

drainage in gravitational and centrifugal-force fields.....	305	Shape Factors for Conductive Heat Transfer.....	330	Turbulence, velocity profiles for fully developed flow in pipes. .132, 495	
heat and momentum transfer from gases.....	63, 69	Shell-side heat transfer coefficients in baffled tubular heat exchangers.....	332	Turbulent field, homogeneous isotropic.....	494
radial porosity variations in.....	460	Sieve trays, discharge coefficients through.....	266	Turbulent Heat Transfer Inside Tubes and the Analogy Between Heat, Mass, and Momentum Transfer.....	393
rates of flow through microporous solids.....	90	pulsed operation of.....	282		
viscous flow in.....	197	Solids, dissolution rates of, in mercury and aqueous liquids.....	418	V	
Packed towers, correlation for loading with countercurrent gas-liquid flow.....	324	Solution theory modified for gas-liquid equilibria.....	269	Vapor, condensation of, in the presence of noncondensing gas.....	413
Penetration theory combined with film theory for heat and mass transfer.....	97	Some Properties of the Poisson Distribution.....	290	Variables, design and operating effect of on perforated-plate efficiency.....	465
Perforated-Plate Efficiency—Effect of Design and Operating Variables.....	465	Spheres, mass transfer from soluble solid.....	114	Velocity, correlation of local, for tubes, annuli, and plates.....	240
Permeabilities of packed microporous solids.....	90	Spouting velocity, the derivation of an equation for predicting minimum.....	497	electrolytic methods for measurement in water.....	338
Phase equilibria of the methane-hydrogen sulfide system.....	211	Spreading of liquids over surfaces, gas entrapment by.....	24	minimum spouting.....	497
Phase equilibrium at the gas-liquid interface during absorption.....	439	Steady State Absorption of a Sparingly Soluble Gas in an Agitated Tank with Simultaneous Irreversible First-Order Reaction....	499	Velocity Profiles for Fully Developed Turbulent Flow in A Pipe....132, 495	
Phase Relations of Binary Systems That Form Azeotropes Parts I and II.....	293	Stirred tanks, estimation of efficiency for mixer-settler operation.....	202	Vessels, agitated, flow patterns of liquids in.....	485
Physical properties, diffusion coefficients for gases.....	137	Sugar, extraction of, from beets.....	453	Viscosity of Acetone-Water Solutions up to Their Normal Boiling Points.....	362
estimation of critical temperature and pressure in hydrocarbons....	356	Superheated vapors, heat transfer to in tubes.....	43	Viscosity: Reduced-State Correlation for Inert Gases.....	257
viscosity of inert gases.....	257	Surface Dynamics of Fluidized Beds and Quality of Fluidization.....	423	Viscous Flow in Multiparticle Systems: Slow Motion of Fluids Relative to Beds of Spherical Particles.....	197
Plates, perforated, discharge coefficients through.....	266			Volumetric data for gas mixtures....	494
Poisson distribution, some properties of.....	290	T		Volumetric Properties of Nonpolar Gaseous Mixtures.....	430
Pore diffusion, in holes of varying cross section.....	343	Tank, agitated, steady state absorption of a sparingly soluble gas in an.....	499	W	
Porosity of cake, effect upon filtration rate.....	170	Theoretical-Empirical Approach to the Mechanism of Particle Entrapment from Fluidized Beds..	472	Wall Effect for the Fall of Single Liquid Drops.....	153
Porosity, radial variations in packed beds.....	460	Transfer, turbulent heat, inside tubes	393	Wetted walls, momentum and mass transfer by eddy diffusion.....	190
Prandtl mixing lengths and eddy viscosity in smooth tubes.....	27	Tube loading in horizontal condensers, mathematical development of.....	157	Z	
Prediction of Resistance in Constant-Pressure Cake Filtration.....	175			Zirconium-hafnium separation.....	498
Pseudocritical Constants from Volumetric Data for Gas Mixtures....	494				
Pulsations in Sieve-Tray and Bubble-Cap Distillation Towers.....	282				

## R

Radial Porosity Variations in Packed Beds.....	460
Radiant Heat Exchange in a Gas-Filled Enclosure.....	3
Radioactive tracer technique, kinetics of carbonation reaction by...	143
Rates of Flow Through Microporous Solids.....	90
Reactor-Design Equation Based on a Proposed Distributed Boundary-Layer Thickness.....	300
Recirculating reactors, an improved experimental kinetic research technique.....	351
Reduced-state correlations for the inert gases.....	480
Regular Solution Theory for Gas-Liquid Solutions.....	269
Residence times in flow reactors....	246
Role of Porosity in Filtration, The: Part III.....	170
Rotating dissolution cell, development of a new type of.....	418

## S

Sedimentation in the viscous-flow region.....	197
Separation of zirconium-hafnium by a new type of countercurrent column.....	498

## ERRATUM

### Heats of Vaporization of Hydrogen Bonded Substances

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The data given in Table 1 of the above paper have been taken erroneously from the vapor-pressure calculation without compensation for vapor-phase association. Use of the directly measured heats of vaporization of methanol and ethanol given by Fiock *et al.* (1) and appropriate correction of the *n*-propanol data yields the corrected values of the hydrogen bond increment  $\delta(\text{OH})$  shown on Table 1. These data appreciably reduce the previously apparent trend of  $\delta(\text{OH})$  with molecular weight.

TABLE 1. HYDROGEN BOND INCREMENTS OF THE HEAT OF VAPORIZATION OF LOWER PRIMARY *n*-ALIPHATIC ALCOHOLS

Alcohol/ $^{\circ}\text{C}$ .	0	30	60	90	120	150
Methyl	5.5	5.35	5.2	4.9	4.5	3.85
Ethyl	5.6	5.45	5.2	4.8	4.4	3.85
Propyl	5.9	5.6	5.2	4.9	4.3	3.8

### LITERATURE CITED

1. Fiock, E. F., Ginnings, D. C., and Holton, W. B., *J. Res. Nat. Bur. Standards* 6, 881 (1931).

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