5 Patents Issued

Tolcylen™

How can this tolnaftate based product work so well?

Fact: Tolnaftate has a **lower molecular weight** and **smaller molecule size** than both efinaconazole and terbinafine HCL. The ability of an antifungal agent to be introduced to infected tissue around and under nails is widely reported to be determined by its molecular and surface tension properties. Unlike Rx and other OTC drugs, the ultra low surface tension Tolcylen™ delivery vehicle also contains a **20% cosmetic trio**[1] that rapidly improves nail appearance for most fungal and non-fungal patients...

Dispensed by Physicians Only

Molecular Properties of Topical Antifungals*

Leading Antifungals	Molecular Weight	Exact Mass
Tolnaftate	307.4 (g/mol)	307.1 (g/mol)
Efinaconazole	348.4 (g/mol)	348.2 (g/mol)
Terbinafine HCL	327.9 (g/mol)	327.2 (g/mol)

*Source: NIH National Center for Biotechnology Information

Surface Tension Profile of OTC Products**

Product/Category	Surface Tension	Contact Angle	% Dispersive
Tolcylen™ ANTIFUNGAL/NAIL RENEWAL SOLUTION	26.23 (mN/m)	19.40 deg	98.27%
A Leading Seed-Oil Based Product	31.36 (mN/m)	50.54 deg	74.05%
A Leading Emulsion Based Product	30.83 (mN/m)	46.05 deg	77.22%
A Leading PHMB Based Product	33.16 (mN/m)	74.09 deg	42.37%
A Leading Retail Renewal Product	39.99 (mN/m)	68.79 deg	59.99%

**Third Party analysis (best result out of 3 measurements each) provided by Nanoscience Analytical, an ISO 9001:2015 certified laboratory

The primary goal of this study was to determine the wetting properties of a collection of nail treatments. The primary substrates of interest for these formulations are keratins that make up human nails. In ref [2], the properties of human nails were measured and determined to be similar to the polypropylene (PP) substrate. Therefore, when comparing outcomes in this report, results on PP are expected to be reasonably similar to nail material. When compared to the other product types in the chart, Tolcylen™ has a substantially lower surface tension and contact angle and a much higher dispersive %. Tolcylen™ exhibits a superior wetting ability while also delivering antifungal and cosmetic agents [1] to the affected areas.

[1] Faergemann, Jan et al. – Early and Visible Improvements after Application of K101 in the Appearance of Nails Discoloured and Deformed by Onychomycosis. J of Cosmetics, 2011, 1, 59-63

[2] S. Murdan et al. In vivo measurement of the surface energy of human fingernail plates. Int. J. Cosmetic Sci.34(2012) 257-262

Call for a complimentary Product Sample Packet, which also includes clinical and scientific information.

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