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**Determination of N-nitroso-diethanolamine in cosmetic products by reversed-phase dispersive liquid-liquid micro-extraction followed by liquid chromatography**

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The growing social concern about health and beauty has encouraged in recent years a remarkable increase in the use of cosmetic products. Because of this widespread use, it is necessary to carry out adequate quality controls to ensure not only the effectiveness but also the safety in users. In this respect, European legislation on cosmetic products includes a list of compounds whose use in cosmetic products is banned. A clear example of banned compounds that can be found in cosmetic at trace levels are the so-called N-nitrosamines, since mutagenic, carcinogenic and teratogenic activity has been attributed to these compounds. Their presence in cosmetic products it could be attributed to unintentional causes. Thus, these compounds are formed with relative ease from an amine (either secondary or tertiary) and a nitrosating agent such as nitrite or oxides of nitrogen. Among N-nitrosamines found in cosmetics, N-Nitroso-Diethanolamine (NDELA) is undoubtedly the most typical one. Thus, the development of reliably analytical methods is highly encouraged. The aim of this work is to develop an analytical method for the determination of NDELA in cosmetic products, by exploiting the high potential of the Reversed-Phase Dispersive Liquid-Liquid Micro-Extraction (RP-DLLME) as clean-up and enrichment technique for highly polar and water-soluble compounds as NDELA. In contrast to conventional DLLME, in this approach a small volume of water is dispersed into a bulk organic solution containing the analytes as extraction solvent. The main parameters involved in RP-DLLME were optimized and the method was successfully validated in terms of linearity, precision and accuracy.

**Biography**

Alberto Chisvert has completed BSc from Faculty of Chemistry, University of Valencia, in 1999; PhD from Department of Analytical Chemistry, University of Valencia, in 2003. He is Associate Professor of the Department of Analytical Chemistry of University of Valencia. At present, he has published more than 60 articles in reputed journals, and more than 10 book chapters. Moreover, he is the Co-Editor of the book *Analysis of Cosmetic Products* (Elsevier, 2007). He is Editorial Board Member of *Advances in Analytical Chemistry*, *American Journal of Analytical Chemistry*, *Chromatography Research International*, *International Journal of Analytical Chemistry* and *Journal of Trace Analysis in Food and Drugs*, and is a regular Reviewer of more than 27 journals. His research areas are focused on both liquid and gas chromatography coupled to mass-spectrometry, liquid- and solid-phase micro-extraction, in bio-analysis and cosmetic, pharmaceutical and environmental analysis.

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