

DIRECT INCORPORATE OF TULSI OIL VS ENCAPSULATED TULSI OIL FOR PERSONAL CARE FORMULATION



INTRODUCTION: Tulsi as an Ayurveda drug. It called 'Holly Basil'. It is a sacred plant of India from the family *Lamiaceae*. Tulsi Oil is pungent and bitter in taste. Tulsi Oil contains eugenol volatile compound, eugenal, carvacrol, methylchavicol, limatrol and caryophylline. Tulsi Oil have a many useful properties like Anti-inflammatory activity, Anti-fungal activity and Antibacterial Activity.

BENEFITS OF TULSI OIL:

- Tulsi Oil is treat the acne also reduces the blackhead and whitehead on the skin. easily absorb into the skin. It reduced the skin damage cause by UV radiation also helps to reduce the brown spots on the face.
- Tulsi Oil effective in reducing dark circles , wrinkles of the lower eyelids and improve skin elasticity
- Tulsi oil use for hair growth , hair loss by stimulating hair follicles and strengthen hair roots. It has antiseptic and anti-inflammatory properties which can help with dandruff.
- Tulsi oil has a antibacterial activity which control the growth of bacteria in mouth and preventing the infection. It also provide the freshness in breath and keep aside bad breath.

WHY ENCAPSULATED TULSI OIL ?



Encapsulation Technology used in the development of cosmetic formulations that more stable, more effective and with improved sensory properties. Encapsulation protect the active ingredient from the unwanted reactions. Tulsi oil easily degrade and giving the undesired interaction with external surface so it become unstable. To improve the stability and protect sensory properties encapsulation technology use for the Tulsi Oil.

UNIQUE FUNCTIONS:

- Sprayspheres®- SC beads containing Tulsi Oil are stable so easily applied into formulation.
- Sprayspheres®- SC beads containing Tulsi Oil When rubbed onto skin, hair and teeth during brushing, they break easily and releasing the active contents.
- Sprayspheres®- SC beads containing Tulsi Oil hard and solid in bulk (easy to process and delivery).
- Sprayspheres®- SC beads containing Tulsi Oil are hard and dry but soften in contact with at least 20% of water.

MANUFACTURING PROCESS OF SPRAYSPHERES® - SC BEADS CONTAINING TULSI OIL:

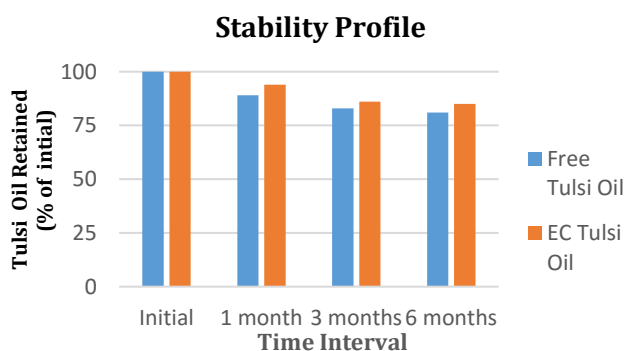
Tulsi Oil, lactose ,Micro-crystalline cellulose, HPMC and color were weighed accurately and Dry mixing of all ingredients is done to achieve homogeneous powder dispersion, The obtained blend was granulated using purified water to form wet mass. Dry mixing and wet granulation are carried out using Umang Rapid Mixer granulator (URMG-10). This wet mass was then extruded through Umang Single screw Extruder (USSE- 60) which



produces rod shaped particles of uniform diameter from the wet mass. Extrudes were then spheronized using Umang Spheronizer (USPH-150). After spheronization process, the obtained beads were kept for drying.

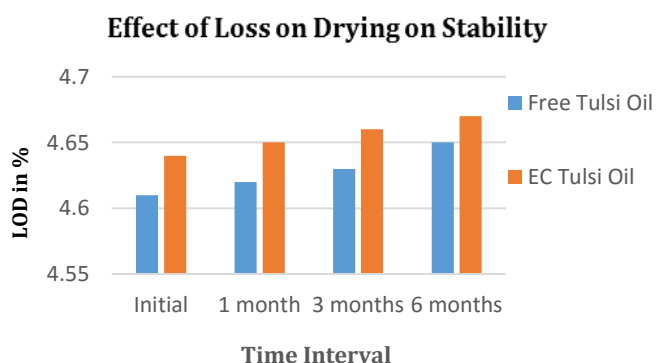
IMPROVED SHELF LIFE STUDY:

The Free Tulsi oil and Sprayspheres®-SC beads containing Tulsi oil were kept in an air tight glass bottle and place in Stability Chambers at temperatures of 30°C ± 2°C for 180 days, HPLC analysis show that the Sprayspheres®-SC beads containing Tulsi oil retain 85 % of the Tulsi oil while the free Tulsi Oil only retained 80 % .



TEMPERATURE EFFECT ON LOD STABILITY:

The Free Tulsi Oil and Sprayspheres®-SC beads containing Tulsi Oil were place in a air tight glass bottles at 30°C ± 2°C for 180 days in a stability chamber. The sampling and analysis was done at fixed time intervals for their LOD ,to check the moisture loss in the samples. Results mentioned in below graph.



APPLICATIONS:

- Hair Serum
- Hair Shampoo
- Body /Face Creams
- Body /Face Lotions
- Body /Face Gels
- Toothpaste

CONCLUSION:

The results obtained from this study show that using encapsulated Tulsi Oil i.e. Sprayspheres®-SC beads containing Tulsi Oil are more stable and deliver desire amount of dose of Tulsi Oil for skin nourishment ,hair growth and pain reliever for teeth.

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KEY WORDS:

Encapsulated Beads, Spheres, Cosmetic beads, Beads for special effects, Cosmetic beads for aesthetic effect.