

# Analysis of Cosmetics

## NDELA and formaldehyde with one system

### N-Nitrosodiethanolamine (NDELA)

#### The challenge

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

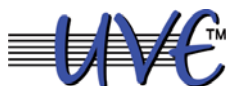
#### Method for analysis

*The ISO/DIS 10130 is proposed as preferred 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, the n-nitroso-bond is photochemically cracked at 254 nm using a 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.*



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

- ▶ Powerful and professional
- ▶ Extremely cost-effective
- ▶ Easy confirmation analysis by switching off the system



*for the post column derivatization by the Griess reagent*

- ▶ Specific reaction
- ▶ Precise quantification
- ▶ Robust system

*Both systems are easily integrated into existing HPLC systems to make a NDELA analyzer.*



# Formaldehyde

## The challenge

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

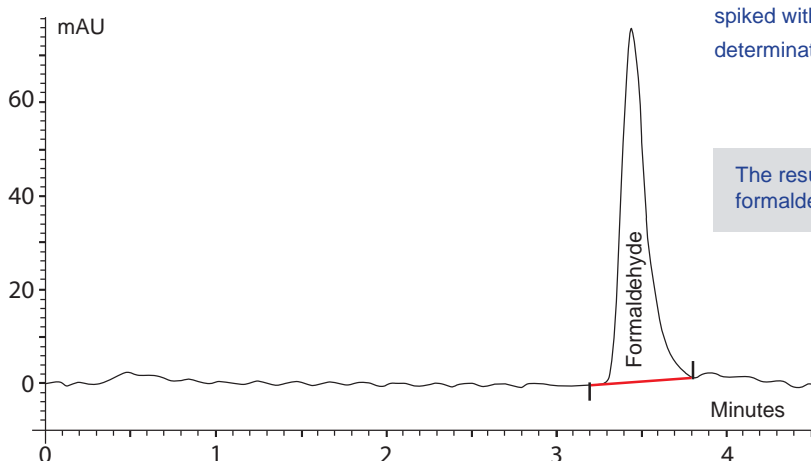
## Method for analysis

*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. A UV/VIS or fluorescence detector is used for detection.*

## Our solution for your formaldehyde analysis

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

*We have tested our system for you:*



Chromatogram of a shampoo sample, spiked with 0.05% formaldehyde, determination following K84.00-7(EG)

The result is a peak for free formaldehyde without interferants.

## Ordering information

**PINNACLE PCX™**, single pump system for post-column derivatization, 0,5 mL reactor volume, for the analysis of formaldehyde

P/N 1153-1022

**Reactor for PINNACLE PCX™**, 1 mL volume, for the additional analysis of NDELA

P/N 1452-0095

**UVE™**, UV derivatizer, 254 nm lamp, 240 V, CE certified, ready to use

P/N 10519

Please ask us for further information or a non-binding quotation!



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