NOMENCLATURE

List of frequently encountered symbols[†]

Symbol	Name of quantity
T	absolute temperature
t	temperature on the Celsius scale
p	pressure
p_s	pressure of saturated of vapor above a crystal or liquid
p_{st}	standard pressure (101.325 kPa)
p_0	infinitesimal pressure
n_i	number of moles of the ith constituent of the moist gas
x_i	molal fraction of the ith constituent of the moist gas
x	molal fraction of water vapor in the moist gas
x_{eq}	equilibrium molal fraction of water vapor in the moist gas
R	universal gas constant
V	total volume of the system (moist gas)
v	molal volume of the moist gas

[†] Partial quantities are designated by an overbar.

List of frequently encountered symbols[†] (*Continued*)

Symbol	Name of quantity
v_i	molal volume of the ith constituent of the moist gas
G	Gibbs energy of the system (moist gas)
g	molal Gibbs energy of the moist gas
g_i	molal Gibbs energy of the pure ith constituent of the moist gas
μ_i	chemical potential of the ith constituent of the moist gas
h	molal enthalpy of the moist gas
h_i	molal enthalpy of the pure ith constituent of the moist gas
c_p	molal specific heat at constant pressure of the moist gas
$c_{p\,i}$	molal specific heat at constant pressure of the ith constituent of the moist gas
S	entropy of the system (moist gas)
s	molal entropy of the moist gas
s_i	molal entropy of the it constituent of the moist gas
s_T^0	standard molal entropy of the substance
f	fugacity
$f_i(p, T)$	fugacity of the pure ith constituent of the moist gas
$f_i(p, T, x)$	fugacity of the ith constituent in the moist gas
z	compressibility factor
B	second virial coefficient
C	third virial coefficient
B_{11} and C_{111}	virial coefficients of the solvent gas
B_{22} and C_{222}	virial coefficients of the water vapor
B_{12}, C_{112} and C_{122}	mixed virial coefficients
u	intermolecular interaction potential
σ and ε	parameters of the intermolecular interaction potential
N_A	Avogadro number
k	Boltzmann constant
σ_{11} and $(\varepsilon/k)_{11}$	parameters of the Lennard-Jones (6–12) potential for the solvent gas

---

[†] Partial quantities are designated by an overbar.

List of frequently encountered symbols†   *(Continued)*

Symbol	Name of quantity
σ_{22}, $(\varepsilon/k)_{22}$ and t_{22}^*	parameters of the Stockmayer potential for water vapor
σ_{12}, $(\varepsilon/k)_{12}$, σ_{112} and $(\varepsilon/k)_{112}$	mixed parameters of the Lennard-Jones (6–12) potential for the moist gas
$A_0(T)$ and $A_1(T)$	temperature functions of the equation of state of condensed water
F	any quantity desired in parametric form
b_j	jth parameter of quantity F
n_j and q_j	power exponents of F
S	functional being minimized
N	number of original experimental points
m	number of parameters in F
s^2	residual variance
F_j	significance of the jth term of parametric relationship
F_r	significance of the regression as a whole
σ	overall *rms* uncertainty
σ_w	weighed *rms* uncertainty
Δ_F	absolute uncertainty of F
δ_F	relative uncertainty of F

† Partial quantities are designated by an overbar.

SUPERSCRIPTS

0	ideal-gas state
'	condensed state at the phase equilibrium curve
"	gaseous state at the phase equilibrium curve

SUBSCRIPTS

i	number of constituents of the moist gas
1	solvent gas
2	water (water vapor)
id	ideal-gas state
g	gaseous state
cond	condensed state
liq	liquid state

c   crystal state
H   crystalline hydrate
mix   mixture
m   at the melting curve
tr   in the triple point
cr   in the critical point

REDUCED (NONDIMENSIONALIZED) QUANTITIES

$\theta = T/_{tr}$, $\tau = T/100$ K, $T^* = kT/\varepsilon$ temperature

$\pi = p/p_{tr}$ pressure

$\bar{c}_p = c_p/R$ reduced specific heat at constant pressure

$\bar{r} = r/RT_{tr}$ reduced heat of sublimation

B_{LJ}^* and C_{LJ}^* second and third virial coefficients
                                      of the Lennard-Jones (6–12) potential

B_{Sh}^* second virial coefficient of the Stockmayer
                                      potential