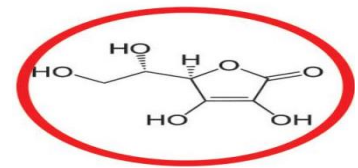


# FORMULATION OF ENCAPSULATED VITAMIN C BEADS FOR BODY WASH



VITAMIN C

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

Natural and biodegradable lactose and cellulose based colored beads/spheres infused with Vitamin C i.e L-Ascorbic acid via encapsulation.

Encapsulated Vitamin C 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 volatile active)

Encapsulation Technology deals with these Adjustable properties (actives,particle size, structure, oil etc)

The Encapsulated Vitamin C beads/spheres in bodywash has powerful antioxidant and melanin blockers to ensure you a bright, light skin that always looks fresh .

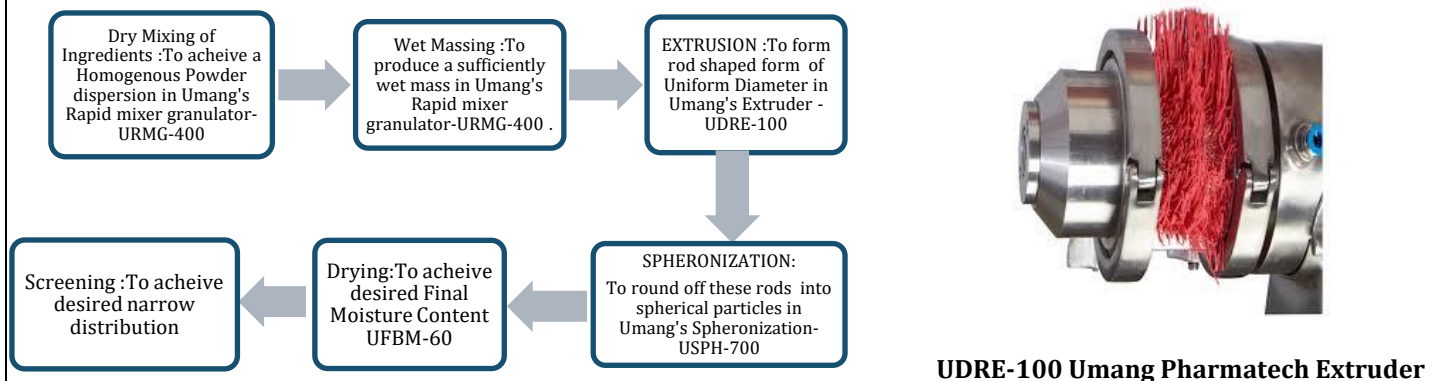
It helps reveal the bright layer of skin, boosts collagen production and enables the actives Vitamin C to get absorbed quickly.

Encapsulated Vitamin C beads/spheres in bodywash clears away dirt, pollution and that helps skin stay hydrated.

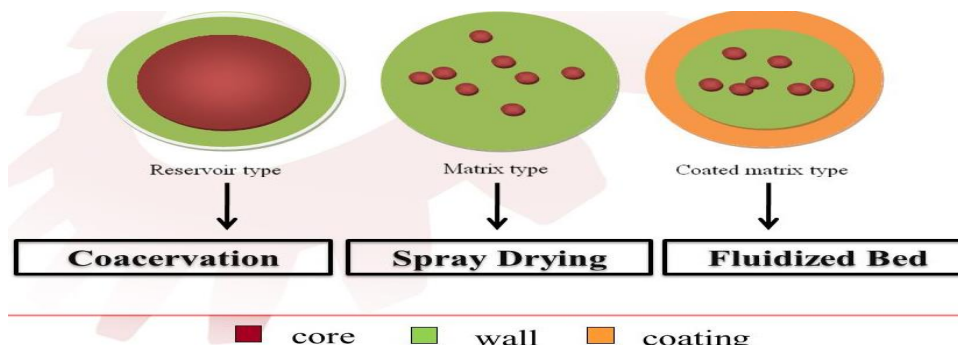
## Key Words:

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

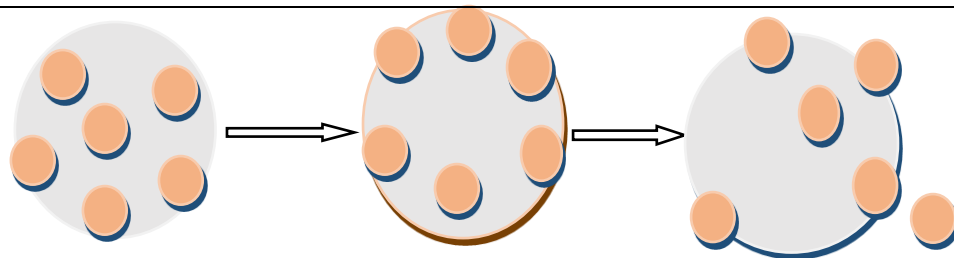
## ENCAPSULATION PROCESS



UDRE-100 Umang Pharmatech Extruder



Types of Coating on Core



Encapsulated Vitamin C beads      Rupture by Chemical, Physical factors      Stage of Release

### ENCAPSULATION MECHANISM

#### How Encapsulation Works

- Body wash are generally made up of two parts: a lipophilic part, which is fat-soluble, and a hydrophilic part, which is water-soluble. Dirt itself is lipophilic, which means that it won't dissolve in water. Simply rinsing yourself with water after you've got some dirt on yourself won't get you clean. Only something with a fatty product will dissolve the dirt and lift it off your skin. The moisturizing capabilities often come from the oils and natural active ingredients that are mixed into the formula of these body washes, provides a luscious lather, is travel-friendly and gives all-over hydration.
- This combination of lipophilic and hydrophilic ingredients is called a surfactant. A surfactant cleans your skin because the lipophilic part dissolves the dirt on your skin, while the hydrophilic part washes it away.
- Body wash with Encapsulated beads contains molecules of active ingredients that 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. r skin, where you can benefit most from active ingredients.

#### 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 (72.59) ml and in this add the xanthan gum & Pvp-k30(A mixture)

**Step II :** In another container take 18.84 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 add fragrance and Encapsulated Vitamin C beads at moderate temperature and at slow stirring

#### INCI NAME:

Microcrystalline cellulose, Hydroxy propylmethyl Cellulose ,Lactose, Ascorbic Acid

#### Formulation Tip

| Ingredients                      | Qty(%ww)   |
|----------------------------------|------------|
| Xanthan Gum                      | 1.5gm      |
| Pvp-k30                          | 1.45gm     |
| SLS                              | 2.72gm     |
| Cocomido propyl betain (C.A.P.B) | 2.72gm     |
| Fragrance                        | Q.s (0.18) |
| DI Water                         | 91.43 ml   |
| Vitamin C beads                  | 2%         |