a salt thereof, and a silyl compound having an unsaturated double bond; and thereafter saponifying and carrying out a heat treatment of the polymerization product. When the vinyl alcohol polymer (PVA (A)) is obtained by using a vinyl ester polymer obtained through polymerizing the vinyl ester monomer in the presence of the monomer (a), the vinyl alcohol polymer (PVA (A)) has a hydrophilic carboxyl group or silyl group derived from the monomer (a), and thus it is believed that the water solubility of the vinyl alcohol polymer (PVA (A)) can be more adequately regulated. In addition, since the heat treatment forms an ester bond between the hydroxyl group and the carboxyl group or the silyl group, whereby a branched structure can be entirely formed, it is believed that the thickening property of the vinyl alcohol polymer, and the strength of the coating film can be more appropriately adjusted.

[0014]

According to another aspect of the invention made for solving the aforementioned problems, a thickening agent containing the vinyl alcohol polymer (PVA (A)) is provided. Due to containing the vinyl alcohol polymer (PVA (A)), the thickening agent can be excellent in water solubility, and can exhibit a superior thickening property.

[0015]

In addition, the hydrophilic carboxyl group or the silyl group serves in further improving the water solubility of the thickening agent. Moreover, the branched structure is believed to further improve the thickening property of the thickening agent.

[0016]

According to still another aspect of the invention made for solving the aforementioned problems, a stabilizer for emulsion polymerization containing the vinyl alcohol polymer (PVA (A)) is provided. Due to containing the vinyl alcohol

(A), the polymerization stability during the suspension polymerization carried out using the stabilizer for suspension polymerization containing the PVA (A), the strength, oil resistance, water resistance and printability of the coating film formed from the coating agent containing the PVA (A), as well as possible reduction of the sizing drop in the dividing, and weaving performance and desizing property of the sized yarns produced obtained by using the sizing agent for fibers containing the PVA (A) are improved.

[0036]

The method for forming the branched structure of the PVA (A) is not particularly limited. For example, a method in which the PVA after saponification is subjected to a heat treatment in a nitrogen or air atmosphere, a method in which the PVA after the saponification is subjected to an acid treatment, and the like may be involved.

[0037]

Examples of an acidic substance which can be used in the method in which the PVA after the saponification is subjected to an acid treatment include: inorganic acids such as acetic acid, hydrochloric acid, sulfuric acid, nitric acid and phosphoric acid; organic acids such as formic acid, acetic acid, oxalic acid and p-toluenesulfonic acid; salts such as pyridinium p-toluenesulfonate and ammonium chloride; Lewis acids such as zinc chloride, aluminum chloride, iron trichloride, tin dichloride, tin trichloride and a boron trifluoride diethyl ether complex; and the like. Either one, or two or more types of these in combination may be used. In general, the amount of these acidic substances blended with respect to 100 parts by mass of the PVA after the saponification is preferably 0.0001 parts by mass to 5 parts by mass.

[0038]

It is to be noted that the number average molecular

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