

In addition to not being able to resolve very small particles, the small fibers would not settle in the allotted time to that plane in the cell where particles are to be counted. This would also reduce the number seen during the counting period.

Impinger samples are not handy for long personal samples. This is primarily due to both evaporation of the absorbing media (alcohol) and the movement of the worker.

The confidence limits of a dust count improve, as the number of particles counted increase. Because only a few fibers were seen in impinger samples, it was decided to count all particles in the counting cell at the established plane. This result gave an overall appraisal of dustiness rather than associating a fiber count to a degree of hazard. The original investigators realized this point. It was felt by them and others that if this level of dustiness (TLV) was not exceeded, that the asbestos hazard would be reduced.

The TLV of 5 mppcf, based on the early studies of Dreessen and others, was in effect from 1946 to 1970. However, in 1968 and 1969, tentative standards were proposed that were based on a new method of collection and counting.

It was evident from the preceding discussion on the impinger method that another procedure was needed to obtain a statistically useful index of airborne fiber concentrations. Interest in the fiber content arises from the need to measure that item in the environment that is the most relevant to the disease causing mechanism. A correlation between fiber count and disease or exposure and health was needed.