

Parameter	Season	Estimated value
BL air change rate during convective downdrafts (λ)	Wet and dry	3 h^{-1}
Condensation growth rate	Wet	Daytime: 2 nm h^{-1} Nighttime: 0.2 nm h^{-1}
	Dry	Daytime: 0.5 nm h^{-1} Nighttime: 0.2 nm h^{-1}
Secondary aerosol formation (condensation)	Wet	$0.333 \mu\text{m}^3 \text{ cm}^{-3} \text{ day}^{-1}$
	Dry	$0.432 \mu\text{m}^3 \text{ cm}^{-3} \text{ day}^{-1}$
Surface emissions of primary particles (Type 1, Fig. S6)	Wet	$5.8 \text{ cm}^{-3} \text{ day}^{-1}$ or $0.0023 \mu\text{m}^3 \text{ cm}^{-3} \text{ day}^{-1}$
	Dry	$9.3 \text{ cm}^{-3} \text{ day}^{-1}$ or $0.0093 \mu\text{m}^3 \text{ cm}^{-3} \text{ day}^{-1}$
Entrainment of particles into the BL (Type 2, Fig. S6)	Wet	$12.5 \text{ cm}^{-3} \text{ day}^{-1}$ or $0.024 \mu\text{m}^3 \text{ cm}^{-3} \text{ day}^{-1}$
	Dry	$37.5 \text{ cm}^{-3} \text{ day}^{-1}$ or $0.081 \mu\text{m}^3 \text{ cm}^{-3} \text{ day}^{-1}$