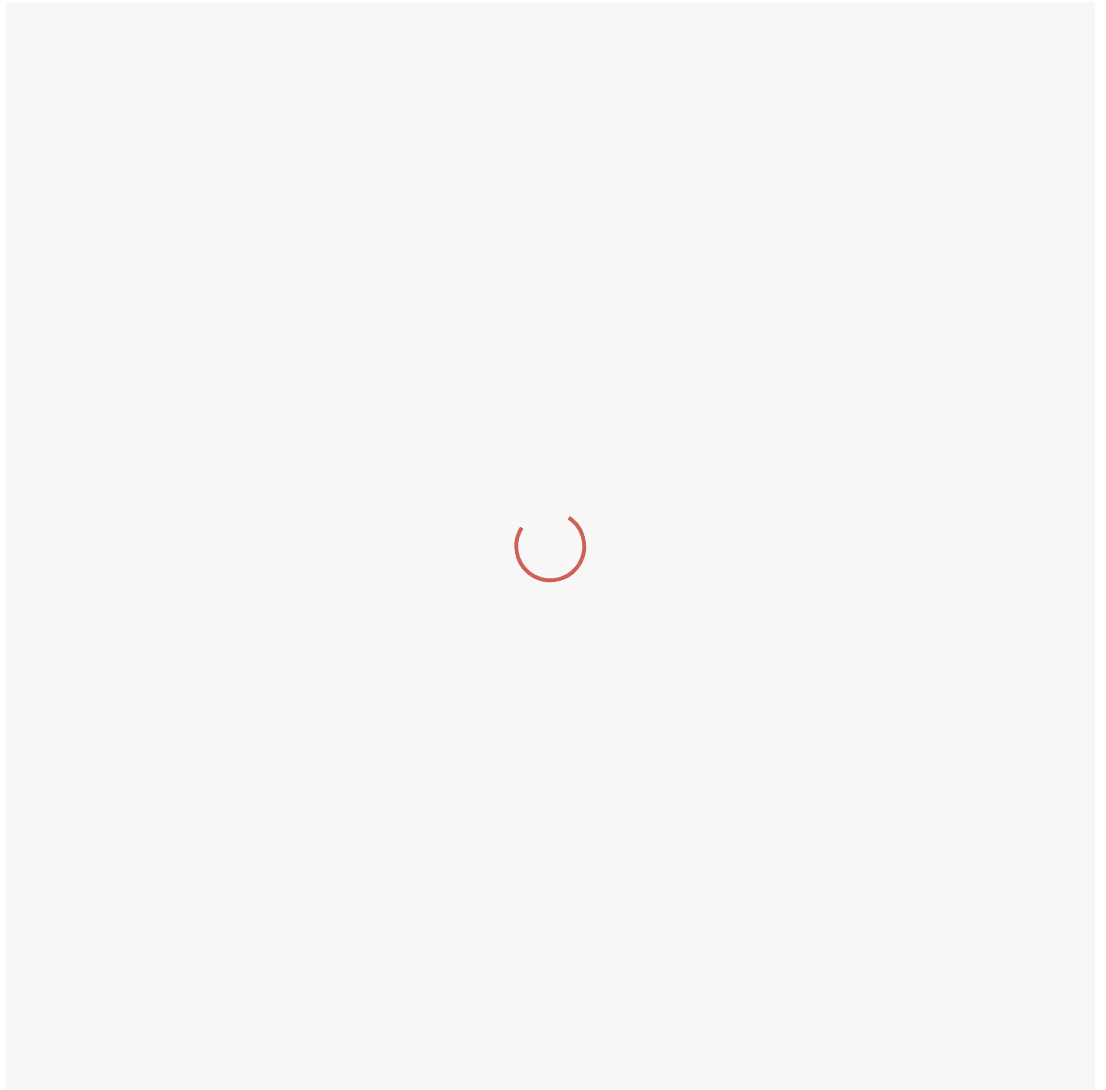
Great Skin Instant Glow Serum

\$38

This bi-phase serum immediately hydrates and plumps the skin while working to create a brighter, more even-looking complexion over time. Hyaluronic acid is paired with niacinamide and cacao seed extract for an antioxidant-rich formula that helps brighten skin and lock in all-day hydration. Bonus points for being especially great under makeup.

See MERIT Beauty [→](#)

ADVERTISEMENT



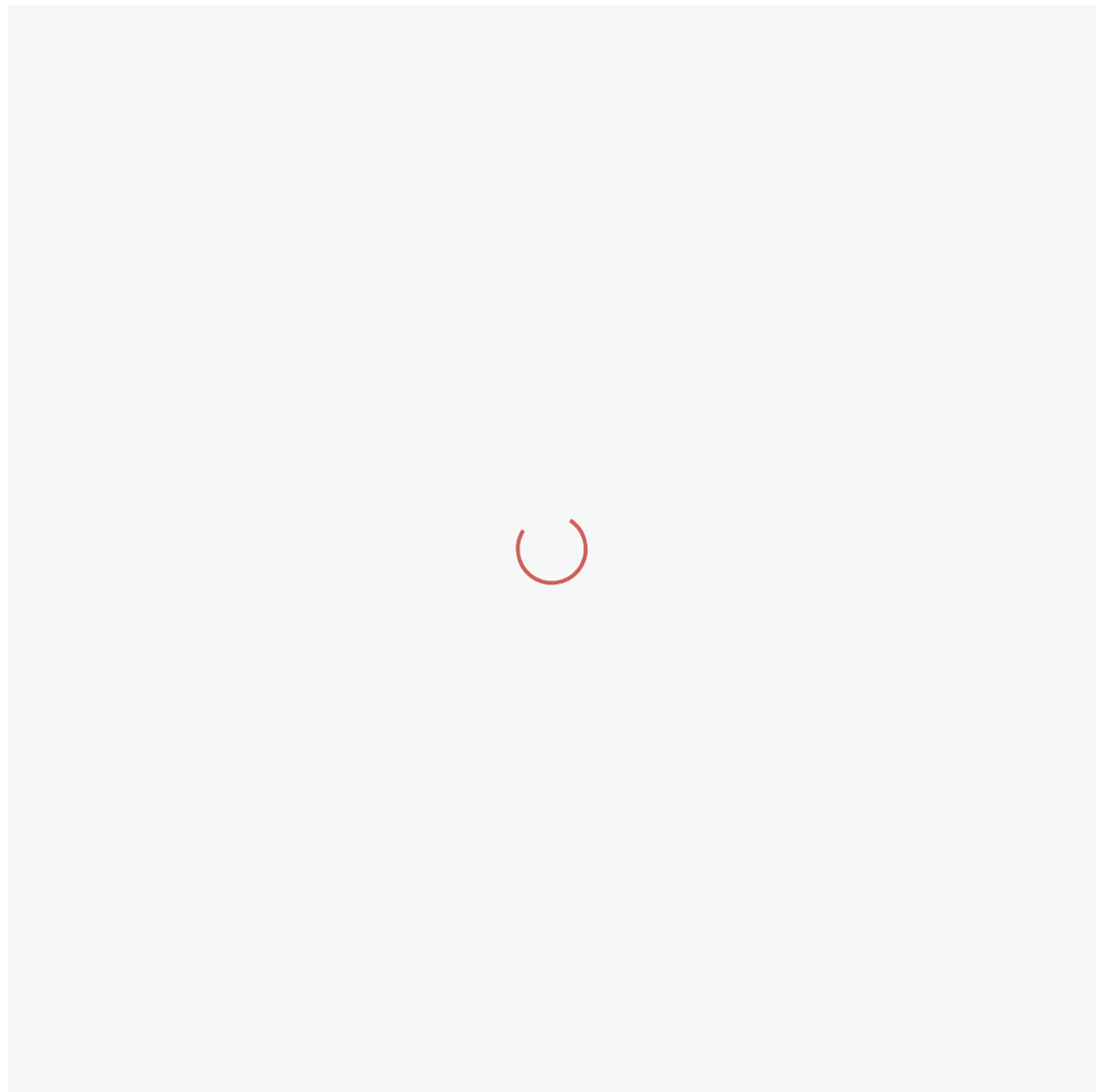
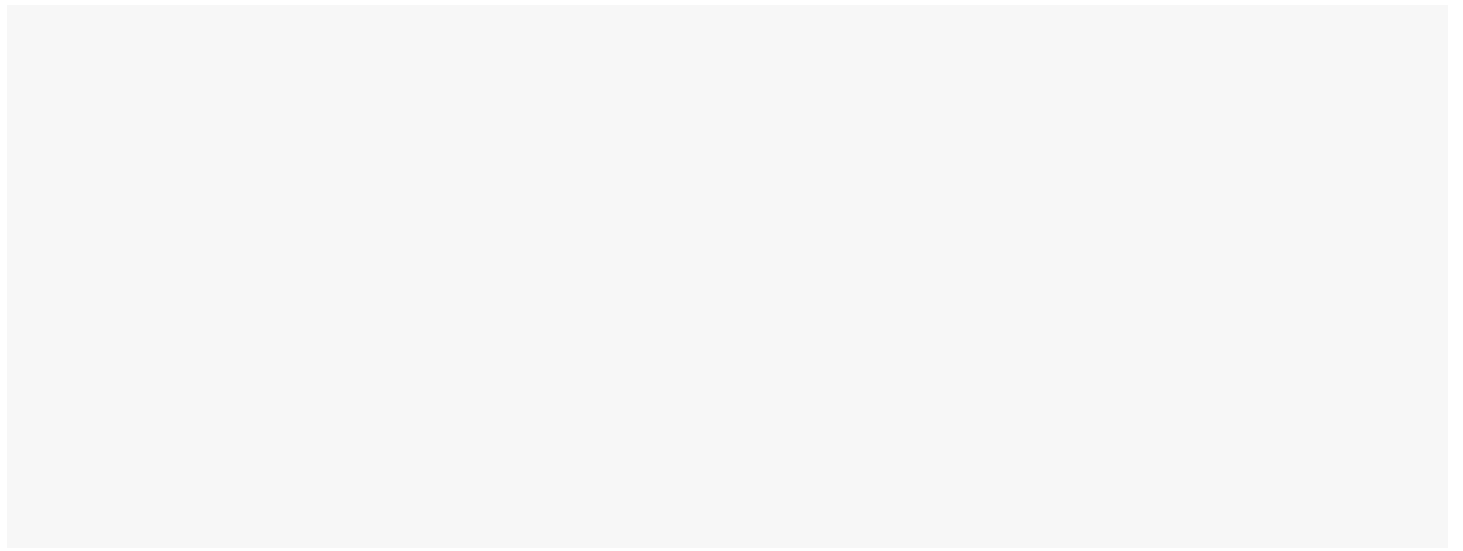
Lion Pose

UNSPOTTED 4X Acid Jelly Serum

\$79

Developed by Harvard dermatologists and formulated with an emphasis on darker skin tone efficacy, this serum features a blend of AHAs and antioxidants to visibly fade spots and repair the skin, while soothing ingredients like aloe, hyaluronic acid, and tiger grass help boost hydration and promote skin repair.

See On Sephora →



Caudalie

Vinoperfect Brightening Dark Spot Serum

\$82

Caudalie's cult-classic serum centers around the brand's patented Viniferine, an ingredient extracted

from grapevine sap that diminishes and prevents the appearance of dark spots and uneven skin tone. The serum is particularly suited for sensitive skin types, and is effective on all visible discoloration (sunspots, acne spots, hyperpigmentation, and melasma).

See On Sephora [→](#)
