Analysis of Cosmetics

NDELA and Formaldehyde

N-Nitrosodiethanolamine (NDELA)

Challenge

Cosmetics, in particular mascara and skin care products, often show unacceptable concentrations of the carcinogenic compound N-nitrosodiethanolamine (NDELA).

Method for Analysis

The ISO/DIS 10130 is proposed as preferred analytical method by the technical committee for cosmetics of the International Organization for Standardization. This analysis with HPLC, photolysis and post-column derivatization features high specificity, minimizes the risk of measuring artefacts and allows precise quantification.

NDELA is chromatographically separated from the matrix and the n-nitroso-bond is photo-chemically cracked at 254 nm using an UV derivatisation device. In a Griess reaction the nitrite produced is then converted into a strongly coloured azo dye, which can be detected at 540 nm.

LCTech Products for Your NDELA Analysis

For both the online photolysis and post-column derivatization LCTech offers suitable, reliable systems. Even the lowest concentrations, e. g. 1 ng/mL NDELA, can be detected.

UVE - Photochemical Reactor

UV derivatizer for the photochemical cracking of the n-nitroso bond

- Powerful and professional
- Low cost and maintenance
- European CE certificate and DIN ISO certified

PINNACLE PCX

For the post-column derivatization by the Griess reagent

- Specific reaction
- Precise quantification
- Robust system

Both systems are easily integrated into existing HPLC systems.

Analysis of Formaldehyde

SOLUTIONS BY LCTech

Formaldehyde

Challenge

Free formaldehyde is used for long-term stabilization in cosmetic products. The potential cancerogenicity demands effective and reliable analysis.

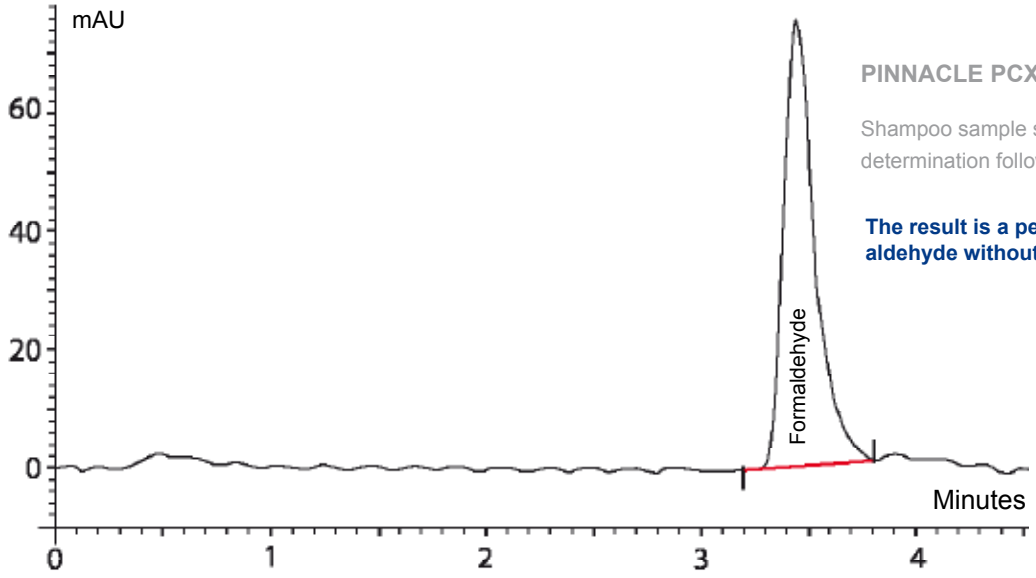
Method for Analysis

According to method K84.00-7(EG) chromatographic separation by HPLC column is followed by derivatization. This does not influence the equilibrium between donator and free formaldehyde. An UV/VIS or fluorescence detector is used for detection.

LCTech Products for Your NDELA Analysis

Within minutes you can rebuild your PINNACLE PCX post-column derivatization system (see front side) for formaldehyde analysis.

Chromatogram of a Shampoo Sample:



PINNACLE PCX

Shampoo sample spiked with 0.05 % formaldehyde, determination following K84.00-7(EG)

The result is a peak for free formaldehyde without interference.

Ordering Information

P/N	Product
1153-1022	**PINNACLE PCX** single pump system for post-column derivatization for the analysis of formaldehyde, 0.5 mL reactor volume
1452-0095	**Reactor for PINNACLE PCX** for the additional analysis of NDELA, 1 mL volume
10519	**UVE Photochemical Reactor** 254 nm lamp, 240 V, CE certified, ready-to-use

We are pleased to send you an non-binding offer.

For more information: www.LCTech-online.com

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