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NOMENCLATURES

A	=	Helmholtz energy (J)
	=	Area (flow model)
a	=	Coefficients of the Bender equation of state
B, C, D, E, F, G, and H	=	Temperature dependent coefficients (egB-EoS)
B^*, C^*, D^*, E^*, F^*, G^*, and H^*	=	Reduced function (egB-EoS)
C	=	Heat capacity
C, D, E	=	Contribution of first- , second-, and third- order group (Estimation method)
d	=	Hard sphere diameter
D	=	Diameter
f	=	Fanning friction factor (flow model)
		Conversion factor (egB-EoS)
g	=	Attractive energy parameter for interaction (GCA-EoS)
		Constant (egB-EoS)
h	=	Heat transfer coefficient
H	=	Specific enthalpy
k	=	Boltzmann's constant (particle formation)
		Attractive energy parameter for interaction (GCA-EoS)
L	=	Length
	=	Avogadro number (particle formation)
M	=	Number of associating sites
n	=	Number of moles of component
N	=	Fluid phase concentration
N, M, O	=	Times occurred in component (estimation method)
P	=	Pressure (bar, MPa)
q	=	Surface parameter
Q	=	Heat loss by convection
r	=	Radius of conical shape in supersonic free jet region
R	=	Universal gas constant (cm^3 bar/mol K)
s	=	Surface area
S	=	Supersaturation ratio
T	=	Temperature (K)
v	=	Number of groups in molecule (GCA-EoS model)
		Velocity (flow model)
V	=	Total volume
w	=	Sonic velocity
x	=	Mole fraction of component
		Distance (flow model)
X	=	Mole fraction of group not associate

NOMENCLATURES (CONT.)

y	=	Solute solubility (mole fraction basis)
z	=	Compressibility factor
NC	=	Number of components in the mixture
NGA	=	Number of associating functional groups in the mixture
MW	=	Molecular weight
$\tilde{q}$	=	Total number of surface segments
θ_k	=	Surface fraction
α	=	NRTL non-randomness parameter
ε	=	Characterizes the association energy
κ	=	Associating volume
ρ	=	Density
σ	=	Solid-fluid interfacial tension
ϕ	=	Fugacity
ω	=	Acentric factor
υ	=	Solute molar volume (solubility expression)
χ	=	Polar factor
τ	=	Reduced temperature
δ	=	Reduced density
$\xi,\ \eta$	=	Binary parameters for interaction between species (egB-EoS)

Subscripts

*	=	Referent state (GCA-EoS model)
		Prevailing condition (particle formation)
0	=	Adjustable value
2	=	Solute phase
b	=	Boiling point
c	=	Critical
i, j, k	=	Type, molecule
m	=	Melting point (estimation method)
		Mach (flow model)
		Mixed (egB-EoS)
nozzle	=	Nozzle region
pre	=	pre-expansion condition
post	=	post-expansion condition

NOMENCLATURES (CONT.)

Superscripts

att	=	Attractive term
assoc	=	Association term
E	=	Extraction condition
out	=	Outlet
p	=	Constant pressure
res	=	Residual Helmholtz energy
rep	=	Repulsive term
sat	=	Saturated
v	=	Constant volume