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16. Abstracts Fibre content of freeway air was compared to that of ambient air upwind from the freeway. Portions of Millipore AA filters containing suspended particulates collected in Los Angeles at four freeway and four upwind sites were examined for fiber content with microscopy and transmission electron microscopy (TEM). Electron micrographs of selected samples are shown. The TEM method is described and compared with three other TEM methods for asbestos analysis. The technique used in this study leaves fiber or fibre bundles intact; fibres in unbroken clumps were not counted. Chrysotile, amphiboles and glass fibers were identified; length and diameter were measured. Single fibers were counted, including a group of unknowns which were a substantial part (65%) of the total fibers. Results are tabulated for 120 samples. At freeway sites, chrysotile, amphiboles, glass fibers and unknowns ranged from 0-100, 0-10, 0-4 and 0-18 f/l, respectively; upwind sample ranges were 0-9, 0-8 and 0-30 f/l, respectively. Freeway samples differed from upwind samples in fibril content, 17% and 3%, respectively.				
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SUMMARY

This report summarizes estimates, by electron and light microscopy, of the number and size distribution of fibers collected on membrane filters from air in four Los Angeles freeway sites, upwind ambient air controls, and in ambient air from San Francisco Bay Area Cities and other California locations. The chrysotile asbestos fiber concentration in the air at all locations is low in the range of zero - 10 fibers/liter. Based upon comparison of fiber concentration in various sites upwind and downwind, and at various distances from freeways, motor vehicles using the Los Angeles freeway system do not appear to be an important source of airborne chrysotile asbestos fibers. The Los Angeles samples do not differ appreciably in fiber concentrations of chrysotile asbestos from the San Francisco Bay Area samples.

The concentration of glass and unidentified fibers was estimated in the Los Angeles and San Francisco Bay Area samples and found to be low i.e. in the same order of magnitude as for chrysotile asbestos. The concentration of amphibole asbestos fibers in the air were estimated in the Los Angeles freeway sites and found to be in the same order of magnitude as the chrysotile asbestos concentration.

A method is described for the use of electron microscopy suitable for quantitative analysis and identification of chrysotile and amphibole asbestos fibers in ambient air and at emission sources.

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