RICE BRAN OIL AS STABILIZER AND PRESERVATIVE FOR CENTRIFUGED NATURAL RUBBER LATEX.

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ABSTRACT

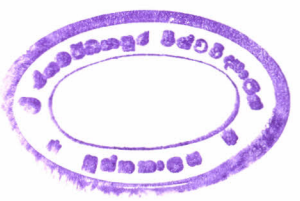
Mechanical forces are applied whenever the latex is handled, e.g. during concentration, in pumping and transportation, and in compounding and processing. The MST of freshly tapped natural rubber latex is always low (ca 100 s or less). If the latex is handled at the low level of MST, it will become coagulated. So before handling the latex, it is necessary to stabilize the latex by adding any stabilizer.

Rice bran oil contains 15 – 20 % of saturated acids, mostly palmitic and 80 – 85 % of unsaturated fatty acids mostly oleic acid which is around 40-50 % of the total fatty acids. These long chain fatty acid soaps are effective in stabilizing NR latex. Also the non-refined oil of rice bran contains wax which can be a preservative for food.

The effects of added soaps of acid mixture of rice bran oil, non-refined oil of rice bran, lauric acid, and oleic acid prepared with ammonia, potassium and sodium bases upon the mechanical stability of NR latex concentrate have been measured. All the soaps investigated are able to enhance the mechanical stability of natural rubber latex significantly. But the efficiency of both acid mixture and non-refined oil soaps is less than that of laurate and oleate soaps and in most cases acid mixture soaps approach the oleate soap's effectiveness.

Among ammonium, potassium and sodium soaps, ammonia soaps of those acid sources are found to be least effective.

The variations of the effectiveness of those soaps in enhancing the mechanical stability are explained as far as possible with the help of some previous publications.



CONTENTS Pages