

**DEVELOPMENT OF POLYPHENOL INCORPORATED LIP BALM**

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by

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## ABSTRACT

These days there are many cosmetic products in the market which made using chemicals but they are with more side effects. So consumer's preference on using natural cosmetic products leads to produce cosmetic products with natural ingredients which are with low side effects. So this study has made an attempt to produce a lip balm which enhances the beauty of lips and offers a way to maintain and promote healthy lips using natural ingredients and produce a non-food product from tea as an value added product as my objectives. Polyphenol was gained extracting 2g of green tea with hot water according to the soxhlet extraction method and the freezed samples were undergone freeze drying to gain the powder. Then polyphenol content was determined due to the folin ciocalteu colormetric method. Then lip balm base was prepared using ingredients bee wax, aloe vera, coconut oil, vitamin E, and lavender oil. Five samples of base were produced changing the amounts of included bee wax, aloe vera and coconut oil keeping amounts of vitamin E and lavender oil constantly. In all base samples vitamin E and Lavender oil is added at levels of 2% and 1% respectively. Sample 280s composition was bees wax 35%, aloe vera 16%, coconut oil 46%. Other four samples, 370, 440, 850, 760 were composited by bees wax 30%, 28% 26%, 24%, aloe vera 17%, 18%, 19%, 20% and coconut oil 50%, 51%, 52%, 53% respectively to above mentioned samples Among them three samples were selected by conducting a sensory evaluation of participation of 30 untrained panelists. Those selected samples were 280 which has the composition of bees wax 35%, aloe vera 16% and coconut oil 46%, 370 which was composited by bees wax 30%, aloe vera 17%, and coconut oil 50% and sample No.440which has the composition of bees wax 28%, aloe vera 18% and coconut oil 51%. Each of these samples were added lavender oil 1% and vitamin E 2%. Each base was incorporated by tea by three levels (0.5%, 1%, 1.5%). Then the best final product was selected by among those samples conducting a sensory evaluation of 30 untrained participants and it was composited by bees wax 0.594g, aloe vera 0.3564g, coconut oil 0.99g, vitamin E 0.0198g, lavender oil 0.0198g and green tea 0.02g. Quality of that product was assured according to the Indian standards. Melting point is 43.67°C. Consistency is 0.009 and it is more less than expected value. No rancidity or deterioration was observed. Ability of tea to dissolve in oil based mixture is very less. So if there is a way to isolate the polyphenol only from tea brew there will be a less amount to dissolve and it may be easy to mix well. Due to the results the newly

formulated polyphenol incorporated lip balm will open an opportunity for develop a natural, safe, efficient and cost effective cosmetic product.

*Key words:* Polyphenol, Natural, Cosmetic product