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Calibration of the breath analyzers using in situ produced wet gas standards

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[breath analyzer calibration](#) [ethanol](#) [wet gas standard](#)

Abstract

Breath analyzers are instruments for determination of alcohol (ethanol) mass concentration in exhaled air. These instruments are calibrated in Poland by means of wet gas standards produced in situ from aqueous standard solutions in breath simulators. The article discusses the influence of design of test benches for testing of breath analyzers on the uncertainty of the concentration of the produced gas standard. A detailed analysis of potential sources of uncertainty and an exemplary uncertainty budgets of mass ethanol concentration in a wet gas standard as well as that of the determined instrument error are presented.

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