

DIRECT INCORPORATE OF CEDAR WOOD OIL VS ENCAPSULATED CEDAR WOOD OIL FOR PERSONAL CARE FORMULATION



INTRODUCTION: Cedar wood Oil is an essential oil produced from distilling the wood belongs to family *Cupressaceae*. It is a complex mixture of volatile oils and have an aromatic properties so used in aromatherapy. Cedar Wood oil is yellowish ,darker in colour. The major constituents cedar Wood oil are the sesquiterpenes cedrene and cedrol.

BENEFITS OF CEDAR WOOD OIL:

- Cedar Wood oil treat the acne ,stretch marks. It protect the skin ultra violet light and may help to nourishes the dry skin due to its anti-inflammatory and antimicrobial property.
- Cedar Wood Oil help to reduce free radicals in the skin and act as an ant aging component.
- Cedar Wood oil mainly use for the hair care, it stimulate the hair follicles and promote the hair growth also increase the hair thickness.
- Cedar Wood Oil nourishes the hair and restoring their smoothness, preventing damage hair. Cedar Wood oil use for the scalp by removing dead skin cells. Reduces the dandruff also.

WHY ENCAPSULATED CEDAR WOOD 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 effect. Cedar Wood oil is a volatile compound and its sensory properties can be change due to oxidation ,volatilization, heating or chemical interaction, which will alter the quality of the product. These all problems can minimize by the encapsulation of Cedar Wood oil.

UNIQUE FUNCTIONS:

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

MANUFACTURING PROCESS OF SPRAYSpheres® – SC BEADS CONTAINING CEDAR WOOD OIL:

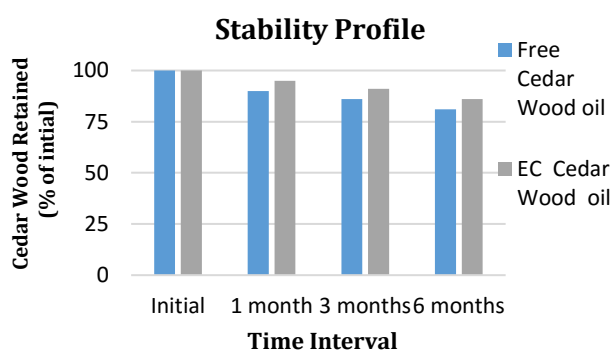
Cedar Wood Oil, lactose ,Microcrystalline cellulose, HPMC and color were weighed accurately and Dry mixing of all ingredients is done to achieve homogeneous powder dispersion, The obtained blend was granulated using purified water to form wet mass. Dry mixing and wet granulation are carried out using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

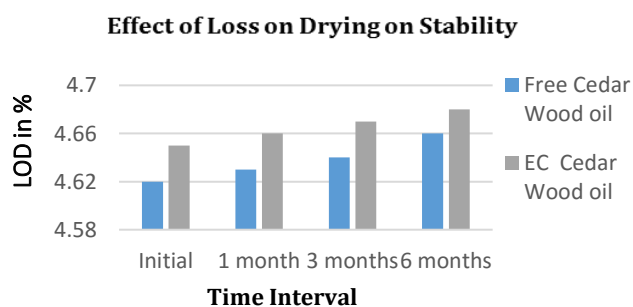
IMPROVED SHELF LIFE STUDY:

The Free Cedar Wood oil and Sprayspheres®-SC beads containing Cedar Wood oil were kept in an air tight glass bottle and place in Stability Chambers at temperatures of $30^{\circ}\text{C} \pm 2^{\circ}\text{C}$ for 180 days, HPLC analysis show that the Sprayspheres®-SC beads containing Cedar Wood oil retain 86 % of the Cedar Wood oil while the free Cedar Wood Oil only retained 81 % .



TEMPERATURE EFFECT ON LOD STABILITY:

The Free Cedar Wood Oil and Sprayspheres®-SC beads containing Cedar Wood Oil were place in an air tight glass bottles at $30^{\circ}\text{C} \pm 2^{\circ}\text{C}$ 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 Cedar Wood Oil i.e. Sprayspheres®-SC beads containing Cedar Wood Oil are more stable and deliver desire amount of dose of Cedar Wood 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.