

Atmosfair

Derniers développements reconnus pour l'évaluation des précurseurs d'ozone avec mesure des C2 à C16 (groupes de polluants biogéniques et anthropogéniques) incluant COVs, HAPs et les terpènes

Latest development on Ozone precursors monitoring with capabilities to analyze from C2 to C16 (biogenic and anthropogenic pollutants groups monitoring) including VOCs, volatiles PAHs and Terpenes and HCHO in addition.

Sources: Industrials and urbans

In most of countries legislation is only looking for BTEX concentrations to complete conventional monitored parameters: NO_x, SO_x, O₃, PM 10 or PM_{2,5}. But BTEX is not enough and more and more worldwide institutes or Research laboratories are looking for on field solutions to monitor more VOCs in ambient air.

Impact: climates changes

As example in USA Section 182(c)(1) of the 1990 Clean Air Act Amendments (CAAA) required the Administrator to promulgate rules for the enhanced monitoring of ozone, oxides of nitrogen (NO_x), and volatile organic compounds (VOC). Objective is to obtain more comprehensive and representative data on ozone air pollution. The principal reasons for requiring the collection of additional ambient air pollutant and meteorological data are the lack of attainment of the National Ambient Air Quality Standard (NAAQS) for ozone nationwide, and the need for a more comprehensive air quality database for ozone and its precursors.

Diagnosis:

Innovative metrology with analyzers able to monitor more than 88 VOCs in ambient air and HCHO option

Face to climate changes, the request for extended VOCs molecules list becomes largest and touch more and more countries as China, India or Poland. These countries have interest to adopt and implement a program, like in the USA few years ago, to improve ambient monitoring activities and the monitoring of emissions of NO_x and VOCs considering more than only single Benzene or BTEX.

Solutions: airmOzone monitoring solutions allows monitoring of more than 88 VOCs including list of PAMS 56, TO 14 in addition to volatiles PAHs. This innovative solutions recognized as worldwide top 3 solutions by USEPA for ozone precursors form C2 to C12 now allows quantification from C2 to C16 molecules. This new solution appeared after new development on C2C6 with capabilities to reach trapping at -30°C offering capabilities to analyze molecules as ethane or ethylene. At the same time, new upgrade of well recognized C6C12 allows now to reach additional compounds for C6 to C16 including volatiles PAHs as Naphtalene, Acenaphtylene, Acenaphtene or fluorine, Phenanthrene or Anthracene as example. This unique solution uses autoGC FID only and auto data validation system to check reliability of the solution. This all-in-one solution is centralized in single mobile cabinet for mobile van or lab and on field inspection. In addition, latest development helps to appreciate on field and at a glance, contributions of anthropogenic or biogenic pollutants as terpenes in ambient air without any molecules losses risks. A new tool on regulatory approach including additional module for formaldehyde.

Key works: ozone precursors, PAMS 56, TO 14, anthropogenic, biogenic, VOCs, C2C6, C6C16, gas chromatography, VOC, PAHs, Terpenes, formaldehyde.