

Have you ever wondered where the classification types for hair come from? Chris Rock made a documentary called 'Good Hair' in 2009, which inspired the start of the 'Natural Hair Movement'.

Consumers moved to products that protected and showcased shiny, healthy, natural curls, and they learned about products they ought to select to achieve a desired curly hair style. This inspired Andre Walker, a hair specialist, to develop a system that classified hair fibers based on their observable natural curl patterns and shapes. (By the way, he became famous as Oprah Winfrey's and Michelle Obama's hair stylist!) Rather than just using the four categories for straight, wavy, curly, kinky, and coily morphologies (types 1-4), he included three subcategories that correspond to increasing hair diameter and therefore increasing coarseness. Type 1 hair is perceived as bone straight, while type 4c is perceived as the most tightly coiled, kinky, and delicate of all hair types.

### **The typical properties of type 4c hair**

Type 4c tends to be dry, prone to breakage, and requires intense moisture, slip, and gentle handling. The reason for this is that sebum, the hair's lubricant and sealant, does not travel as easily to the hair roots to seal and moisturise the hair.

The cuticles in dry hair lift, causing friction and, in general, making it very difficult to manage.

Moisturisation and hydration are the keys to healthy hair and are essential for the long-term manageability of exceptionally curly hair. When the hair shaft is lubricated, it reduces friction and prevents breakage, especially at the ends. It makes the hair more elastic, helping it to stretch and return to its natural shape without breaking, making it more resilient. Hydrated hair is less prone to frizz, as moisture helps smooth down the hair cuticle and reduce static. When hair is properly moisturised, the cuticle lies flat, reflecting light and creating a healthy shine. Moisturised hair is easier to comb through and style, reducing tangles and knots. Moisture acts as a barrier against environmental damage, such as heat and UV rays. The scalp, like the skin, needs hydration to function properly, and healthy hair growth depends on a healthy scalp.

### **Ingredient options for curly hair**

A cocktail of ingredients that addresses all the challenges that result from dehydrated hair will help to improve the overall condition and manageability of the hair. So, to get you started, we have listed a few of many options.

**Sunquart CAP50** (Palmitamidopropyltrimonium chloride) is a cationic surfactant (50% active liquid) that is an amidoquat, and because of its higher HLB value than conventional quaternaries, it is possible to use a lower concentration (1-2%) with similar results.

**Polimero W-25** is a water-soluble non-ionic resin with excellent slip properties, no build-up, and can be used in detanglers and leave-on conditioners to ease combing. The functions of sebum on the scalp and hair are to help maintain hair hydration, protect the hair and scalp from moisture loss, and maintain the hair's emolliency and softness. **CustoQuat**

**Honey** (hydroxypropyltrimonium honey) is a lighter hair conditioning agent that, combined with the Polimero W-25, can be used in a light, sprayable leave-in conditioner for detangling the hair.

**Epinutrix** (Panthenyl Dibehenate/Oleate) is a biomimetic lipid that functions like sebum in dry hair and on dry scalp. It can be used at levels as low as 0.5 - 1.0% and is stable at pH 1.5 - 13. If you would like to use a natural oil as an intensive treatment, you could add **Durosoft PG4-O** (Polyglyceryl-4 oleate), a natural water-in-oil emulsifier, to help rinse it out of the hair easily. **Quattro** (Salvia Hispanica (Chia) Seed Extract, Simmondsia Chinensis (Jojoba) Seed Oil, Squalane) is the answer for light lubrication, conditioning, and frizz control. Chia seeds contain film-forming polysaccharides, lipids, and proteins that form an adhesive film on the cuticle, contributing to the softness and smoothness of the hair strand. Many texturising and hair colouring treatments that only perform at high pH, result in cuticles that are lifted and damaged. Dry or damaged hair cannot reflect light evenly, and the hair appears dull and rough. **Florlic Hibiscus** (Hibiscus sabdariffa flower extract, phenoxyethanol, and ethylhexylglycerin) contains low molecular weight organic acids that permeate the hair strands, and at an ideal pH of 4.5 - 5.5, the cuticles contract and align, creating a flatter, more regular surface that improves the hair's ability to reflect light, hence shine. Contracted cuticles add strength to the hair strands. Hair acidifiers help to maintain hair colour because flat, contracted cuticles prevent the colour from leeching out.