TABLE H-2. LOGNORMAL CONVERSION EQUATIONS FOR COMMON TYPES OF DIAMETERS

Count to Mass

$MMAD = CMAD \exp(3 [\log \sigma_g]^2)$

$MMAD = \rho^{0.5} CMD \exp(3 [\log \sigma_g]^2)$

Activity to Mass

MMAD = AMAD if label may be assumed to be distributed throughout volume of particle

MMAD = pSMAD if label is attached to a proportion, p, of the surface of the particle

Count to Surface

$SMAD = CMAD \exp(2 [\log \sigma_g]^2)$

$SMAD = \rho^{0.5} CMD \exp(2 [\log \sigma_g]^2)$

Note: log = natural logarithm.

CMAD: count median aerodynamic diameter
CMD: count median (geometric) diameter
AMAD: activity median aerodynamic diameter
SMAD: surface median aerodynamic diameter
ρ: particle density in g/cm^3
σ_g: geometric standard deviation of particle size