

# Formulating With Hydrolyzed Proteins

Hydrolyzed proteins are a type of cosmetic active, and are, as their names implies, proteins. Proteins are wonderful ingredients in skin and hair care products as they are naturally found in the body and are therefore extremely beneficial.

We stock four kinds of proteins: hydrolyzed wheat, hydrolyzed jojoba, hydrolyzed vegetable keratin and hydrolyzed marine collagen.

They have film forming, humectant, moisturising and conditioning properties. These all make them particularly desirable in hair care products, but also good in skincare products.

Here is a little more about each:

## **Hydrolyzed wheat protein**

Protective, moisture balancing and film-forming, [hydrolyzed wheat protein](#) adds a moisture component to all kinds of creams and hair products.

## **Hydrolyzed jojoba protein**

Sourced from jojoba seeds, which are rich in protein, [hydrolyzed jojoba protein](#) is conditioning, softening, smoothing, film-forming and reparative.

## **Hydrolyzed vegetable keratin**

Produced from 18 amino acids, this [vegetable based keratin](#) increases hair strength and elasticity, reduces static and frizz, and is protective.

## **Hydrolyzed marine collagen**

A natural humectant and moisturiser, [marine-derived collagen](#) adds moisture to hair and skin, is protective and contributes firmness to the skin.

Now that we know a little about each protein, let's learn a little more about how to work with them:

## Solubility

Being hydrolyzed, or fused with a hydrogen atom, hydrolyzed proteins are water soluble.

You will not be able to combine them with oils or oil based ingredients without the use of an emulsifier.

## pH

Hydrolyzed proteins typically come in very friendly-for-skin-and-hair ranges of between 4.5 and 5.5. See below for exact pH's:

Keratin - 4.8

Wheat - 4.8

Marine collagen - 5.2

Jojoba - 4.5

## Usage

All our hydrolyzed proteins have recommended usage rates of 2-5%. Add them at cool down, or to the water phase if cold processing a formula.

While technically the hydrolyzed proteins can be used directly on skin, I personally prefer to mix them with a hydrosol or into a product such as a spritzer/tonic, serum or cream.

## Tips To Working With Hydrolyzed Proteins

Be careful of ingredients that denature proteins: strong acids, strong bases and alcohol.

So don't combine hydrolyzed proteins with glycolic or lactic acid, lye/sodium hydroxide or potassium hydroxide, or alcohol, or they will be denatured and not provide their benefits.

Proteins can be substituted for one another in most cases. So if you have one but not another, feel free to make a substitute.

## Other Ingredients That Work Well With Proteins

Apart from the denaturing from the strong ingredients mentioned above, hydrolyzed proteins work well with most other ingredients.

They also work well with each other, and you can combine more than one protein together. However I do suggest keeping the total within the recommended usage rate of 2-5%. So even if you're using more than one, don't let them add up to more than 5% or there may be some instability with the formula.

Being water soluble you will need an emulsifier in order to combine them with oils. Make sure your emulsion is well stabilised as well, otherwise the proteins may fall out. I like to use a stabilising gum or fatty alcohol to do this, alternatively use a co emulsifier along with your main emulsifier.

## Types Of Products That Contain Proteins

Hydrolyzed proteins all work well in serums, emulsions and leave on and rinse off hair products. I don't recommend adding them to rinse off skin care products as they won't have time to do much good.

Here is a simple formula that anyone can make, using hydrolyzed proteins:

### Simple Protein-rich Hair Tonic

95% [rosemary hydrosol](#)

2% [keratin](#)

2% [jojoba protein](#)

1% [preservative](#) (I use [Sailguard BDHA](#))

#### [Spritzer bottle](#)

Weigh and add everything to the spritzer bottle, then shake well to combine. Put on the lid and spritz into damp hair and scalp after washing, massaging in with your fingertips.

### More Formulas Containing Proteins

[Luxury Serums For Anti Aging & Problem Skin](#)

[Conditioning Shampoo Bar](#)

[Herbal Hair Serums & Mists](#)