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# The twin impinger: a simple device for assessing the delivery of drugs from metered dose pressurized aerosol inhalers

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## Abstract

The development is described of the twin impinger, a two-stage separation device for assessing the drug delivery from metered dose inhalers and other oral inhalation delivery devices. The discharged aerosol is fractionated by firing through a simulated oropharynx and then through an impinger stage of defined aerodynamic particle size cut-off characteristics. The fine (pulmonary) fraction which penetrates is collected by a lower impinger. It is demonstrated that this device is able to assess individually the fine particle delivery of both components of two-drug aerosols. Formulations showing undue agglomeration or serious crystal growth of drug are readily detected. The twin impinger is shown to be a valuable device for routine quality assessment of aerosols during product development, stability testing and for quality assurance and comparison of commercial products.