Acrylates/C10-30 Alkyl Acrylate Crosspolymer is a synthetic polymer used primarily in cosmetic and personal care products. It functions as a thickener, emulsifier, and stabilizer, helping to create smooth, spreadable formulations that maintain their consistency and efficacy over time.

Chemical Composition

- **Acrylates**: These are derivatives of acrylic acid, which are used to form polymers. The acrylates in this crosspolymer provide the polymer backbone, which is responsible for the thickening and gelling properties.
- **C10-30 Alkyl Acrylate**: This is a long-chain alkyl acrylate, where the alkyl group varies in length from 10 to 30 carbon atoms. The length of the alkyl chain affects the hydrophobic properties of the polymer, contributing to its ability to stabilize emulsions and suspend particles.

Chemical Properties

- **Molecular Structure**: Acrylates/C10-30 Alkyl Acrylate Crosspolymer is a copolymer, meaning it is formed from two or more different monomers. The polymer consists of acrylate monomers and long-chain alkyl acrylates, which crosslink to form a network structure.
- **Appearance**: It is usually available as a white powder or in a pre-neutralized, gel-like form.
- **Solubility**: The polymer is typically water-dispersible but requires neutralization (usually with a base like sodium hydroxide) to become soluble and achieve its thickening properties.
- **pH Sensitivity**: It is sensitive to pH and usually performs best in a neutral to slightly alkaline pH range (around 5 to 7).
- **Viscosity**: Upon neutralization, the polymer swells in water, increasing the viscosity of the solution. This makes it useful for creating gels and creams with a smooth texture.

- **Emulsification**: The hydrophobic alkyl chains in the polymer help stabilize emulsions by reducing the surface tension between oil and water phases.