

**DEVELOPMENT OF HAND SANITIZER  
INCORPORATED WITH TEA POLYPHENOLS OF  
REFUSE TEA**

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## ABSTRACT

Refuse tea is the major wastage during tea processing. It's enriched with beneficial compounds such as polyphenol, caffeine, amino acid and vitamins. Tea polyphenols are the major component responsible for the antibacterial property in tea. There is lack of value added products of tea available in the market and there is a lack of using tea as a nonfood product. This study was carried out to develop a hand sanitizer from the polyphenol of refuse tea. first tea polyphenols were extracted from refuse tea by soxhelt extraction apparatus. Then herbal hand sanitizer was developed by changing the polyphenol concentration while other compounds keep constant. The changed polyphenol levels were tested for microorganisms such as *Pseudomonas aeruginosa*, *Escherichia coli*, *Salmonella typhi* and *Saccharomyces cerevisiae* by using well diffusion method. The polyphenol content of the best sample was 750 ppm. Then physical and chemical properties were checked in selected sample. Viscosity 12930 cP , Density is  $0.985 \text{ gcm}^{-3}$  and pH value is 6.4. pH value of the sanitizer is not hazards to skin. A hand sanitizer can be developed by using tea polyphenols of refuse tea. It is a new product to the market and also very good example for use wastage effectively.

Key words – Hand Sanitizer , Refuse Tea, Tea Polyphenols, Well Diffusion Method