

DIRECT INCORPORATE OF OLIVE OIL VS ENCAPSULATED OLIVE OIL FILMS FOR BATHBOMB AND SOAP FORMULATION

Actifilms™ AF is made up of Hydroxypropyl Methyl Cellulose which is a chemically modified cellulose polymer. HPMC is a water soluble synthetic polymer which was used as film former . It is a thin, flexible sheet of polymer in which an active ingredient has been incorporated. Films are rapidly disintegrate and also have greater stability and shelf life.

BENEFITS OF OLIVE OIL:

- Olive oil has antioxidant properties, which can produce free radicals and protect the damage cell of the skin. It is rich in fat soluble Vitamins A,D,E,K which are beneficial for the skin.
- Olive oil is help to reduce the acne due its antibacterial activity. It also act as a natural moisturizer which may help to hydrate the skin.

WHY ENCAPSULATED OLIVE OIL ?

Encapsulation Technology used in the development of formulations that more stable, more effective and with improved sensory properties. The main aim of micro-encapsulation to protect the active material from undesirable reactions. Olive Oil is rich in fatty acids which takes to the formation of volatile compound that causes oxidation and give the unwanted flavor. These all problems can minimize by the encapsulation of Olive Oil.

UNIQUE FUNCTIONS:

- Easy to handle at the industrial scale.
- Disappear on gentle rubbing without leaving any residue on skin use upon application.
- Non toxic and Non irritant ,soluble in water. Available in natural flavors.
- Available in different shapes & color
- Film have more flexibility and better physical properties.

MANUFACTURING PROCESS OF ACTIFILMS™ CONTAINING OLIVE OIL :

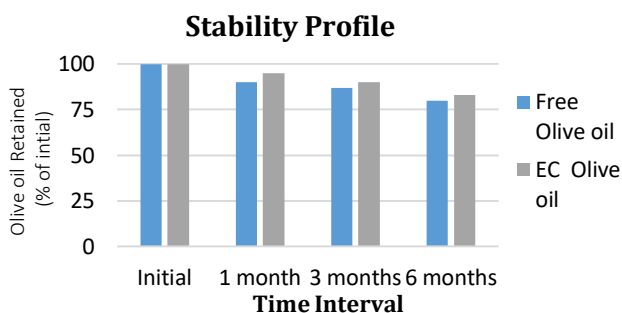
The Solution Casting method : It is ideally suited for a water-soluble polymer, "Water soluble" refers to a film which, when exposed to water, begins to dissolve or disintegrate to its smallest components. Film coating is the process whereby active material is surrounded by a thin layer of polymeric material. Film coating method generally involves the steps of continuously pumping a feed of polymer solution with primary component i.e. HPMC. Both HPMC and colour weighed accurately and mixing of all ingredients to achieve homogeneous primary



solution and further combining with secondary component to polymer solution. Secondary components such as active functional or decorative ingredients are finally deposited into the primary solution onto the casting surface for film formation using Umang Pharmatech's UCFC-600 (Solution tank, Film Casting). The resulting solution is cast as a film and allowed to dry, which are then cut into pieces of the desired size and shape.

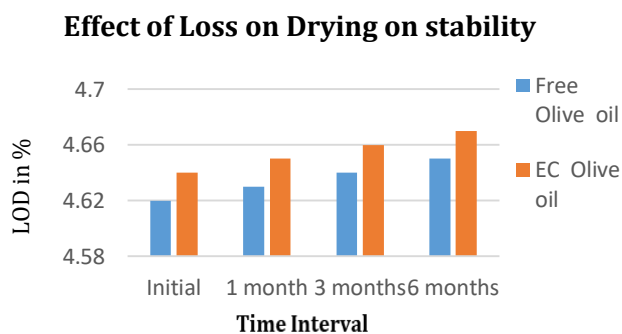
IMPROVED SHELF LIFE STUDY:

The Free Olive oil and Actifilms™ containing Olive 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 Actifilms™ containing Olive oil retain 83 % of the Olive oil while the free Olive Oil only retained 80 %.



TEMPERATURE EFFECT ON LOD STABILITY:

The Free Olive Oil and Actifilms™ containing Olive Oil were place in an 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.



CONCLUSION:

The results obtained from this study show that using encapsulated Olive Oil are more stable and deliver desire amount of dose of Olive Oil make it an ideal for use in formulation.

REFERENCES:

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KEY WORDS:

Encapsulated films ,Films for special effects ,HPMC films, dissolving Films.