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| <b>COMPONENTS:</b><br><br>(1) 3-Methyl-1-butene; C <sub>5</sub> H <sub>10</sub> ; [563-45-1]<br><br>(2) Water; H <sub>2</sub> O; [7732-18-5]  | <b>ORIGINAL MEASUREMENTS:</b><br><br>McAuliffe, C.<br><br><i>J. Phys. Chem.</i> <u>1966</u> , 70, 1267-75.   |
| <b>VARIABLES:</b><br><br>One temperature: 25°C  | <b>PREPARED BY:</b><br>A. Maczynski, Z. Maczynska, and<br>A. Szafranski  |
| <b>EXPERIMENTAL VALUES:</b><br><br>The solubility of 3-methyl-1-butene in water at 25°C was reported to be 130 g(1)/10 <sup>6</sup> g(2).<br>The corresponding mass percent and mole fraction, $x_1$ , calculated by the compilers are 0.0130 g(1)/100 g sln and $3.34 \times 10^{-5}$ .  |  |
| <b>AUXILIARY INFORMATION</b>  |  |
| <b>METHOD/APPARATUS/PROCEDURE:</b><br><br>In a 250-mL bottle, 10-20 mL of (1) was vigorously shaken for 1 hr, or magnetically stirred for 1 day, with 200 mL of (2) at 25°C. The bottle was set aside for 2 days to allow droplets of undissolved (1) to separate. Absence of emulsion was checked microscopically. A sample of the hydrocarbon-saturated water was withdrawn with a Hamilton syringe and gas liquid chromatographed in conjunction with a flame-ionization detector. | <b>SOURCE AND PURITY OF MATERIALS:</b><br><br>(1) Phillips Petroleum or Columbia Chemical; used as received.<br><br>(2) distilled.<br><br><b>ESTIMATED ERROR:</b><br>temp. $\pm$ 1.5 K<br>soly. 14 g(1)/10 <sup>6</sup> g(2)<br>(standard deviation of mean)<br><br><b>REFERENCES:</b> |