**A new born in ANALYST family: Formaldehyde and Aldehydes**

Monitoring of Aldehydes in indoor environment and in ambient atmosphere is of a great important due to the toxic properties of these substances. Recently, IARC classified Formaldehyde as a “known human Carcinogen” while the regulation EU 604/2014 states that it may cause cancer. Formaldehyde and other aldehydes have long been monitored in indoor environments (Schools, hospitals, offices, etc.) by using passive samplers. They are all based on the acid catalysed reaction of Aldehyde with 2,4-Di Nitro Phenyl Hydrazine (DNPH) followed by liquid chromatographic analysis. The sampling and measurement techniques are relatively simple, but the technique is sensitive to the presence of atmospheric oxidants such as Ozone. Oxidants may interact with the DNPH and with the reaction products causing losses of Aldehydes. ANALYST passive samplers have also been used for carbonyl species, especially in indoor pollution where Ozone concentration is expected to be low. The possible interference of oxidants led to the development of the new passive sampler for Aldehydes. The new model is based upon the “*built in chemistry*” adopted in other ANALYST passive samplers. For instance, the measurement of NOx is carried out by oxidation of NO to NO2 on an oxidising surface, followed by the collection of NO2 on a proper substrate. In the case of Aldehyde, oxidants are removed on a surface treated with a solution containing Potassium Iodide. This layer removes Oxidants and allows Formaldehydes and other Carbonyl species to be efficiently collected on DNPH. The removal of interferences due to Ozone and other Oxidants, allow reliable measurements even in ambient atmosphere during photochemical processes when oxidants concentrations are expected to be high. After sampling, the active DNPH sampling surface is removed and analysed by Liquid Chromatography.

The new ANALYST passive sampler will be available by ENVINT from Jan 1st, 2019.

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Active DNPH Surface

Reducing Surface

**Oxidants**

**R-CHO**

**Basic of the new Formaldehyde Analyst® Passive Sampler**