

Improvement of sampling and analysis of HCHO in emissions

Formaldehyde is one of the compounds that is typically present in odorous emissions.

Unfortunately, given its toxicity (it is cataloged as carcinogenic and mutagenic), it is necessary, however, every time the olfactory impact of an emission is verified, to evaluate its content in very accurate terms, so as to evaluate the best methods for a possible olfactometric analysis.

The CEN reference method for the determination of formaldehyde (HCHO) in emissions from stationary sources is specified in the UNI CEN/TS 17638:2021 standard, which provides for the absorption capture of formaldehyde in water and subsequent analysis by photometry or HPLC.

RSE has conducted an experimental study for the validation of the method, with particular regard to the possible interferences related to the presence of SO₂, using its experimental plant LOOP.

The paper shows the details of an interference phenomenon that can lead to an underestimation of the results by up to 50%, and also proposes a modification of the method itself that minimizes this effect.