



Poly-Pore 438 BP Benzoyl Peroxide Delivery System

Description: A multifunctional delivery system useful in personal care applications for treatment and care of acne and related skin conditions. Poly-Pore® 438BP (PP 438BP) is supplied as a white powder and can easily be dispersible in emulsion, gel, anhydrous, or even powder based formulations. PP 438BP contains no additional preservatives or surfactants nor does it contain volatile water but instead relies on a unique stabilizing system that effectively minimizes the difficulty of handling benzoyl peroxide.

Improve Formulation Simplicity and Elegance

PP 438BP contains a 38 % loading of Benzoyl Peroxide (BPO), inside the matrix of the Poly- Pore® polymer. Because of the unique multifunctional characteristics of Poly-Pore, the dispersion of BPO in any system only requires simple mixing rather than significant milling as required with other systems. This allows the formulator a range of alternates to use as the base - from oil in water emulsion to simple gels to even loose or pressed powders. The result is improved feel and greater formulation versatility.

Stabilize and Protect

BPO, because of its reactivity, can be a challenge to handle safely. Within the matrix of PP, both BPO and butylenes glycol are loaded. Most BPO Systems are stabilized using water which is effective, but due to the volatility of water, the product needs to be tightly sealed to prevent water loss and development of a potentially hazardous situation. Our safety testing has shown that butylenes glycol is as effective as water in stabilizing BPO, while eliminating the volatility issue.

Controlled Delivery of Functional Ingredients

The matrix of the Poly-Pore delivery system provides a ready "reservoir" for active ingredients. The release of these ingredients occurs through a combination of friction and diffusion, providing a substantially slowed release of the active. The slowing of the release of BPO helps minimize irritation, while providing material available for extended effect of to address bacteria.

Typical Properties

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| Composition: | Benzoyl peroxide (and) Allyl Methacrylates Crosspolymer (and) Butylene Glycol |
| Appearance: | White powder |
| Benzoyl Peroxide Level: | 33 – 40 wt % |



Benefits

- Enables simple incorporation of Benzoyl Peroxide in all types of personal care products, including gels, emulsions, creams, and loose and pressed powders.
- Extended release of benzoyl peroxide results in reduced irritation and long-lasting availability at the site of action
- Provides sebum control

Typical Applications

- ❖ OTC acne care products, including gels, emulsions, and anhydrous products
- ❖ Make-ups and Foundations incorporating skin-care benefits
- ❖ Stick products
- ❖ Unique treatment products

Storage Recommendations and Shelf-Life: Storage under controlled temperature conditions not to exceed 75 F.

Delivery System Performance

In two separate clinical studies, PP 438BP was evaluated relative to untrapped Benzoyl Peroxide for sebum control and the ability to reduce p-Acne levels on the skin. In the first study, using an enrollment of 12, loaded PP 438BP reduced sebum on the skin by 70% from the initial levels, compared with less than 10% from the control sample (Figure A). In the second study, performed over 2 weeks with 36 subjects, a formula using PP 438BP at 2.5% benzoyl peroxide was equivalent to the performance of formulation using 10% BPO (Figure B).

