



# Ferulic Acid Explained: The Secret to Glowing Skin

OCTOBER 2, 2024 AIDEN VAN WYK

I was scrolling through YouTube shorts when a random dermatologist whispered in my ear: "It doesn't matter how cheap and empty your moisturiser is, if you have a Ferulic Acid Serum, your skin **WILL** glow."

Intrigued, I looked into it. Now I have a Ferulic Acid Serum on my shelf and I use it daily.

Let. Me. Explain.

# What Is Ferulic Acid?

~~Ferulic Acid~~ is a potent antioxidant found in the cell walls of certain fruits and grains like rice, apples and oats. Being an [antioxidant](#), Ferulic Acid is great at neutralizing free radicals and scientifically proven to work synergistically with [Vitamin C](#) and [E](#) - making it particularly effective in [anti-aging](#) and [skin brightening](#) products.

## How do anti-oxidants work?

A simplified explanation would be that there are free radicals constantly floating around -like UV light and pollution. When these radicals graze your skin, tragedy ensues. The small point where the radical meets your gentle and unprotected flesh, cell damage begins and snowballs, resulting in visible inflammation, cellular aging and cell death.

Antioxidants stop the snow balling, keeping the damage inflicted limited and hence cell death minimal.

## Ferulic Acid and Sun Protection

~~Ferulic Acid~~ has photoprotective properties, and is great when combined with other Photoprotective ingredients (like [Zinc Oxide](#) and [Titanium Dioxide](#)) to shield your skin from sun damage. It's stability under UV exposure makes it highly sought out in serums and creams targeting hyperpigmentation, fine lines, and wrinkles.

## Why choose Ferulic Acid if there are other anti-oxidants?

I hear you - if [Ferulic Acid](#) for skin works well as a booster to other antioxidants - why not just stick with the initial products? Why the extra steps? My Ascorbic Acid is doing me good.

Well, a small note is that [Ascorbic Acid](#) breaks down and degrades very easily. Ferulic Acid helps stabilise and prolong the potency of a Vitamin C Serum.

Look - maybe I'm biased, but I prefer simple. And to keep it simple I have one product completely optimised for a certain function. That's why I have one potent Skin Brightening Serum on my shelf. I tried to optimize this further by making the water base a [Liquorice Root Extract](#).

Crazy? Maybe. But I'd rather be crazy with bright skin than just crazy and dull :)

## How to Use Ferulic Acid in Formulation

Let's dive into how to formulate with Ferulic Acid.

### What is the Solubility of Ferulic Acid?

~~Ferulic acid~~ is [water soluble](#) and highly soluble in alcohol-based solvents.

Dissolving Ferulic Acid into water can be a bit tricky but I found it to be very doable. The way I dissolved Ferulic Acid into the water is sprinkling the Ferulic Acid into the water while continuously stirring, like we do with [Xanthan Gum](#).

Other ways to dissolve the Ferulic Acid would be to:

- Have the water be warm/ hot as higher temperatures increases the solubility.
- Have your water be slightly alkaline, as this would also increase solubility.

If you are creating [oil-based serums](#), Ferulic Acid won't dissolve without a suitable solvent.

## What is the preferred pH range of Ferulic Acid?

~~Ferulic Acid~~ is most stable in a pH range between 3 and 5.5 and tends to function well in slightly acidic to neutral environments. If you are combining Ferulic Acid with [Vitamin C](#), you should keep the pH at around 3.5 for optimal performance.

## What is the Recommended Usage or Concentration for Ferulic Acid?

~~Ferulic Acid~~ should be used at a concentration between 0.5% and 1.5% in most skincare formulations. Anything higher could cause irritation, especially for sensitive skin. A basic guideline would be:

- Serum: 0.5% - 1.5%
- Moisturiser: 0.5% - 1%
- Sunscreen Formulations: Up to 1%, to boost Photoprotection

## Is Ferulic Acid Light Sensitive?

~~Ferulic Acid~~, like many [antioxidants](#), is sensitive to light and air exposure. With exposure it can degrade and lose its efficacy. Dark, airtight containers help to minimize this degradation:

- ~~Dark containers~~ (like [Amber Bottles](#)) protect the product from light exposure.
- Airtight pumps or containers minimises the product's contact with oxygen, which can cause oxidation.

These packaging choices help maintain the product's potency and extend its shelf life.

## What can Ferulic Acid be paired with?

~~Ferulic Acid~~ pairs beautifully with:



~~Vitamin C (Ascorbic Acid):~~

Ferulic Acid stabilizes Vitamin C, enhancing its antioxidant properties and extending its shelf life. This increases photoprotection and improves collagen synthesis.



~~Vitamin E (Tocopherol):~~

Together they create a potent antioxidant system, enhancing each other's effectiveness. This improves protection against free radical damage and UV radiation.



~~Niacinamide:~~

Both ingredients have anti-inflammatory properties and support skin barrier function. This enhances skin brightening and improves overall skin health.



~~Hyaluronic Acid:~~

Ferulic Acid's antioxidant properties compliment Hyaluronic Acid's hydrating effects. This improves skin hydration and protection against environmental stressors.



~~D-Panthenol:~~

Panthenol's moisturizing and skin-soothing properties compliment Ferulic Acid's antioxidant effects. This enhances skin hydration, reduced inflammation, and improves skin barrier function.



~~Green Tea Extract:~~

Both are potent antioxidants with complimentary effects. This increases protection against UV damage and improves anti-inflammatory action.



#### [Liquorice Root Extract:](#)

Liquorice Root's skin-brightening properties pair well with Ferulic Acid's antioxidant effects. This enhances skin-brightening and anti-inflammatory effects.

**Formulating Tip:** Avoid pairing Ferulic Acid with high levels of exfoliating acids like [Glycolic](#) or [Salicylic Acid](#), which can destabilize it and cause irritation.



## Is Ferulic Acid Safe for Sensitive Skin?

Ferulic Acid is generally gentle on skin but could possibly cause sensitivity when used in high doses or combined with other ingredients that synergistically increase in potency. People with allergies to grains (especially wheat, corn, or rice) should be cautious, as Ferulic Acid is often derived from these sources.

If you are formulating products with Ferulic acid, do tests for irritation first, particularly if you are combining Ferulic Acid with Vitamin C (or other acids).

Please try a patch test first before full application. To patch test, apply a small amount of the product to a discreet area of skin (like the inner forearm) and observe for 24-48 hours. Look for signs of irritation such

as redness, itching, burning, or swelling. If no reaction occurs, it's generally safe to use the product as directed.



## Powerful Protective Ferulic Serum

An anti-aging brightening serum, Ferulic Acid offers both skin protection and rejuvenation. I use this daily and replaced the Glycerine with a Liquorice Root Glycerite.

### Ingredients:

- 🕒 20% [Ascorbic Acid \(Vitamin C\)](#)
- 🕒 1.5% [Ferulic Acid](#)
- 🕒 2% [Vitamin E \(Tocopherol\)](#)
- 🕒 10% [Glycerine](#)
- 🕒 0.5% [Xanthan Gum](#)
- 🕒 0.7% [Geogard 221](#) (Preservative)
- 🕒 65.3% Distilled Water

### Optional:

🕒 [pH Test Strips](#)

🕒 [Citric Acid](#)

**Method:**

1. In a beaker, mix the Glycerine and Ferulic Acid. Heat gently (around 40°C) and stir until fully dissolved.
2. In a separate container, sprinkle the Xanthan Gum over 20g of water and mix well to hydrate.
3. Add the Ascorbic Acid to the remaining water (45.3g) and stir until fully dissolved.
4. Combine the Ferulic Acid-Glycerin solution with the Vitamin C solution.
5. Add the Xanthan Gum mixture and blend thoroughly.
6. Add the Vitamin E (Tocopherol) and mix thoroughly.
7. Finally, add the Preservative and stir to incorporate.
8. Adjust the pH to 3.0-3.5 using pH Test Strips and \*a citric acid solution if needed.
9. Transfer to an airtight pump bottle or dark glass container to protect from light and air.

**\* To make a quick citric acid solution:**

Mix 6g citric acid with 14g of distilled water. Add a few drops at a time and check Ph throughout.

Store in a cool, dark place. Use within 3 months for best results.