

**A STUDY ON
THE EFFECT OF AERATION ON MECHANICAL
STABILITY OF CONCENTRATED NATURAL
RUBBER LATEX UPON MATURATION**



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This Thesis was submitted in partial fulfillment of the requirements for the Master of Science in
Polymer Technology

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96815

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ABSTRACT

The ever innovation of rubber products in diversified fields have made it necessary to find suitable quality latex rubber for different products. Because, manufactures of rubber products are insisting on certain range of mechanical stability (usually in the range of 500 -1000 seconds), there is a continuous research going on to find suitable test method to asses a such quality of latex

It is been found that volatile fatty acid number (VFA No:), Alkalinity and Mechanical Stability Time (MST) test for quality control test proved to be a suitable methods for making quality products. The objective of this research to simply give a alternative method to develop mechanical stability without adding soap because previous studies shows that when soap level is high the quality of the latex was low.

Current studies consist of analyzing the MST variation of centrifuged latex with aeration level and maturation. And also analyze the variation of other properties such as Alkalinity, VF A No:, Viscosity , to nductivity and pH.

The latex used for this study were obtained from a centrifuged plant, accordingly a special request was made to them to supply latex with minimum addition of soap. Aeration was supplied in different levels to different sample. Following properties was investigated at intervals: MST, Alkalinity, VFA No:, Viscosity, pH and Conductivity

Out of the whole investigated properties; response to the aeration level was remarkable in MST, with maturation results suggest that MST is increases with higher the aeration level.

Other properties such as a VF A, Alkalinity are not much effect with the air quantity. Therefore

supply of air is not destroying the quality of the latex. VF A increment is not much significant.

Viscosity is decreases up to some significant level with air quality. pH of the samples show some storage patterns not a trend pattern.

Variation in MST is due to the air supplied to the sample; promote hydrolysis of proteins and phospholipids in the latex. Finally former fatty acids anions, phosphate anions are observed at the

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particle interface and enhance the stability of latex

Further more results show that the highest aeration level is not the optimum aeration level . so •

further studies should be carried out to find an optimum aeration level and how minimize the space of vessel which is required for aeration.



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