

Development and Validation Characteristics Description of Parabens Determination in Cosmetic Products by Micellar Thin-Layer Chromatography Technique

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Received: January 16, 2015; Accepted: March 23, 2015

Characteristics of the parabens separation in TLC eluting with surfactant solutions as mobile phases in comparison to traditional mobile phases were evaluated. It was suggested to use the micellar solutions of Tween-80 as the mobile phase for separation of parabens by thin-layer chromatography on the normal-phase plates. On this basis, the method of detection and quantitative determination of methylparaben in cosmetics was developed. Analytical signal is the area of the chromatographic spots, which was estimated by image processing of the scanned chromatogram. Intralaboratory validation of identification and quantitative determination of methylparaben in cosmetic products technique was performed. Such analytical characteristics as specificity, linearity of calibration graph, limits of detection and determination, intermediate precision, trueness, robustness were identified. Limits of detection and quantification are corresponded to mass of methylparaben in a spot 0.63 and 0.94 µg, respectively.

Keywords: parabens, thin-layer chromatography, micellar mobile phase, Tween-80, validation
