Face mask fit modifications that improve source control performance

Data Dictionary

Field name on data page	Field definition
Source control	Wearing a face mask to reduce the expulsion of respiratory droplets and aerosols.
Masking	Indicates whether simulator is wearing a face mask.
Fit modification	Indicates cloth or medical face mask that has been fit modified.
Modification- None	Face mask with an unmodified fit.
Modification-Crossed	Face mask fit modified with earloops crossed.
Modification- Bracket	Face mask fit modified with a bracket.
Modification- Strap	Face mask fit modified with an earloop strap.
Modification-Toggle	Face mask fit modified with earloop toggles.
Modification- Knotted & tucked	Face mask fit modified with the earloops knotted and excess material tucked under knot.
Modification-Double mask	Medical face mask fit modified with a cloth mask layered on top.
Modification- Brace	Face mask fit modified with an elastic brace.
Fit factor	Data Type = Numeric. Defined as the ratio of the aerosol concentration outside the respiratory protective device to the aerosol concentration inside the device.
Source control measurement system	Respiratory simulation system used to measure the collection efficiencies (% particles blocked) for coughed or exhaled aerosols by fit modified or unmodified face masks.
Collection efficiency	Data type = Numeric. Defined as ($= 1 - M_{mask}/M_{control}$) where M_{mask} = total mass of the aerosol particles that passed through or around the fit modified source control device and was collected by the impactor and $M_{control}$ = total mass of the aerosol particles expelled by the source control measurement system without a face mask.
Respiratory exposure system	Respiratory simulation system comprised of a simulator that expels a test aerosol (the source) and a breathing simulator (the recipient) inside an experimental chamber.
Mean concentration	Data Type = Numeric. A numeric value representing the total aerosol mass concentration in $\mu g/m^3$.
Percent change	Data Type = Numeric. A numeric value representing the percent of total particle change attributable to the condition-matched experiments under

	a fit modified face mask and an unmodified face mask. This variable is expressed in units of percent.
Replicate	Replicate number of the experiment. Each experimental condition was independently tested four times, with a new modified/unmodified face mask each replicate.
Filtration efficiency	Data type = Numeric. Particle concentration readings from upstream and downstream light-scattering laser photometers to calculate the mask material filtration efficiency.
Inhalation airflow resistance	Data type = Numeric. The pressure difference across the mask material sample to indicate airflow resistance.