[ABS34]

The Impact of Small Variables on the Big Picture in Respirator Wear

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Small variables often tend to be disregarded as minor factors and discarded as having negligible influence on human breathing and respirator use. Such small variables include ambient temperature, humidity, temporal ratio between inhalation and exhalation, cartridge diameter and its effect on air speed through the filtering medium, the general fitness of the wearer – even the difference between start-of-shift vigor and end-of-shift fatigue.

When assessing these factors as a single breath or a quick sample, they may indeed seem of little consequence – but they are surprisingly important, not the least in view of respirator use during extended periods.

A new software program has been designed that can examine and demonstrate – in a graphically clear way – the effects of a wide array of small variables on the real-world wear of respiratory protection. The software includes an optional starting point of typical data that can then be easily adjusted to reflect actual respiratory protection equipment and work environment, and to compare various conditions and respirators.

In a highly visual manner, the subtle variables that govern a single breath can now be understood as a full picture of an entire shift wearing a respirator.