INFORMATION RETRIEVAL

(Continued from page 409)

Flow of viscoelastic fluids past a flate plate, Hermes, R. A., and A. G. Fredrickson, **A.I.Ch.E. Journal, 13,** No. 2, p. 253 (March, 1967).

Key Words: A. Flow-8, 7, Boundary-Layer Flow-8, Fluids-9, Viscoelastic-0, Elastic-0, Inelastic-0, Elasticity-6, Plates-9, Flat-0, Sodium Carboxymethylcellulose-9, Corn Syrup-9, Drag Force-8, Shear Stress-8.

Abstract: The flow of visoelastic fluids past a flat plate has been investigated. Experimental studies were performed with aqueous solutions of sodium carboxymethylcellulose used as viscoelastic fluids and corn syrup as a viscous Newtonian fluid. It was observed that the flow patterns of elastic and inelastic fluids are markedly different. A discussion of mathematical solutions to the problem of flow of viscoelastic fluids past a flat plate is given.

Kinetics of xylene isomerization over silica-alumina catalyst, Hanson, K. L., and A. J. Engel, **A.I.Ch.E. Journal, 13,** No. 2, p. 260 (March, 1967).

Key Words: A. Isomerization-8, 9, Xylene-1, 2, Kinetics-8, Meta-Xylene-1, 2, Ortho-Xylene-1, 2, Para-Xylene-1 2 Catalyst-10, Silica-10, Alumina-10, Ethylbenzene-1, Reactor-10, Tubular-0, Continuous-0, Differential-0, Temperature-6, Pressure-6, Reaction Rate-7, Activation Energy-7.

Abstract: Eleven mixtures of the three isomers of xylene and ethylbenzene were isomerized over a silica-alumina catalyst in a differential tubular reactor. Analysis showed that meta-xylene isomerizes reversibly to ortho- and para-xylene, but the direct interconversion of ortho-xylene to meta-xylene does not occur. The isomerization of ethylbenzene to xylenes is much more difficult to achieve than the inter-isomerization of xylenes.

Electrokinetic-potential fluctuations produced by pipe flow turbulence, Chuang, Hsing, and J. E. Cermak, **A.I.Ch.E. Journal, 13,** No. 2, p. 266 (March, 1967).

Key Words: A. Fluctuation-8, 9, Electrokinetic Potential-9, 8, 7, Turbulence-6, Velocity-6, Flow-9, 8, Shear Stress-8, Pipe-9, Water-9, Electrodynamics-8, Energy Spectra-8, Measurement-8, Electrokinetic Probe-10, Anemometers-10, Equations-8.

Abstract: The distributions across a pipe of turbulent intensities, shearing stress, and energy spectra are inferred from measured electokinetic-potential fluctuations in a fully developed flow of distilled water. A set of equations governing the interrelation between the electrokinetic-potential fluctuations and the turbulent velocity-fluctuation components of the flow field in fully developed pipe flow is deduced.

Two-phase flow in Hele-Shaw models, Greenkorn, R. A., J. E. Matar, and R. C. Smith, **A.I.Ch.E. Journal, 13,** No. 2, p. 273 (March, 1967).

Key Words: A. Flow-8, 9, Two-Phase-0, Hele-Shaw Model-10, Movement-8, 7, Porous Medium-10, Interface-9, Plate Spacing-6, Channel Height-6, Permeability-6, Area-6, Air-9, Glycerine-9, Castor Oil-9, Water-9.

Abstract: A study of the motion of the interface in two-phase flow in two dimensions with gravity force parallel to the plane of motion is described. The experiments were run in a porous medium analog, the Hele-Shaw model.

Stability of loop reactors, Luss, Dan, and Neal R. Amundson, **A.I.Ch.E. Journal, 13,** No. 2, p. 279 (March, 1967).

Key Words: A. Stability-8, 7, Steady State-8, 7, Loop Reactors-9, 8, Recycle Reactors-9, 8, Tubular-0, Reactors-9, 8, Plug Flow-10, Recyle-6, Start-Up-6.

Abstract: A method of determining all the possible steady states of a tubular recycle reactor with plug flow is presented. The effects of changes in the recycle ratio and start-up conditions are examined. Several numerical examples are included to demonstrate the use of the method for various types of recycle reactors.

Free tear sheets of the information retrieval entries in this issue may be obtained by writing to the New York office.

(Continued on page 411)

ERRATA

In the paper "Free-Radical Yields in *n*-Alcohols Resulting from Gamma Irradiation" by Imre Zwiebel and Randolph H. Bretton (Vol. 10, No. 3, pp. 339-344, 1964), the following corrections should be noted.

(1) The units of k_1 and k_3 in Table 2 should be (moles/liter)$^{-1}$(min.)$^{-1}$. Please note, however, the discussion of Table 2 given below in (3).

(2) The left-hand side of Equation (8) should read $-2K_o t$. The coefficient of the log term on the right side of Equation (8) should read $\dfrac{\sqrt{4k_3K_o}}{k_1}$.

(3) As a result of (2) the constants k_1 and k_3 appear as a fixed ratio $\dfrac{k_3}{k_1^2}$ in Equation (8) and consequently cannot be separated by the technique described in the paper, and the results for k_1 and k_3 in Table 2 are meaningless. The results for K_o were determined independently of k_1 and k_3 and are valid.

(4) It is stated in the paper that Equation (9)

$$S - S_o = -K_o t$$

is obtained from Equation (8) for the limiting condition $S \to S_o$. This is not true for the incorrect form of Equation (8) given in the paper nor is it true for the correct form given in (2) above. If it is assumed that y is small compared with S where

$$y^2 = \frac{4K_o k_3}{k_1^2}$$

then as $S \to S_o$, it can be shown that

$$(S - S_o)\left(1 + \frac{y^2}{4SS_o}\right) = -K_o t \tag{9A}$$

Thus, Equation (9) is obtained as $S \to S_o$ only if the term $\dfrac{y^2}{4SS_o}$ is small. For free radical reactions k_1 would be expected to be quite large and y small. It will be noticed from the form of Equation (9A) above that if y is significant, then there should be a pronounced effect of S_o on the slope of the curve S vs. time. That this is not the case is clearly shown in Figure 2 of the paper.

Thus, the use of Equation (9) for the evaluations of free radical yields is justified.

(5) In Figure 1 of the paper the lettering of the curves is in reverse order of the scavenger concentrations listed.