

Paints & Coatings

Polyphosphates are used extensively for their diverse functionality in water based paints and coatings. Their main applications are in the wetting of pigments and fillers, the breaking down of agglomerates and the stabilization of the pigment suspension. In water based latex paints, polyphosphates serve as sequestrants, leveling agents and pigment dispersants. Polyphosphates such as Tetrasodium Pyrophosphate (TSPP) and Tetrapotassium Pyrophosphate (TKPP) aid in the wetting and even dispersion of pigments. Potassium Tripolyphosphate (KTPP), Sodium Potassium Tripolyphosphate (SKTP) and TKPP function as deflocculants, yielding paints with stable viscosities. Zinc oxide is sometimes added to paint formulations as a mildewcide. If used, it is important to add a polyphosphate to the formulation to prevent gelling.

Paper coatings (fillers) are used to prepare high quality paper which reduces the bleeding of ink and increases the brightness and opacity of the paper. Sodium Hexametaphosphate (SHMP), Tetrasodium Pyrophosphate (TSPP) and Sodium Tripolyphosphate (STPP) are commonly used as kaolin clay deflocculants for the production of these paper coatings. Kaolin is the predominant pigment used in coatings and the chemical deflocculation or dispersion via polyphosphates is an important part of their production process. The use of polyphosphates results in stable and controlled viscosity.