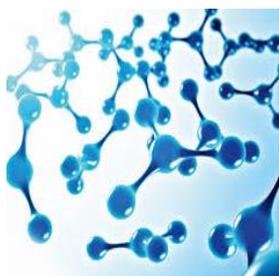


## **FORMULATION OF ENCAPSULATED HYALURONIC ACID ACTIFILMS FOR SOAP**

**Actifilm™:** Actifilms are films made up of Hydroxypropylmethyl cellulose which is a chemically modified cellulose polymer. The dissolving film delivery vehicle is just a thin flexible sheet of polymer in which an active ingredient has been incorporated. These actifilms magically disappear upon rubbing by delivering dry actives i.e they are visually dry but soften easily when it gets in contact with water, thus they have the amazing properties to soften in the formula making them more malleable and ready to disintegrate when pressure is applied. Umang Pharmatech manufactures **Actifilm™** i.e **AF** exclusively available in shapes and varieties of colors available for personal care applications.

**KEYWORDS:** Encapsulated films, fast dissolving films, films for special effects, HPMC films, dissolving films for soap, water soluble films for decoration.

### **HYALURONIC ACID**



Hyaluronic acid is a biological deliver mechanism and transport molecule that incorporated moisture and peptides deep into the skin.

Hyaluronic acid is a sugar molecule that occurs naturally in the skin, it helps to bind water to collagen, trapping it in the skin, so that skin can appear plumper, dewier, and more hydrated the ingredient, give it that glowy effect.

### **INCI NAME:**

Sodium Hyaluronate



### **WHY ENCAPSULATED HYALURONIC ACID ?**

Encapsulation Technology is used in the development of personal care formulations that more stable, more effective and with improved sensory properties. Hyaluronic Acid (HA) is a natural and vital element of healthy, supple skin. Encapsulated Hyaluronic acid (HA) has the unique ability to bind up to 1,000 times its weight in water, thus hyaluronic acid is encapsulated due to its lightweight, watery nature, and ability to lock in moisture from the environment, calming, softening, toning, invigorating and fully hydrating deep into the dermis layer of your skin.

### **Different Shapes of Actifilms**



Blue Colour Tree Shape



Silver Colour Heart Shape



Blue Colour Fish Shape

## KEY PROPERTIES OF ACTIFILMS :

- Non GMO
- Paraben free
- Natural , non-toxic, non-comedogenic and non-allergenic properties
- Gentle and Effective on skin
- Rapid dispersion with excellent uniformity
- Provide visual effects and delivery actives
- Activates four product senses you can see, smell, taste & touch it and disappears on rubbing
- Nature friendly as soluble in water

## EFFECT OF ENCAPSULATED HYALURONIC ACID IN SOAPS :



Soap contains Hydrophilic end and Hydrophobic properties. The first one is the hydrophilic end which dissolves water and is attracted to it whereas the second one is the hydrophobic end that is dissolved in hydrocarbons and is water repulsive in nature. On application ,soap solution appears cloudy forming a colloidal solution .Thus cleaning body and rinsing the dirt away.

Active ingredient like natural fragrance and disinfectant agents are added into soap. Active Ingredient like Hyaluronic acid has antioxidant properties against free radicles, also it improves collagen synthesis by providing a firm mesh around the skin cell, providing necessary moisture to skin cells.

Hyaluronic acid in soap forms a thin, light permeable, invisible, visco-elastic surface film, like that of the skin, that helps to preserve smoothness, support collagen, elasticity, and radial tone, to support the skin's natural protective mechanism.

## FORMULATION PROCEDURE:

**Step I:** Add components to water.

**Step II:** Heat to 70°C.

**Step III:** Blend until homogeneous; cool to 50°C

**Step IV:** Adjust pH to 7.0-7.5 with Citric Acid.

**Step V:** Add DM and Fragrance.

**Step VI:** Cool to room temperature. Encapsulated Hyaluronic acid actifilms are added at the end of manufacturing at moderate temperature and at slow stirring.

FORMULATION TIP	
SOAP	
Ingredients	Qty (%)
Potassium Cocoate	25.0
Disodium Cocoamphodiacetate	20.0
Lauramide DEA	2.0
Glycol Stearate	1.0
DMDM Hydantoin	qs
DI,Water,Fragrance	qs to 100.0
Actifilms with Hyaluronic acid	0.2%

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

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