European Indoor Air Monitoring and Exposure Assessment Project

Description:
The AIRMEX project’s aim was to systematically evaluate the relationship between indoor air pollution and human (chronic) exposure to pollutants with the focus on public buildings, including indoor environments where children frequently stay like schools and kindergartens, and to evaluate to what extent exposure to these pollutants affected occupants in these areas. The experimental approach consisted in field monitoring campaigns in several European cities in collaboration with local authorities and European institutions. Measuring campaigns were carried out by placing passive samplers in public buildings located in urban areas with high traffic density and in kindergartens/schools mostly situated in suburbs with reduced (medium) traffic impact. Around 1000 samples were taken at 52 public buildings, schools/kindergartens, 142 adults and 25 homes (of the volunteers) and were analysed for VOCs and carbonyl compounds at the JRC laboratories. The characteristics of all the city areas studied were similar, i.e. buildings with public access, offices with smokers and non-smokers (where still allowed). No attention was paid to the age of the buildings although it was recorded, but recent building renovations were taken into account in the evaluation of the results. Volunteers were identified among the employees and/or teachers working in the selected indoor environments for personal exposure monitoring. The duration of the measuring campaigns (indoor/outdoor measurements) was fixed at one week, including the weekends. The measuring period for personal exposure monitoring, i.e. the amount of time the volunteers wore the personal (passive) samplers was up to a maximum of four days (during the measuring campaign) for the convenience of the individuals. The passive samplers were positioned inside the buildings (at a height of 2-2.5 m) to cover the main access areas of the occupants and the public, i.e. entrance halls and offices; in kindergartens and schools, in selected classrooms and/or in areas where children are predominantly playing/remaining; outdoors, at rain-protected positions on the buildings. The campaigns were carried out twice (winter/summer) in each city in order to consider minimum and maximum concentration values due to seasonal variation. The passive sampling technique was used for all types of monitoring and overall micro-environmental conditions such as temperature and humidity were also recorded. The results of the field monitoring campaigns are stored into an ORACLE Database in the JRC internal network. Descriptive Statistics are published in the AIRMEX project dedicated web page (see the landing page). Users are requested to compile a registration form only to keep track of the user community. Single measurements (to which geographical generalisation has been applied) are accessible through IPCheM, the Information Platform for Chemical Monitoring, web site.

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Landing page:

Datasets:
- AIRMEX project: campaigns data [jrc-airmex-campaigns-data]