

Analysis of Impactor Data

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This talk describes the standard methods of handling data obtained from the testing of an inhaler on a cascade impactor. The basic data from a cascade impactor is the mass of active pharmaceutical ingredient on each stage of the impactor. From these data, the shape of the particle size distribution can be inferred, but each method of deducing the size distribution involves physically reasonable assumptions and approximations. The most common approximation about the impactor is that the size of particle captured on each stage of the impactor is known precisely. The most common assumption about the particles size distribution is that it follows a “log-normal” shape (essentially a Gaussian curve based on the logarithm of the particle size). We use the data obtained in the laboratory by each group of students to characterize the measured size distribution and compare this information to that reported by the manufacturer of the inhaler.

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