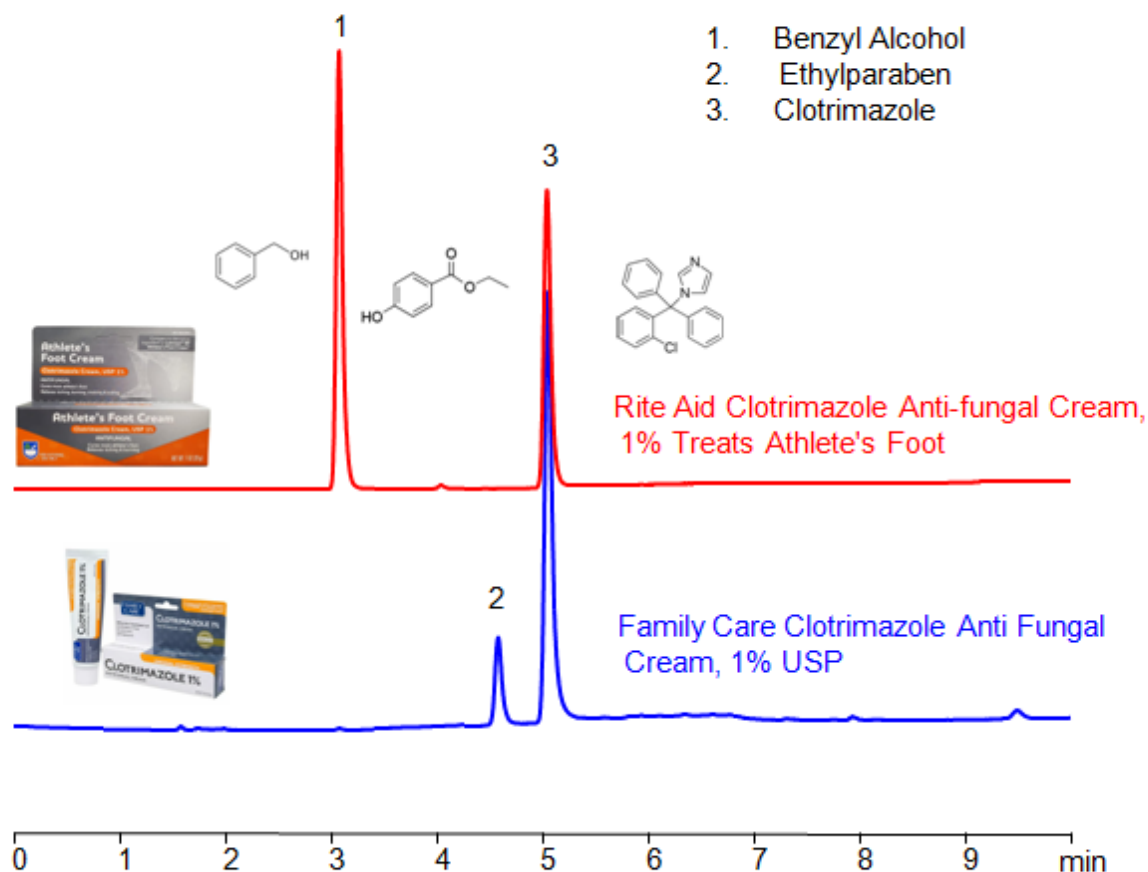


HPLC Method for Estimation of Clotrimazole in Health Care Products on Primesep 200 Column

<https://sielc.com/hplc-method-for-analysis-of-clotrimazole>

Chromatogram



Column:	Primesep 200
Column size:	4.6 × 150 mm, 5 µm
Column part number:	200-46.150.0510
Mobile phase:	Gradient MeCN – 40-90%, 10 min
Buffer:	H ₂ SO ₄ – 0.2%
Flow rate:	1.0 mL/min
Detection:	UV 200 nm

Description

Clotrimazole is an antifungal medication with the chemical formula C₂₂H₁₇ClN₂. It's commonly used to treat skin infections such as athlete's foot, jock itch, ringworm, yeast infection, and other fungal skin infections (candidiasis). Clotrimazole solution can be used to treat fungal ear infections. It works by inhibiting the synthesis of ergosterol, a vital component of fungal cell membranes. When ergosterol synthesis is inhibited, it leads to structural and functional impairment of the fungal cell membrane, thereby killing the fungus or inhibiting its growth. You can find detailed UV spectra of Clotrimazole and information about its

various lambda maxima by visiting the following link.

Clotrimazole belongs to the class of chemical compounds known as imidazoles . Specifically, it's an antifungal compound used to treat fungal infections. Imidazoles work by inhibiting the enzyme lanosterol 14 α -demethylase, which is necessary for the synthesis of ergosterol, an essential component of fungal cell membranes. When ergosterol synthesis is disrupted, it leads to alterations in the cell membrane's permeability and, eventually, fungal cell death.

Other antifungal agents in the imidazole class include miconazole, econazole, and ketoconazole, among others. These are commonly used in various formulations to treat a range of fungal infections, including athlete's foot, ringworm, and yeast infections.

Ethylparaben is an ethyl ester of p-hydroxybenzoic acid with the chemical formula C₉H₁₀O₃ . It is used as a preservative in food, cosmetics, and pharmaceuticals due to it's antimicrobial and antifungal properties. There are ongoing debates in regards to it's safety as it relates to human consumption, You can find detailed UV spectra of Ethylparaben and information about its various lambda maxima by visiting the following link.

Benzyl alcohol , also known as a-cresol) is a popular organic solvent and preservative with the chemical formula C₇H₈O . It is found in over-the-counter medications, topical creams, lotions, shampoos, and facial cleansers as an antibacterial, preservative, and fungicide. It's a colorless liquid with a mild pleasant aromatic scent and is found in a variety of plants, primarily fruit, teas, and essential oils. You can find detailed UV spectra of Benzyl alcohol and information about its various lambda maxima by visiting the following link.

Clotrimazole , Benzyl alcohol , Ethylparaben can be retained, and analyzed on a Primesep 200 mixed-mode stationary phase column using an isocratic analytical method with a simple mobile phase of water, Acetonitrile (MeCN), and a sulfuric acid as a buffer. This analysis method can be detected in the UV 200 nm.

Method Parameters

Mobile Phase	Gradient MeCN – 40-90%, 10 min
Buffer	H ₂ SO ₄ – 0.2%
Flow Rate	1.0 ml/min
Detection	UV, 200 nm
Class of Compounds	Imidazole antifungals
Analyzing Compounds	Clotrimazole,Benzyl alcohol,Ethylparaben

HPLC Column Used

Primesep 200, 4.6 x 150 mm, 5 μ m, 100 A, dual ended

[Order this column at hplc-shop.de →](#)