

**EFFECT OF CURING ON CHEMICAL RESISTANCE OF DISPOSABLE
GLOVES AND SWELLING TEST METHOD DEVELOPMENT**

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ABSTRACT

Natural Rubber (NR) Latex and Nitrile Butadiene Rubber (NBR) Latex are most important polymer materials which can be used for disposable glove manufacturing. Disposable gloves should have some important qualities such as appropriate tensile strength, abrasion resistance and chemical resistance for fulfilling different needs of end users. By enhancing the ability of chemical resistance, the industry can widen their production. Medical sector, chemical laboratories, engineering sector mainly can be benefited and that is the important of the study.

Curing is the most important condition to obtain the ability of chemical resistant. To determine chemical resistance swelling test is used and already use cyclohexanone for that. As it is carcinogenic, finding alternative chemical is essential. One important part of the study is solving above problem by selecting toluene instead of cyclohexanone. As well as other important part is estimating the proper curing temperature for different mills. The result has been shown that 115⁰C is the best curing temperature to enhance the ability of chemical resistance. That experiment was conducted by applying three curing temperatures (115⁰C, 120⁰C 125⁰C) and selecting three replicates. Data was analyzed by using ANOVA in RCBD. In the experiment, there are two blocks and the day is the blocking factor.

Study about glove behavior of a finished glove with aging is other objective in the study. Because of with aging, properties can be go down. So study what happen to swelling index is essential. The plotted graphs have been shown that swelling index is decreasing with aging around applied temperature level.

Key Words : Disposable Gloves, Chemical Resistance, Swelling Index, Curing Temperature, Aging