

AIR POLLUTION IN LATIN AMERICAN MEGACITIES**P. Artaxo***Instituto De Física, Universidade De São Paulo, Sao Paulo, Brazil*

Urban air pollution is a serious issue for millions in Latin America. São Paulo, Santiago de Chile, México City and many other large urban conglomerates. Fast industrialization, large population growth, emissions from the transportation sectors and many other issues are the cause for the serious air pollution in these mega cities. São Paulo, with 17 million people, 5.5 million vehicles and strong industry suffers from severe particulate matter and ozone exposure. Santiago de Chile with very unfavorable dispersion characteristics and an old busses and automobile fleet also has problems with PM10 and ozone. Mexico City, with 20 million inhabitants, 35,000 industries and 3.5 millions vehicles in a complex topography, also has severe ozone problems, with enhanced photochemistry and large VOC emissions. Health effects in these areas are a public health concern. In Sao Paulo alone, about 30,000 excess deaths are attributable to air pollution issues. There are also critical institutional issues in the São Paulo metropolitan area, which has 39 municipalities, as well as three other metropolitan areas within a 100-km radius. In Sao Paulo, Santiago and Mexico City, vehicles and industry is the main air pollution source. In Brazil all cars run on gasoline mixed with 23% ethanol, what causes very high acetaldehyde and formaldehyde concentrations. There are no vehicle inspection programs and there are very few cars with catalytic converters. In Santiago de Chile, a dry climate makes resuspended soil dust an important PM10 component, and vehicle emissions produces high concentration of secondary organic aerosols. Old diesel buses make black carbon concentrations very high in Santiago. Aerosol source apportionment studies in these large urban areas points to similar sources, and strategies for reducing air pollution levels in these 3 megacities will be discussed.