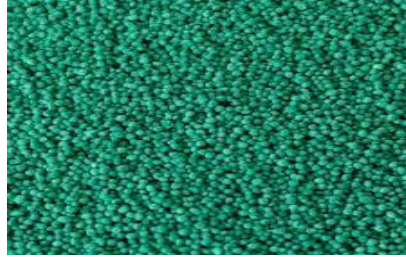


FORMULATION OF ENCAPSULATED TULSI OIL BEADS FOR FACE WASH



Encapsulation is the physical-chemical technique or process by which a active ingredient is protected and surrounded by a polymeric wall made up of Lactose, Mannitol, Microcrystalline cellulose and Hydroxy propylmethyl cellulose(HPMC) that isolates it from its environment.

Sprayspheres SC® beads are specially used for encapsulation that specifically deals with the incorporation of commercially available active material into protective system that can deliver the active to specific site.(e.g. conversion of liquid active agents or essential oils into beads/spheres).

Natural and biodegradable lactose and cellulose based/spheres colored beads infused with Tulsi Oil via encapsulation. Encapsulated beads break down upon rubbing without leaving a residue. Easily dispersed, delivering the active ingredient.

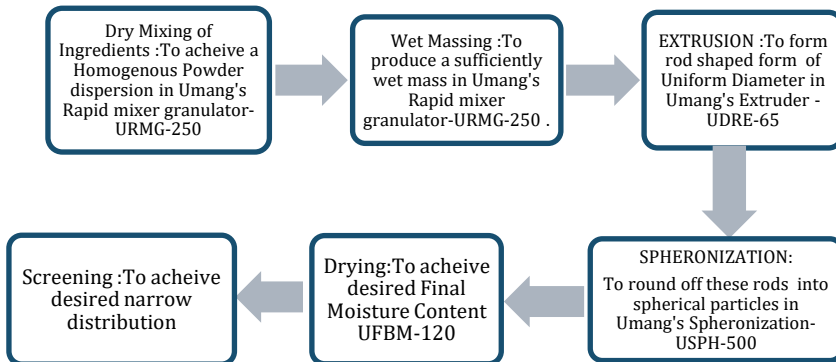
Improved stability in final products during processing (e.g. less evaporation of volative active).

Encapsulation Technology deals with these Adjustable properties (actives, particle size, structure, oil etc). TULSI OIL Encapsulated beads/spheres can do wonders in the face wash as it cures skin infections, gives glow to skin ,fights acne and erases black marks and Encapsulated Tulsi Oil beads/Spheres are available in a variety of colors.

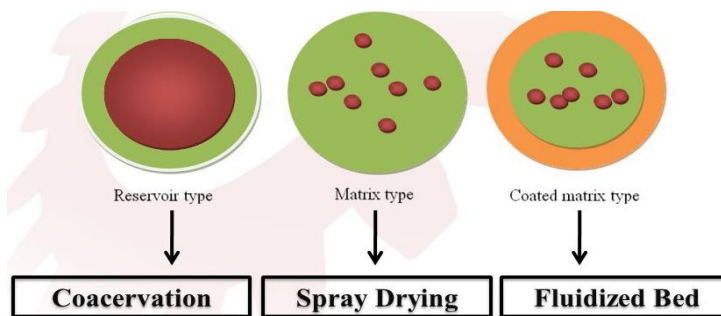
Key Words:

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

ENCAPSULATION PROCESS

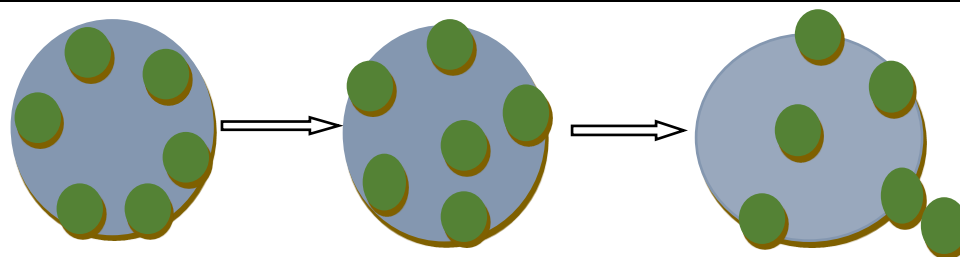


UDRE-65 Umang Pharmatech Extruder



■ core ■ wall ■ coating

Types of coating on core



Encapsulated Tulsi Oil beads Rupture by Chemical,Physical factors Stage of Release

ENCAPSULATION MECHANISM

How Encapsulation Works

- Molecules of active ingredients are coated in a polysaccharide shell—think of it as a shiny, slippery, protective coating.
- This encapsulated coating serves as a carrier system for the active ingredients in your skincare, i.e. the ingredients that are capable of transforming your skin.
- Instead of activating all at once on the surface, encapsulated coatings protect your actives and release them slowly over time. This allows it to sink to deeper layers of your skin, where you can benefit most from active ingredients.
- When a skincare product like face wash with encapsulated ingredients is applied to your skin, the coating starts to fade away, and the active ingredients are released slowly over time, active ingredients are released little by little, which means it's also working on improving your skin with its amazing properties on skin for a longer period of time.

Key Properties of Encapsulated beads

- Free of microplastics.
- Non GMO
- Perfect Spherical geometry
- Has non-toxic, non-comedogenic and non-allergenic properties
- Oxidatively stable .
- Gentle and Effective on skin .
- Rapid dispersion with excellent uniformity.
- No change in Product pH.
- Encapsulation Stabilizes actives by protecting them from environmental factors, like UV light.
- Easily dispersed by finger to provide smooth and super feeling.
- Provide visual effects and delivery actives.
- Provide Systems that can incorporate Hydrophobic or Hydrophilic actives such as Fragrance, Colour, Vitamin and Herbal Extract etc

Formulation Procedure:

Step I :- Take water (62.59) and in this add the xanthan

gum & Pvp-k30 & glycerin .(A mixture)

Step II :- In another container take 18.14 ml water also add SLS & C.A.P.B heat at the temperature of about 75° C.(B mixture)

Step III:- Add (B mixture) in (A mixture) very slowly & mix well , at the end of the add fragrance and Encapsulated Tulsi Oil beads should be added manufacturing at moderate temperature and at slow stirring.

INCI NAME:

Microcrystalline cellulose, Hydroxy propylmethyl cellulose, Lactose, OcimumSanctum (Leaf) Oil.

Formulation Tip

Ingredients	Qty(%ww)
Xanthan Gum	2.2gm
Pvp-k30	1.45gm
SLS	1.9 gm
Cocomido propyl betain (C.A.P.B)	3.72gm
Fragrance	Q.s (0.18)
Glycerin	10 ml
DI Water	80.73 ml
Tulsi Oil beads	2%