

| COMPONENTS: (1) 1,4-Dimethylcyclohexane; C ₈ H ₁₆ ; [589-90-2] (2) Water; H ₂ O; [7732-18-5] | ORIGINAL MEASUREMENTS: Guseva, A.N.; Parnov, E.I. <i>Vestn. Mosk. Univ. Khim.</i> <u>1964</u> , 19, 77-8. | | | | | | | | | | | | | | | | | | | | |
|--|--|--------------------------------------|---|--------------------------------------|---|----|--------|--------|-------|-----|--------|--------|-------|-----|--------|--------|-------|-----|-------|-------|-------|
| VARIABLES: Temperature: 57-240°C | PREPARED BY: M.C. Haulait-Pirson | | | | | | | | | | | | | | | | | | | | |
| EXPERIMENTAL VALUES: <p style="text-align: center;">Solubility of 1,4-dimethylcyclohexane in water</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;"><u>t/°C</u></th> <th style="text-align: center;"><u>g(1)/100 g(2)</u></th> <th style="text-align: center;"><u>g(1)/100 g sln (compiler)</u></th> <th style="text-align: center;"><u>10⁴x₁ (compiler)</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">57</td> <td style="text-align: center;">0.0017</td> <td style="text-align: center;">0.0017</td> <td style="text-align: center;">0.027</td> </tr> <tr> <td style="text-align: center;">105</td> <td style="text-align: center;">0.0056</td> <td style="text-align: center;">0.0056</td> <td style="text-align: center;">0.090</td> </tr> <tr> <td style="text-align: center;">165</td> <td style="text-align: center;">0.0263</td> <td style="text-align: center;">0.0263</td> <td style="text-align: center;">0.422</td> </tr> <tr> <td style="text-align: center;">240</td> <td style="text-align: center;">0.257</td> <td style="text-align: center;">0.257</td> <td style="text-align: center;">4.120</td> </tr> </tbody> </table> | | <u>t/°C</u> | <u>g(1)/100 g(2)</u> | <u>g(1)/100 g sln (compiler)</u> | <u>10⁴x₁ (compiler)</u> | 57 | 0.0017 | 0.0017 | 0.027 | 105 | 0.0056 | 0.0056 | 0.090 | 165 | 0.0263 | 0.0263 | 0.422 | 240 | 0.257 | 0.257 | 4.120 |
| <u>t/°C</u> | <u>g(1)/100 g(2)</u> | <u>g(1)/100 g sln (compiler)</u> | <u>10⁴x₁ (compiler)</u> | | | | | | | | | | | | | | | | | | |
| 57 | 0.0017 | 0.0017 | 0.027 | | | | | | | | | | | | | | | | | | |
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| 240 | 0.257 | 0.257 | 4.120 | | | | | | | | | | | | | | | | | | |
| AUXILIARY INFORMATION | | | | | | | | | | | | | | | | | | | | | |
| METHOD/APPARATUS/PROCEDURE: Presumably the measurements were made in sealed glass tubes, as reported in ref 1. No more details were reported in the paper. | SOURCE AND PURITY OF MATERIALS: (1) not specified. (2) not specified. ESTIMATED ERROR: not specified. REFERENCES: 1. Guseva, A.N.; Parnov, E.I. <i>Vestn. Mosk. Univ. Khim.</i> <u>1963</u> , 18, 76. | | | | | | | | | | | | | | | | | | | | |

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| COMPONENTS: (1) 1,4-trans-Dimethylcyclohexane; C_8H_{16} ; [2207-04-7] (2) Water; H_2O ; [7732-18-5] | ORIGINAL MEASUREMENTS: Price, L.C. <i>Am. Assoc. Petrol. Geol. Bull.</i> <u>1976</u> , 60, 213-44. |
| VARIABLES: One temperature: 25°C | PREPARED BY: M.C. Haulait-Pirson |
| EXPERIMENTAL VALUES: <p>The solubility of 1,4-trans-dimethylcyclohexane in water at 25°C and at system pressure was reported to be 3.84 mg(1)/kg(2). The corresponding mass percent and mole fraction, x_1, calculated by the compiler are 3.84×10^{-4} g(1)/100 g sln and 6.16×10^{-7}.</p> | |
| AUXILIARY INFORMATION | |
| METHOD/APPARATUS/PROCEDURE: The solubility was determined at laboratory temperatures by use of screw-cap test tubes. The (1) phase floated on top of the water and insured saturation of the (2) phase in 2 to 4 days. Analyses were carried out by GLC using a Hewlett-Packard model 5751 gas chromatograph with dual-flame ionization detectors. Many details are given in the paper. | SOURCE AND PURITY OF MATERIALS: (1) Phillips Petroleum Company; Chemical Samples Company or Aldrich Chemical Company; 99+%. (2) distilled. ESTIMATED ERROR: temp. $\pm 1^\circ C$ soly. ± 0.17 mg(1)/kg(2) REFERENCES: |

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| COMPONENTS: (1) 1,4-Dimethylcyclohexane; C_8H_{16} ; [589-90-2] (2) Water; H_2O ; [7732-18-5] | ORIGINAL MEASUREMENTS: Krzyzanowska, T.; Szeliga, J. <i>Nafta (Katowice)</i> , <u>1978</u> , 12, 413-7. |
| VARIABLES: One temperature: 25°C | PREPARED BY: M.C. Haulait-Pirson |
| EXPERIMENTAL VALUES: The solubility of 1,4-dimethylcyclohexane in water at 25°C was reported to be 3.84 mg(1)/kg(2). The corresponding mass percent and mole fraction, x_1 , calculated by compiler are 3.84×10^{-4} g(1)/100 g sln and 6.16×10^{-7} . Editor's Note: Based on the results for this and other hydrocarbon-water systems, uncertainty exists about whether the datum compiled here is independent of that of Price for the same system (see previous page). Consequently, this system has not been evaluated. | |
| AUXILIARY INFORMATION | |
| METHOD/APPARATUS/PROCEDURE: The saturated solutions of (1) in (2) were prepared in two ways. First, 200 μ L of (1) was injected into 20 mL of (2) and thermostatted at 25°C. Second, the mixture of (1) and (2) as above was thermostatted at 70°C and then cooled to 25°C. The time required to obtain equilibrium was three weeks. The solubility of (1) in (2) was measured by glc. A Perkin-Elmer model F-11 gas chromatograph equipped with a 100-150 mesh Porasil column (70°C) and a flame ionization detector was used. Saturated solutions of heptane in (2) were used as standard solutions. | SOURCE AND PURITY OF MATERIALS: (1) not specified. (2) not specified. ESTIMATED ERROR: soly. 0.12 mg(1)/kg(2) (standard deviation from 7-9 determinations). REFERENCES: |