

Ingredients for Ethnic Hair & Skin



Differences in Skin Function

Compared to light skin, darker skin has been shown to have:

- Equal thickness
- Equal size of skin cells
- Increased number of cell layers
- Increased resistance to stripping
- Increased recovery after stripping
- Increased lipid content
- Increased electrical resistance
- Increased desquamation
- Decreased amount of ceramides
- Different reactivity of blood vessels

Racial variability in skin and hair function is an area where available information is conflicting and leaves open questions. Is deeply pigmented skin different from fair skin in terms of responses to chemical and environmental insults? Are skincare and hair the same? Are there different risks among racial groups of developing a skin disease after exposure to the same elements?

Different Skin Structure

As shown in several clinical studies, the barrier function (determined as trans-epidermal water loss), skin conductance, skin thickness, water content of the upper layer of the skin, and skin mechanical properties differ among various ethnic groups. Differences are marked in bio-mechanical features. Such as skin extensibility, skin elastic modulus, and skin recovery.

Further studies have shown that irritation revealed a different pattern reaction in Caucasian people and African-American people after exposure to harsh chemicals. In particular, African-American and Hispanic people developed irritant reactions after exposure to sodium lauryl sulfate (a common surfactant in commercial cleansing products, like shampoo).

The reasoning for this might be because of a different reactivity of blood vessels in African-American skin, compared to Caucasian skin. Hyperemic reactions (blood flow in the skin) after the application of chemical compounds to the skin (clobetasol) are significantly less in African-American skin than in Caucasian skin. However, much remains to be done to understand the various mechanisms underlying the different clinical expressions.

Characteristics of African-American Hair

The most common hair and scalp complaints from African-American people are hair damage, breakage, scalp itching, dandruff, scalp flaking, and hair loss over the crown of the scalp and temporal areas. African-American hair is asymmetrical from root to tip, a structure that is shared among curly hair types, according to research presented at the L'Oreal Ethnic Hair and Skin Research symposium last October.

Structure and Composition of the Hair

Experimental evaluations of hair failed to demonstrate biochemical differences among ethnic groups, but some structural differences have been found. In the cross-section, African-American hair tends to be more elliptical, with the hair follicle showing a spiral shape.



Those with curly hair are more sensitive to the exposure of sodium lauryl sulfate, commonly found in shampoos.

Ethnic Hair Protectants and Humectants

- Proteins (wheat protein, collagen, silk protein)
- Silicones
- Vitamin B5
- Natural oils (avocado oil, Brazil nut oil, jojoba oil/wax, grape seed oil)
- Aloe vera
- Botanicals (chamomile, lavender, tea tree, rosemary, passionflower)



Various botanicals like chamomile and lavender are great for ethnic hair.

The tightly coiled shape of African-American hair leaves the cuticle more susceptible to dryness and damage from heat styling, chemical processes, and the sun.

African-American hair naturally has a curl pattern. While an increasing number of people wear their hair naturally, relaxed hair is still a trend. Sales of hair relaxing products, such as conditioners and other deep conditioning treatments rose by 37.3% last year in the US. About 75% of African-American consumers use chemical relaxers, which is the largest ethnic hair care category.

Hair relaxing chemicals that straighten the hair, known as relaxing, involves a process where the basic structure of overly curly or wavy hair is changed into a straight form. There are three basic types of hair relaxers - sodium hydroxide, guanidine hydroxide, and ammonium thioglycolate. Sodium hydroxide is the strongest of the three relaxers. It's a caustic type of chemical that softens the hair fibers. The chemical also causes the hair to swell at the same time. Sodium hydroxide solution penetrates the middle of the hair shaft and breaks the cross-bonds of proteins. The higher the strength of sodium hydroxide (5-10%), the higher the pH (10-14), and the faster the straightening solution will take hold. Guanidine hydroxide (no-lye relaxers) tends to be less damaging than sodium hydroxide. However, they still de-fat the scalp. Guanidine hydroxide relaxers usually require conditioning treatments before and after. Ammonium thioglycolate (thio relaxers) is less effective and less damaging than the other two relaxers. With a pH of 9-9.5, it still requires neutralization.

Usually, a protective petroleum cream is applied to the scalp and other areas of the hair that have been straightened to prevent over processing, hair breakage, or skin irritation. After the chemicals have been rinsed out with warm water, a neutralizer is applied to the hair to decrease the high alkaline pH, which could make the hair swell and break. Then, a conditioner is applied (sometimes before the relaxer as well), which can be a cream conditioner, a protein, or a liquid conditioner.

Protectants and Natural Ingredients

Relaxed hair, especially when double-processed (relaxed and colored), is fragile, dry, and needs protection. Leading products contain a mixture of natural humectants, natural emollients, body-enhancing polymers (silicones), proteins, antioxidants, and amino acids to seal moisture into the hair and to keep the hair soft and conditioned.