NOTATION

a — thermal diffusivity
C_p, c_p — heat capacity at constant pressure
α — volumetric expansion coefficient $\left(\frac{1}{V}\frac{\delta V}{\delta T}\right)_p$
D — diffusion coefficient
I, i — enthalpy
K_T — thermodiffusion ratio
S, s — entropy
p — pressure
Pr — Prandtl number
q — heat of melting
R, r — heat of vaporization
r_i, X_i — volumetric component fractions in a gas mixture
G, g — Gibbs potential
z — compressibility factor (pV/RT)
C_v, c_v — heat capacity at constant volume
β — coefficient of thermal compressibility $\left(-\frac{1}{V}\frac{\delta V}{\delta p}\right)_T$
η — viscosity
λ — thermal conductivity
$\Delta\lambda$ — coefficient of thermodiffusion separation of the gas mixture
ν — kinematic viscosity
ρ — density
σ — surface tension, electrical conductivity
u — velocity of sound
V, v — specific volume

Subscript cr and superscript 0 refer, respectively, to critical and ideal states of the gas. A prime and a double prime refer, respectively, to liquid and vapor at saturation. In all tables a horizontal line indicates the separation of liquid and vapor states.

CONVERSION OF UNITS FROM SI TO OTHER SYSTEMS

Quantity	Symbol	Units, in SI	Units, in other systems	To convert from SI to other system, multiply by
Pressure	p	$N/m^2 (Pa)$	$dyne/cm^2$	10
			bar	0.00001
			atm (phys)	$0.9869 \cdot 10^{-5}$
		bar $= 10^5$ N/m^2	atm (phys)	0.9869
			kg/cm^2 (atm. abs)	1.0197
			mm Hg	750
Density	ρ	kg/m^3	g/cm^3	0.001
Specific volume	v	m^3/kg	cm^3/g	10^3
Heat capacity	c	$kJ/kg \cdot K$	$Kcal/kg \cdot deg$	0.2388
Enthalpy	i	kJ/kg	Kcal/kg	0.2388
Entropy	s	$kJ/kg \cdot K$	$Kcal/kg \cdot deg$	0.2388
Latent heat of vaporization	r	kJ/kg	Kcal/kg	0.2388
Thermal conductivity	λ	$W/m \cdot K$	$cal/cm \cdot s \cdot deg$	$2.388 \cdot 10^{-3}$
			$Kcal/m \cdot hr \cdot deg$	0.86
Viscosity	η	$N \cdot s/m^2$ $(Pa \cdot s)$	$g/cm \cdot s$ (poise)	10
			$kg \cdot s/m^2$	0.102
Kinematic viscosity	$\nu = \frac{\eta}{\rho}$	m^2/s	cm^2/s (stroke)	10^4
Surface tension	σ	N/m	dyne/cm (erg/cm^2)	10^3