

## Separation of DNPH-Derivatized Aldehydes Obtained from Air Samples

Application Environmental Robert Ricker

Formaldehyde and other aldehydes are receiving increasing attention as hazardous substances. Formaldehyde is the most prevalent aldehyde. It is a widely used industrial agent, an intermediate in the manufacture of urea formaldehyde, and in making phenol-formaldehyde resins (used in the making of fiberboard, particleboard, and plywood). Monitoring these compounds at very low concentrations is critical in the assay of environmental contamination. The 2,4-dinitrophenyl-hydrazine (DNPH) derivatives of these compounds can be separated by reversed-phase chromatography and are detected at very low levels using a standard UV detector.



#### Courtesy of G. Bittner, Deutsches Teppichforschunginstitut, Aachen, Germany

#### **Conditions:**

ZORBAX ODS (4.6 x 250mm) (Agilent P/N: 884950-543) Mobile Phase: A:100%  $H_2O$ , B:100% ACN; 60-75%B in 30min Wash: From 75-100%B in 5 min, after 5 min return to 60% B Injection volume 25µL, 1 mL/min, 35°C, Detect. UV(230 nm)



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### Highlights

- Traditional ZORBAX columns give superior resolution for these non-basic compounds, providing good peak shape and efficiency.
- The Porous-Silica-Microsphere structure of ZORBAX columns results in very rugged packings that may be used at high flow rates and back pressures.

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