



Analysis of selected volatile organic compounds at background level in South Africa.

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Volatile organic compounds (VOC) are measured globally at urban air pollution monitoring and background level at specific locations such as the Cape Point station. The urban pollution monitoring is legislated at government level; however, the background levels are scientific outputs of the World Meteorological Organisation Global Atmospheric Watch program (WMO/GAW). The Cape Point is a key station in the Southern Hemisphere which monitors greenhouse gases and halocarbons, with reported for over the past decade. The Cape Point station does not have the measurement capability VOC's currently. A joint research between the Cape Point station and the National Metrology Institute of South Africa (NMISA) objective is to perform qualitative and quantitative analysis of volatile organic compounds listed in the GAW program. NMISA is responsible for development, maintain and disseminate primary reference gas mixtures which are directly traceable to the International System of Units (SI). The results of some volatile organic compounds which were sampled in high pressure gas cylinders will be presented. The analysis of samples was performed on the gas chromatography with flame ionisation detector and mass selective detector (GC-FID/MSD) with a dedicated cryogenic pre-concentrator system.

Keywords: volatile organic compounds, gas chromatography, pre-concentrator