

# PACKAGING SYSTEMS INFLUENCE ON THE MICROBIAL CONTAMINATION OF COMMON PHARMACEUTICAL PRODUCTS

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## Abstract

Packaging systems used for pharmaceutical products are various and changing continuously. They are an important factor in preserving the purity of the product and maintaining its characteristics up to the end of their shelf-life. Considering the variety of the packaging available today, it is of great interest the study of the relationship between the drug itself and the packaging material used, with the aim to uncover the potential microorganism contamination. The objective was to explore, isolate and identify the different groups of microbial contaminants in the products and to define if there was any relation with the material it was packaged with.

During the research there were use classical methods for purification and isolation of the strains such as development in specific microbiological media, methods of limit dilution, screening techniques etc. Standard methods of the taxonomy of microorganisms were also used to study morphological and physiological characteristics of selected strains (sporulation techniques, yeasts pseudomicelium forming, sugar assimilation etc).

After various experiments some important results were reached: First and most important, the packaging system is a good barrier in protecting the product from the environmental contaminants but anyhow some strains of *Ascomycetes* were identified with the potential to contaminate the product as well especially when opened and stored without much care. Also a few cases of the same pollution in both the product and its packaging were observed.

A general conclusion would be that during a thorough evaluation of the microbial contamination of common pharmaceutical products the impact of the packaging system should also be taken into consideration.

**Key words:** *Pharmaceutical products, Packaging system, Microorganisms, Ascomycetes strains.*