

# **A Method for Comparing the Performance of Filters Used in Semiconductor Liquid Purification Applications**

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## **Abstract**

Particle concentrations downstream of filters come from several sources including incomplete retention by the filter and particle shedding. The number of particles contributed by the various sources determines the total particle concentration downstream of the filters. This paper presents a model describing how these sources can affect overall filter performance in filtering semiconductor process fluids. The model is used in two examples to explain the differing performance characteristics of filters. Both examples are based on an extensive series of tests performed in  $H_2SO_4$  to compare the filter types. The examples indicate that it is necessary to compare filters over a wide range of particle sizes and different flow rate patterns to fully characterize filter performance.