lapel (lapel). Closed-face Glasrock (#1505) cassette filter holders fitted with half inch extenders and probes developed by NIOSH[5] were used for both the in-mask and lapel samples. The sample probes are specially designed to minimize the loss of particulates. The cassettes contained 0.8 um, 25mm cellulose ester filters.

The sample trains were calibrated before and after taking each sample using a mass flow meter. The mass flow meter was calibrated against a bubble flow meter at the beginning and end of the study. A flow rate of 2 Lpm was used for in-mask samples. Lapel samples were taken at 0.5-1.0 Lpm to avoid overloading.

Samples were collected for a one to two hour period. Each sample represented a single wearing of the respirator.

Fiber counts were done per NIOSH procedure P&CAM 239[6] (phase contrast microscopy), except that the triacetin/acetone mounting method was used as described in NIOSH method 7400[7]. Counting was done according to the "A" counting rules in method 7400. Five hundred fields were counted for in-mask samples to increase analytical sensitivity. All analyses were done by one counter who participates successfully in the American Industrial Hygiene Association's Proficiency Analytical Testing quality assurance program. Concentrations were calculated from the actual number of fibers counted (even if fewer than 50 fibers were counted) per the formulas in the NIOSH method.

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