

Formulating With Hyaluronic Acid

Hyaluronic acid hardly needs an introduction as it is one of the most marketed actives in the cosmetic industry. It is found naturally in the body and keeps our skin soft and supple, moisturised and plump. Like with collagen, as we age, our bodies produce less hyaluronic acid which can lead to the appearance of aging skin. Hyaluronic acid is therefore a really popular ingredient to add to skincare products as it has anti aging benefits.

We stock hyaluronic acid in two forms, a [ready-prepared 1% serum](#) and the [pure powder](#). If you have the 1% serum you don't need to prep it any further, it's ready to use directly on your skin or in formulations. If you have the powder, simply sprinkle it into water and let it hydrate - we'll explain further below.

pH

Hyaluronic acid (serum and powder) has a natural PH of around 6 but can vary slightly between batches or brands. It is not particularly pH sensitive so you can easily adjust your product pH to be at skin levels, around 4.5-5.5.

Solubility

Hyaluronic acid is water soluble and really loves water! Its most famous property is that it can hold 1000x its weight in water. You won't be able to mix it with oils unless you use an emulsifier (in which case you will end up with an emulsion/cream).

Usage

Hyaluronic acid doesn't have a specific usage rate, but you will want to use it at specific amounts depending on your formulation and product.

In toners, I recommend 5% of the 1% HA solution, although you can go higher if you like. A great, easy

toner is 5% HA in 95% [hydrosol](#).

In water or emulsion serums, I typically recommend 5% of the 1% HA solution as well, although you can probably go higher if you like.

In moisturisers I recommend 1–2% of the 1% HA solution. Like some gums or polymers, hyaluronic acid can contribute a slight ‘soaping’ effect (where it leaves a white cast on the skin as you rub in). If you’re using another gum such as xanthan gum as a stabiliser as well, this can really be exaggerated. You may need to reduce your xanthan gum or rework your formula a bit if this is a problem for you.

You can use hyaluronic acid directly on the skin too. I highly recommend applying it to wet skin, and then spritzing with water or hydrosol as it dries, to allow it to carry maximum hydration into your skin.

Combinations With Other Ingredients

Hyaluronic acid works well with other water based and water soluble ingredients.

Oils will need to be used in conjunction with an emulsifier as HA is water soluble and water and oil don’t mix.

What Kind Of Products Contain Hyaluronic Acid

Hyaluronic acid is found in an array of different products, from toners/spritzers and serums to moisturisers and increasingly, haircare. It works best in leave-on products.

Making a Stock Solution With Hyaluronic Acid Powder

[Hyaluronic acid powder](#) is rather useful if you would like to make a more concentrated HA stock solution, other than the standard 1% solution. Here is how you do it:

1. Firstly, decide on your HA concentration. Most HA serums are 1% but you can go higher; try 2% or I’ve even made a 5% concentration. I recommend 5% as your maximum concentration; if you go any higher than that it will be too thick to work with.
2. You now know your concentration so that gives you your ingredient percentages to work with. For example, 2% HA powder, 97% water, and because there’s water you will require a [preservative](#), usually used at 1%. The total is always 100%. If you’re unfamiliar with working in percentages, [please read this](#).

3. In a [beaker](#), weigh out the water amount, stir in the preservative, and then weigh and sprinkle in the HA powder. Cover the beaker and allow it to hydrate overnight.
4. That's it! The ingredients will have combined into a beautiful clear HA gel solution which you can now use directly or in formulations.

If you're making a solution to use up straight away in a formulation or direct on the skin, you needn't include a preservative. But a preservative is required if you want your stock solution to have a shelf life.