



Chemyunion Inc

www.chemyunion.com

Cross-linking ingredient to repair and protect chemically damaged hair

PRODUCT/SERVICE BACKGROUND INFORMATION

Different chemical hair treatments, such as hair bleaching, coloring, straightening, and curling can cause damage and structural changes to the hair fiber. That is why maintenance or repair, during or after aggressive treatments, is important when looking for high-performance solutions. Bleaching is a treatment that can cause the most damage. It causes the hair to be more porous and frailer due to the degradation of amino acids, disruption of disulfide bonds, and weakening of hydrogen and ionic bonds. Because of this, there is great interest in developing effective products with a cross-linking action for the protection and recovery of damaged hair.

WHAT IS THE COMPANY INTRODUCING TO THE MARKET/INDUSTRY?

Aimed at protecting and repairing the hair, during or after chemical treatments, Chemyunion developed an active ingredient with cross-linking action based on the synergistic association of unsaturated dicarboxylic acid, arginine, pro-vitamin B5 and polysaccharides extracted from linseed and chia seeds. This active acts as a cross-linking agent on hair keratin bonds in different regions of the polypeptide chain. Covalent bond occurs between the polypeptide chain and unsaturated dicarboxylic acid, through amino and thiols groups. Simultaneously, hydrogen and ionic bonds form the crosslink reactions between keratin covalently modified with unsaturated dicarboxylic acid and arginine.

HOW WILL THIS NEW PRODUCT/SERVICE IMPACT THE INDUSTRY (BENEFITS)?

Use of this active during the bleaching process preserved the hair keratin content, providing a significant improvement of 21.2% in the denaturation enthalpy values (DSC) and increases in the strength of damaged hair by up to 10.8% (break stress), compared to control group. The active improved hair combability by 19.5% (average load), shine by 29% (gloss units) and formed a protective barrier, with no build-up effect. It also demonstrated repair to the chemically damaged hair, providing a significantly improvement of 12.1% in the denaturation enthalpy values compared to the control group and increasing the strength of the damaged hair by up to 19.6% (break stress), after three treatments.