

STABILITY OF ACTIVATED CHARCOAL EXFOLIATOR FOR COSMETIC USES

INTRODUCTION



Exfoliation is the process of removing dead skin cells from the surface of your skin using a chemical, granular substance, or exfoliation tool. Sometimes, dead cells don't shed completely. This can result in dry, flaky patches and clogged pores which can be prevented by exfoliation.

Cosmetic exfoliation may be accomplished by chemical or mechanical means. Chemical exfoliation methods include acids, non-acid peels, enzymes, or other agents. Mechanical exfoliation may be accomplished using a device or small particles of various types. Both chemical and

mechanical exfoliation may be performed as an in-office procedure or at home, depending on the type and strength of treatments desired.

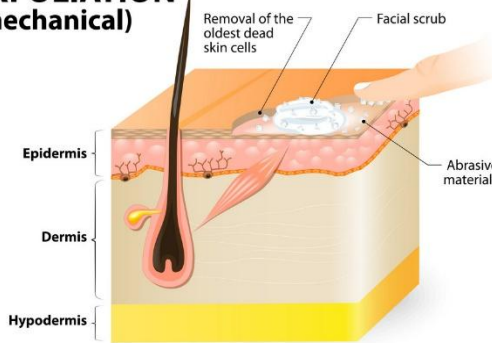
Activated charcoal is charcoal that has been treated with very high temperatures to change its internal structure and increase its ability to absorb dirt, oil and thus effectively cleanses the skin, unclogs pores, removes deeper impurities, and dead skin cells. The result is smooth, and even-toned skin. The mechanism behind is that the dirt, toxins, heavy metals, chemicals, and other poisons are attracted to the charcoal molecules and washed away.

This article shows the stability of Encapsulated Activated charcoal in Spray spheres® -SC beads.

Key words: Exfoliators beads, Scrub beads, Natural Exfoliators, Cosmetic beads for aesthetic effects, Peel off, flake off, throw out, shed off, scrap, eliminate, rub.

MECHANISM OF EXFOLIATION PROCESS

EXFOLIATION (mechanical)



Exfoliation occurs naturally as outworn stratum corneum cells detach and are removed from the skin's surface. Replacement of stratum corneum cells occurs by a self-renewal process as epidermal cells move upward from the basal layer, the stratum basalis, and through the subsequent two layers, the stratum spinosum and stratum granulosum, to reach the stratum corneum. This process requires about four weeks, although it can be prolonged in aging and other skin conditions. Normal desquamation occurs invisibly as single corneocytes, or very

small aggregates of them, detach from the skin's surface and are shed.

BENEFITS OF ACTIVATED CHARCOAL EXFOLIATORS

- Removal of dead skin cells.
- Refined pores.
- Reduces fine wrinkles, hyperpigmentation and scars.
- Deep cleanses and purifies the skin.
- Activated charcoal has adsorptive capabilities, acting like a magnet to neutralize environmental stressors.

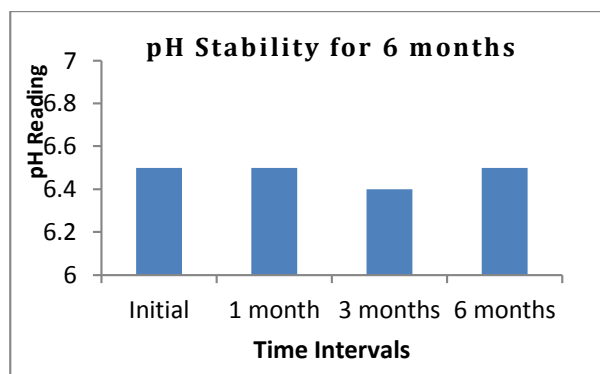


STABILITY STUDIES:

- Due to the inert ingredients used for manufacturing, the spheres are very stable at temperatures up to 25°C.
- It can withstand the pH range of 5 to 8 except blue color.
- Activated Charcoal Exfoliators were prepared by using Umang's Extrusion-Spheronization technology and kept for stability studies at a temperature 25°C ± 2°C/ 60± 5 RH for 6 months and analyzed the changes occur during the testing period.

➤ pH Stability:

The sampling was done at fixed time intervals and analyzed in different pH solutions ranging from pH6 to 8 and checked on pH meter for their pH. Results mentioned in below graph.



➤ Leach Test -

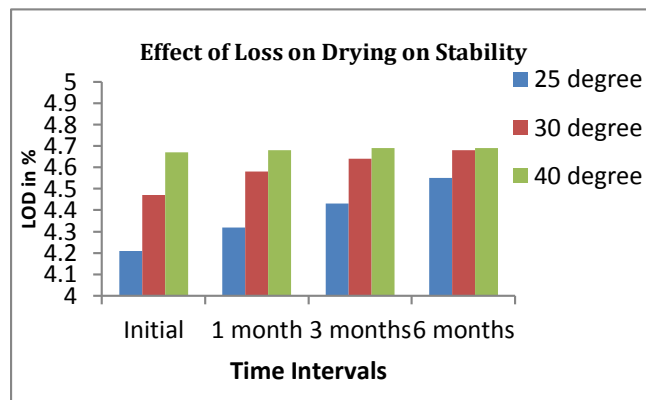
The sampling was done at fixed time intervals and then placed in three different pH solutions and checked visually for any color leaching. Results mentioned in below table.

TIME INTERVALS	VISUAL RESULTS
Initial	No change in color
After 1 month	No change in color
After 3 months	No change in color
After 6 months	No change in color

➤ Temperature Effect on LOD Stability:

The incubated Activated Charcoal Exfoliators were placed in an air tight glass bottles at 25°C, 30°C and 40°C ± 2°C for 3 hours.

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.



CONCLUSIONS:

The above studies show that Activated Charcoal Exfoliators do not change the appearance when analyzed for different pH, Leach test and Temperature as testing parameters and demonstrated the desirable retention throughout the stability studies.

Thus, make it an ideal for use in cosmetic formulation.

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