

## **FORMULATION OF ENCAPSULATED TEA TREE OIL FILMS FOR SOAP**

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 rapidly disintegrate and also have greater stability and shelf life. Umang Pharmatech manufactures Actifilms™ i.e. AF exclusively available in shapes and varieties of colors available for many personal care applications.

### **TEA TREE OIL:**

Tea Tree Oil is an essential oil also known as *Melaleuca alternifolia*, belongs to the Myrtaceae Family. Tea Tree Oil extract from the leaves of the tea tree. Tea tree Oil pale yellow to nearly colorless, volatile liquid and fresh camphoraceous odor. Tea Tree oil is natural products, so it is non-toxic, biodegradable, and biocompatible. Tea Tree oil has antibacterial, antimicrobial and anti-fungal activity due to presence of terpinen-4-ol as the major constituent.

### **TECHNOLOGY**

Umang Pharmatech has used the Pharmaceutical's popular technology i.e. Encapsulation and Film Casting Technology to Develop Actifilms™ with incorporation of desirable actives in personal care formulations to obtain better Visual impact, deliver desirable actives ingredients and provide stable films within the formulation.

### **INCI NAME:**

*Melaleuca alternifolia* (Tea Tree) Leaf Oil

### **KEY PROPERTIES OF ACTIFILMS™:**

- 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.



## EFFECT OF ENCAPSULATED TEA TREE OIL FILMS FOR SOAP:

Tea Tree Oil is all purpose of cleaner. It is a natural disinfectant inhibiting the growth of bacteria due its antibacterial and antimicrobial activity. Tea Tree Oil applies on the skin it will help to clear fungal and bacterial infection. It reduces the acne, redness and soothes skin inflammation.

**.DOSAGE :** 0.2 % for visual effect and up to 10 % for colour or active delivery

**STORAGE:** Temperature between 5° C and 25° C

### FORMULATION PROCEDURE :

#### Stage 1:

Add components to water

#### Stage 2 :

Heat to 70C.

#### Stage 3:

Blend until homogeneous; cool to 50C.

#### Stage 4:

Adjust pH to 7.0-7.5 with Citric Acid.

#### Stage 5:

Add DMDM Hydantoin and Fragrance.

#### Stage 6:

Actifilms™ was added at the last stage and mix it very slowly.

#### Stage 7:

Cool to room temperature.

FORMULATION TIP	
SOAP	
Ingredients	Wt%
Potassium Cocoate	25.00
Disodium Cocoamphodiacetate	20.0
Lauramide DEA	2.00
Glycol Stearate	1.0
Actifilms™	0.2
DMDM Hydantoin	q.s
Fragrance	q.s
D.I. Water	qs

### KEY WORDS:

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



**Pumpkin Shape**



**Cross Shape**



**Mickey Mouse Shape**



**Candy Shape**