

MONITORING OF AIR QUALITY FOR NITROGEN DIOXIDE, NITROGEN OXIDES AND BENZENE IN SELECTED ZONES OF THE LOMBARDY REGION BY DIFFUSIVE SAMPLING

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Diffusive sampling has been used to study the spatial distribution of NO₂, NO_x, and Benzene in selected zones of the Lombardy Region, Italy, during the period March to October 2001. Diffusive sampling of air pollutants is a relatively simple and cost effective technique which provides a reasonably accurate picture of the pollutant distribution in a place and time. It is ideally suited to serve the indicative measurement requirements in the preliminary assessment of ambient air quality. Three different categories of sampling sites (roadside, residential and background) were studied. In total, 315 sites distributed over four differently characterised zones were monitored. The results were evaluated on the basis of the limit values found in the European Directives. The results of the study indicate that the measured concentrations were substantially lower than the ambient air quality standard with the maximum concentrations being generally found much closer to emission sources. The monitoring method described here can be used to assess integrated concentration levels over long period of time and to identify pollution "hotspots" where concentrations are likely to be consistently high. Identification of these hotspots may help to assess air quality and to focus proper action plans especially in locations where industrial and urban pollution are coexisting.