



## Performance Assessment of Different Detergent Available in the Market on Different Parameters under Same Conditions

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### Abstract :

In this present research study, analyse washing behavior and stain removal efficiency from cotton cloth by using laundr-o-meter. This study is designed to examine differences in effectiveness of laundering process for cleaning of cotton cloth by using laundro-meter using different chemical recipe (detergent ,enzymes and silicon ) and check durability even after washing and regular wear.This study provide better methodologies for removing three types of stains like ketchup ,turmeric and grease stain from the cotton fabric by using laundro-meter. Laundry detergents are complex formulations incorporating a range of functional ingredients that may include: surfactants; buffers; chelating agents; enzymes; polymers; fragrances and optical brighteners. Their physical form has evolved from traditional powders through powder tablets, to liquid detergents and capsules, and the commercial marketplace is highly competitive, with consumers sensitive to both performance and price. Understanding the relative benefit of incorporating what can be expensive ingredients is crucial in formulation/product development, while exemplary QC is essential for long term market advantage. When it comes to assessing product performance there are a number of factors to consider. The issue of stain removal is clearly paramount with a range of different soils routinely tackled – from wine, chocolate and fruit juice through to oil/ grease, mud and blood. Effective cleaning relies in the first instance on removal of the soil from the fabric but preventing re-deposition is vital. Enzymes are used routinely to enhance soil breakdown, particularly for biological stains and for low temperature washing, while cellulosic/polymeric ingredients are often incorporated specifically to inhibit re-deposition. Laboratory performance tests for laundry detergents can fill important needs in laboratory development programs and in control testing, in which cases full scale practical testing is inapplicable. It has been found to be unnecessary and undesirable to attempt close simulation of practice conditions. In order to be most useful to the experimental investigator or the manufacturer of detergents the soil removal and whiteness retention properties should be measured by separate tests. This study represents that high temperature washing provides better cleaning.

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**1. Introduction:** Detergents and soaps are used for cleaning because pure water can't remove oily, organic soiling. Soap cleans by acting as an emulsifier. Basically, soap allows oil and water to mix so that oily grime can be removed during rinsing. Detergents were developed in response to the shortage of the animal and vegetable fats used to make soap during World War I and World War II. Detergents are primarily surfactants, which could be produced easily from petrochemicals. Surfactants lower the surface tension of water, essentially making it 'wetter' so that it is less likely to stick to itself and more likely to interact with oil and grease. Modern detergents contain more than surfactants. Cleaning products may also contain enzymes to degrade protein-based stains, bleaches to de-color stains and add power to cleaning agents, and blue dyes to counter yellowing. Like soaps, detergents

have hydrophobic or water-hating molecular chains and hydrophilic or water-loving components. The hydrophobic hydrocarbons are repelled by water but are attracted to oil and grease. The hydrophilic end of the same molecule means that one end of the molecule will be attracted to water, while the other side is binding to oil. Neither detergents nor soaps accomplish anything except binding to the soil until some mechanical energy or agitation is added into the equation. Swishing the soapy water around allows the soap or detergent to pull the grime away from clothes or dishes and into the larger pool of rinse water. Rinsing washes the detergent and soil away. Warm or hot water melts fats and oils so that it is easier for the soap or detergent to dissolve the soil and pull it away into the rinse water. Detergents are similar to soap, but they are less likely to form films (soap scum) and are not as