

Non-methane hydrocarbons



Where are they found?

Non-methane hydrocarbons (NMHC) are mainly emitted by anthropogenic sources related to energy and transport such as combustion from gasoline and diesel engines, industrial boilers, traffic, refineries, petrochemical plants, port terminals, and service stations. In addition, they are generated during forest fires and agricultural biomass burning, and to a lesser extent by natural sources such as vegetation and organic matter decomposition.

These emissions accumulate in urban, transport, and industrial areas, and can disperse on a large scale, contributing to regional air pollution.

Why are they harmful?

Many NMHC are toxic or carcinogenic and can cause respiratory irritation, headaches, and neurological effects, posing chronic health risks. Photochemically, they are key precursors of tropospheric ozone and secondary organic aerosols, which worsen smog and PM_{2.5} episodes.

Furthermore, the ozone generated damages vegetation, reduces crop yields, degrades ecosystems, and contributes to climate change. The most severe episodes occur in cities and industrial hubs during heat waves and atmospheric stagnation, particularly affecting vulnerable populations.

NMHC cartridge

The NMHC cartridge incorporates a new state-of-the-art sensor designed for applications requiring reliable and affordable monitoring of non-methane hydrocarbons.

The Kunak algorithm corrects the effects of temperature and humidity, enabling accurate measurements from very low concentrations (ppb) up to 5 ppm. Its compact design, cost-effectiveness, and cutting-edge performance make it an ideal solution for continuous monitoring and leak detection.

Type	N. A.	Operating life ⁽⁶⁾	> 2 years
Unit of measurement	µg/m ³ , ppb	Guarantee range ⁽⁷⁾	30 ppm
Measurement range ⁽¹⁾	0 - 5,000 ppb	Limit of Detection (LOD) ⁽⁸⁾	5 ppb
Resolution ⁽²⁾	1 ppb	Repeatability ⁽⁹⁾	6 ppb
Operating temp. range ⁽³⁾	-30 to 60°C	Response time ⁽¹⁰⁾	< 120 sec
Operating RH range ⁽⁴⁾	10 to 99 %RH	Typical accuracy ⁽¹²⁾	—
Recommended RH range ⁽⁵⁾	15 to 90 %RH	Typical Intra-model variability ⁽¹⁴⁾	< 3 ppb