



SKIN BEAUTIFUL DERMACEUTICALS™

The Science Behind Exfoliators

Alpha Hydroxy Acids

Alpha-Hydroxy Acids (AHAs), such as those found in SBD's **Refining Micro-Peel Pads** are naturally occurring acids derived from the sugars in particular plants. These acids work at the very base of the stratum corneum, dissolving the cement that holds dead skin cells together. This dissolution increases cell turnover and influences the creation of a new stratum corneum in the skin. The result is skin that is more flexible, smoother, softer, and with a more even tone and pigment. At lower strengths, AHAs significantly improve the skin's ability to hold moisture while removing superficial dead skin cells which prepares the skin for active treatment products. At higher strengths, deeper dermal effects, such as increased collagen and increased skin thickness and plumpness are observed.

Glycolic acid, the most common alpha hydroxy acid found in cosmetic preparations, is popular mainly because it was the first alpha hydroxy acid to be discovered and it also the cheapest acid available. Unfortunately, the small molecular structure and rapid penetration of glycolic acid also make it the most irritating of the group. Many women cannot tolerate the strengths necessary to achieve the highest skin remodeling effects due to the irritancy.

Lactic acid is a natural humectant that draws and holds water in the upper layers of the skin. Alpha hydroxy acids as a whole can increase the skin's ability to trap water due to an increased production of natural skin moisturizers (hyaluronic acid), but lactic acid's extra humectant properties make it even more ideal for treating drier skin types or for those living in low humidity climates. Lactic acid's larger molecular size also makes it much less irritating than glycolic acid. Additionally, because lactic acid is naturally found in the human body, it is not likely to cause an allergic reaction in those with reactive skin. Lactic acid is ideal for those with slightly sensitive, dry skin or allergy-prone skin. It is also well known to be particularly beneficial in treating pigmentation.

Mandelic Acid is a relatively new acid with a larger molecular size than traditional acids. This makes it excellent for those sensitive to other AHAs. Mandelic Acid is also very effective for hyperpigmentation problems, making it the acid of choice for those suffering with age spots, sun damage or melasma. Mandelic Acid also does triple duty to unclog pores and prevent or clear up acne due to its ability to penetrate and clean pores.

Beta Hydroxy Acids

Salicylic Acid, found in SBD's **Gentle Daily Peel**, is a Beta Hydroxy Acid (BHA). While best known as an acne treatment, its benefits far exceed blemishes and breakout-prone skin. The exfoliating action of BHA is similar to that of alpha hydroxy acids, but it is highly oil soluble and has the ability to penetrate and clean out pores. What's more, salicylic acid doesn't generally sting and has anti-inflammatory properties (it's related to aspirin), so many people with sensitive skin or even rosacea can use BHA if it's buffered and not greater than 2% potency. Salicylic acid is particularly effective at decreasing the number of blackheads and whiteheads and helping to keep acne at bay, however, it is also an exceptional and, in lower strengths, gentle, exfoliator for skin rejuvenation for the reasons stated above. At 2%, the amount found in SBD's **Gentle Daily Peel**, it is excellent for removing superficial dead skin cells and preparing skin for active treatment products.

The Importance of pH and Free Acid Values

Although Alpha Hydroxy Acids and Beta Hydroxy Acids are both exceptional skin rejuvenators and anti-aging products, the **free acid value** of the acid used is absolutely critical in obtaining desired results. The free acid value is the pH of the exfoliating product before any buffering agents have been added. A product with no buffering agents will have a pH of 1.9. This is called an unbuffered acid and is typically used only by health care professionals.

Buffering products is necessary to avoid irritation for at-home use. However, only a slight buffering is needed to achieve this goal. By way of comparison, a buffered product with 8% acid content, but a pH of 4, will have a free acid value of only 4.7. This is extremely important when comparing products - and even brands - as the benefits to skin derived from a free acid value of 4.7 are much lower than those derived from a product with a free acid value of 8. In short, don't be fooled by products that claim a very high percentage of acid, but are really buffered products.

To make matters worse, BHA is not even effective if the pH is more than 3.5. There are very few products that include BHA in an effective pH range; rather, most are so highly buffered as to render them almost useless. SBD's **Gentle Daily Peel** is formulated with a pH of 3.2 to ensure maximum efficacy.

A 2-4% **free acid value** is generally the threshold minimum for *any* beneficial effect to take place. The following chart indicates free acid values and the derived skin benefits:

- * 2-4% - smoother, softer, more even skin due to removal of superficial cells, with a moderate increase in glycosaminoglycans (GAGs) and improved moisturization
- * 4-8% - moderate increase in squamous cell turnover with a significant increase in GAGs
- * 8-12% - significant increase in squamous cell turnover with moderate increase in collagen

deposition.

* 12-15% - significant increase in collagen deposition along with thicker, less fragmented elastic Fibers

* 15-20% - a more uniform melanin pattern and reversal in basal cell atypia

SBD's **Refining Micro-Peel Pads** contain a total of 15% AHAs at a pH of 2.5. This provides you with the highest benefits referenced above, which means you can expect the very highest in skin remodeling and rejuvenation. This product's efficacy rivals prescription Retin-A, but without the irritation. You can expect significantly softer, smoother, plumper skin with more hydration, less lines and a more even skin tone.

SBD's **Gentle Daily Peel** will also provide softer, smoother, more even skin, but with less effect on deeper wrinkles and collagen formation. Both of our exfoliating products provide the benefits of unclogging and tightening pores. Also, although the chart does not specifically state so, the effect of exfoliation and squamous cell turnover is to remove pigmented skin cells as well. If the new cells which replace the old ones are not pigmented (due to the use of our skin lightening and brightening products that inhibit pigment formation), then exfoliators will eventually remove the pigmented skin and reveal even-toned, younger-looking skin.

Although more significant improvement may be seen with stronger products, such as the **Refining Micro-Peel Pads**, it is **imperative** that you start slowly and work your way up. That is why the directions for the **Refining Micro-Peel Pads** state to initially use only one to two times a week. However, because of the gentle action and skin-soothing ingredients found in the **Gentle Daily Peel**, this exfoliator can be used daily – even twice daily on any trouble areas -- and is exceptional for those whose skin tends to form a dull layer very quickly. It can also be used on the nights you are not using the **Refining Micro-Peel Pads**. Another option is to use the **Gentle Daily Peel** as your regular exfoliator and use the **Refining Micro-Peel Pads** once a week for an intense skin remodeling booster – almost like an at-home “lunchtime peel.”

The goal is to improve your skin, not irritate it. If at any time you experience irritation, you should back off until your skin returns to normal and then begin again, more slowly this time. If this sounds confusing, it's really not. It just takes a bit of work to find out what your skin likes best and what works best for you. Just be willing to experiment and you'll be fine!

As always, if you have any questions, you can always email us at support@skin-beautiful.com
We will be very glad to help you!