



博爱新开源制药股份有限公司

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WhiVidone™

Applications Guide

WhiVidone™30, WhiVidone™90, WhiVidone™XL

are hydrogen bonded complexes of KoVidone™ K-30, KoVidone™ K-30 and PolyKoVidone™ 10, respectively, with hydrogen peroxide that contain 16-20% H₂O₂.

Application:

Tooth Whitening/Bleaching

Not all stains can be removed from teeth during normal brushing. Often the staining agents have a strong affinity for the teeth and/or have migrated into the surface of the teeth. The result is yellow teeth that do not have the brilliant white appeal desired by consumers. Thus, tooth bleaching products that penetrate into the teeth and oxidatively decompose the staining agents have become a growing trend in Oral Care.

To remove these difficult stains, numerous professional and over the counter tooth whitening products are currently available with varying degrees of effectiveness and convenience to the consumer. Dentists currently use up to a 35% solution of hydrogen peroxide for in-office bleaching procedures, while home bleaching compositions contain only about 10% carbamide peroxide (3% active hydrogen peroxide), a urea-hydrogen peroxide complex. Sodium perborate is another less commonly used tooth-bleaching agent that is claimed to be gentler for sensitive patients. The advantages of using carbamide peroxide lie in its shelf stability and slower rate of breakdown during use.

NKY's **WhiVidone™** PVP-hydrogen peroxide complexes form our newest product line for Oral Care. Available as complexes of hydrogen peroxide with linear homopolymers **KoVidone** or crosslinked polymer **PolyKoVidone**, these products appear to be the ideal active compounds for vital tooth bleaching. They are safe, stable, powdered forms of hydrogen peroxide containing up to 20% w/w hydrogen peroxide. Stable for years in the dry state, these products immediately release hydrogen peroxide in the presence of water. Additionally, they retain most of the properties of PVP. The linear polymers are water soluble film formers that are compatible with oral tissues, while the crosslinked polymers are insoluble and swell in the presence of water. Their investigation in new tooth bleaching or other oral health compositions is highly recommended.

Stain removal/bleaching agents

In addition to the tooth whitening applications above, **WhiVidone** PVP-H₂O₂ complexes can also be effective stain removal/bleaching agents in denture cleaner tablets. The **WhiVidone** products not

only provide the active oxidizing ingredient, but they can also provide ancillary benefits such as tablet binding and disintegration that can help reduce the overall size of the tablet and the number of ingredients.