PICKERING LABORATORIES
CATALYST FOR SUCCESS

ANALYSIS OF FORMALDEHYDE

SIMPLE AND SENSITIVE METHOD FOR ANALYZING FREE FORMALDEHYDE

Formaldehyde is used for disinfections of industrially manufactured products. However, it is detrimental to health and its potential oncogenicity led to the current utilization of a formaldehyde donor for long-term preservation. Such donors are in hydrolytic equilibrium with formaldehyde producing free formaldehyde on exposure to moisture.

This method is used to quantify the free formaldehyde without upsetting the existing equilibrium. Potential interferences are either separated from formaldehyde or they don't react with the post-column reagent. The lutidine derivative is highly fluorescent resulting in ppm detection levels.

METHOD

Analytical Conditions

Column: Diol, 5 µm, 4.6 x 250 mm

Temperature: 40 °C

Flow Rate: 0.5 mL/min

Mobile Phase: Acetonitrile: Water (85:15) isocratic

Post-Column Conditions

Post-Column System: Pinnacle PCX

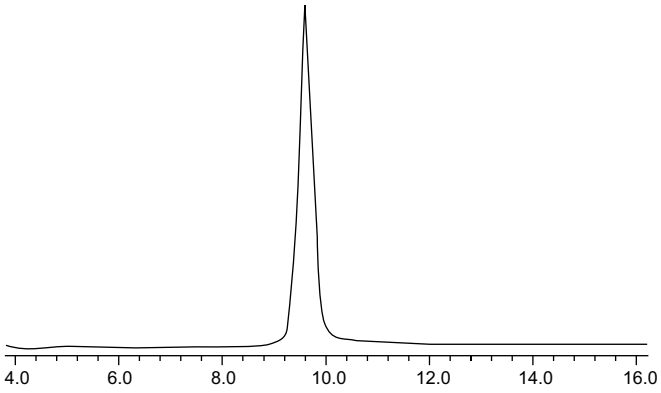
Reactor Volume: 0.5 mL

Temperature: 100 °C

Reagent:
0.81 M Ammonimn acetate
0.12 M Galcial acetic acid (pH=5)
0.05 M 2, 4-Pentanedione with water

Flow Rate: 0.4 mL/min

Detection: Fluorometer
λ_{ex}: 412 nm, λ_{em}: 510 nm



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