

ALIEN PROPERTY CUSTODIAN

METHOD OF INCREASING THE INCLINATION OF VINYL ACETATE TO POLYMERIZE

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Vinyl acetate, polymerizable in general according to known methods, shows the peculiarity to be suitable very differently for the production of polymers. The cause of this fact lies in the different manners of the production and purification of vinyl acetate. Thus the inclination for polymerization at all and the degree of dispersion obtained by polymerizing in emulsion can be quite different. F. i. the part of vinyl acetate obtained by the technical production of this substance from the last runnings of the distillation of the raw material, cannot be polymerized in the usual polymerization equipment. It is necessary to apply extraordinary intensive methods of polymerization for it in order to obtain a course of polymerization somewhat satisfying and a middling degree of polymerization. Applying such products for the polymerization in emulsion, these disadvantages are to be seen most evidently in the fact that the obtained emulsions contain unusual large particles and therefore show a very defective stability. In many working periods such and similar difficulties also appear if employing vinyl acetate not obtained from the last runnings. In general the causes for this fact are not evident.

Now it has been found that all kinds of vinyl acetate, badly suited for polymerization, can be converted into well suitable ones by simple distillation with steam. After this distillation with steam the products are satisfying inclined for polymerization, and, above all, the emulsions obtain small particles and are therefore of good stability.

In many cases the distillation with steam stimulates the inclination for polymerization in such a manner that a more or less small part of the monomer polymerizes during the distillation. If desired, this premature polymerization may be prevented by adding any proposed polymerization inhibitors in such an amount that—according to the method of the application SN 337,552 filed May 27, 1940—the polymerization takes not place already during the distillation with steam but will not considerably inhibited in the presence of polymerization catalysts. For instance, an addition of 10 g of hydroquinone to 100 kg of vinyl acetate which is to be distilled with steam, may be suited for this purpose.

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