

ozone episodes can vary widely in frequency from year to year because of different meteorological conditions. In contrast, low ozone values occur on the arrival of cold frontal passages and such concentrations can be considered tropospheric background levels and a basis against which high ozone episodes can be compared.

Monitoring protocol for ozone measurements falls under three headings: (1) instrument selection, calibration, and operation; (2) network design, including the selection of representative monitoring sites and the integration of air monitoring and meteorological equipment into a compatible network, and; (3) a comprehensive quality assurance program involving maintenance of instrument calibration and comprehensive data evaluation. All of the above are considered in detail in MOI Report 2F-I.

9.2 Organics

Since World War II, the use, and hence the distribution in the environment of man-made organic compounds has increased dramatically. At present, over 40,000 different chemicals are being used in North America with several hundred new organic substances being produced every year. Most of these chemicals are produced in such small quantities that their effect, when they are released into the atmosphere, would only be on a very local area. However, many of the substances have chemical, biological and physical properties which are environmentally undesirable, for example, persistence, toxicity of trace levels to animals and other biota and teratogenic and carcinogenic effects on man. If released in sufficient quantities, the atmosphere, specifically the lower troposphere, acts as an important reservoir and vehicle for distribution and transport of some of these compounds for thousands of kilometers from their sources. These compounds have been identified in