

## DIRECT INCORPORATE OF OLIVE OIL VS ENCAPSULATED OLIVE OIL FOR PERSONAL CARE FORMULATION

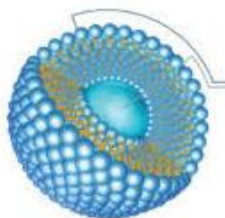


**INTRODUCTION:** Olive oil is vegetable oil obtained from olives. It is Liquid fat from family *Oleaceae*. Olive Oil contain triglycerides ester of 83% oleic acid and 20% palmitic acid and other fatty acids. Olive Contain at least 30 phenolic compound, major compound is oleuropein, hydroxytyrosol and tyrosol. Olive Oil has an anti-inflammatory, antiulcer and anti-aging properties. Olive Oil is natural antioxidant, which is used for the many cosmetic formulation.

### 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.
- Olive oil use for the dry and thick hair. It help to nourishes the hair follicles and conditions the hair.
- Olive oil help to reduce the scalp irritation and to the dandruff, It is rich in vitamin E so makes the hair strong.

### WHY ENCAPSULATED OLIVE OIL ?



Encapsulation Technology used in the development of cosmetic 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:

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

### MANUFACTURING PROCESS OF SPRAYSPHERES® - SC BEADS CONTAINING OLIVE OIL

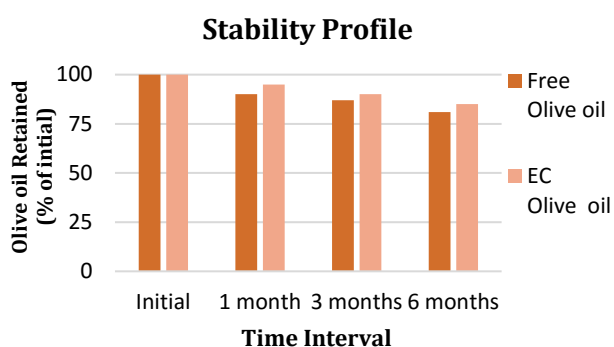
Olive Oil, lactose ,Micro-crystalline cellulose, HPMC and color were weighed accurately and Dry mixing of all ingredients is done to achieve homogeneous powder dispersion, The obtained blend was granulated using purified water to form wet mass. Dry mixing and wet granulation are carried out using Umang 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.

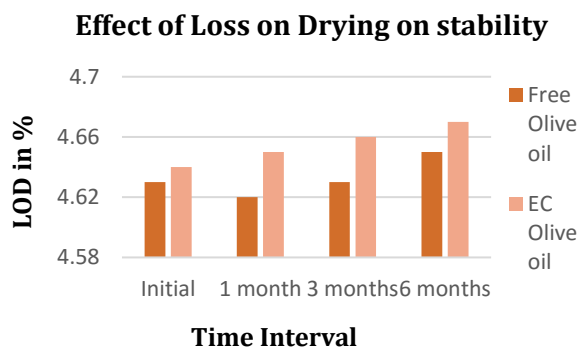
### IMPROVED SHELF LIFE STUDY:

The Free Olive oil and Sprayspheres®-SC beads 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 Sprayspheres®-SC beads containing Olive oil retain 85 % of the Olive oil while the free Olive Oil only retained 81 % .



### TEMPERATURE EFFECT ON LOD STABILITY:

The Free Olive Oil and Sprayspheres®-SC beads 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.



### APPLICATIONS:

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

### CONCLUSION:

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

### REFERENCES:

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### KEY WORDS:

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