

**TITLE:****AUTHOR:** Jurandir Pereira Pinto**ABSTRACT**

Ambient levels of formaldehyde and acetaldehyde were measured at three sites in the city of Londrina, Paraná: at the bus station, in downtown (night and day profiles) and in a rural area, during summer and winter seasons of 2002. Atmospheric aldehydes present in the gas-phase were collected using C<sub>18</sub> Sep-Pak cartridges coated with an acidic solution of 2,4-DNPH and analyzed by liquid chromatography with diode array detection. At the bus station, formaldehyde concentration ranged from 6,17 to 10,43 ppbv, and acetaldehyde levels ranged from 0,49 to 2,12 ppbv. In downtown Londrina, during the summer, samples were collected over 24 hours sampling. Formaldehyde concentrations ranged from 2,07 to 5,65 ppbv, and acetaldehyde concentrations ranged from 1,05 to 5,06 ppbv. During the winter, the samples were collected in the same site, however in an interval of two 12 hours. The daytime concentrations for formaldehyde and acetaldehyde were higher than nighttime levels. Formaldehyde levels ranged from 3,24 to 9,46 ppbv and acetaldehyde concentrations ranged from 2,81 to 10,83 ppbv. Measurements of background carbonyls were carried out at one sampling site at University of Londrina campus. Formaldehyde and acetaldehyde concentrations ranged from 0,64 to 1,41 ppbv and from 0,10 to 0,87 ppbv, respectively. The ratio CH<sub>3</sub>CHO/HCHO were compared between the measurement sites. Due to use of ethanol-fueled vehicles these ratios are higher in Brazil than these measured elsewhere in the world.