COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) 3,3-Dimethylpentane; C_7H_{16}; [562-49-2] (2) Water; H_2O; [7732-18-5]	Price, L.C. *Am. Assoc. Petrol. Geol. Bull.* 1976, *60*, 213-44.
VARIABLES:	**PREPARED BY:**
Temperature: 25-150.4°C	F. Kapuku

EXPERIMENTAL VALUES:

Solubility of 3,3-dimethylpentane in water at system pressure

t/°C	mg(1)/kg(2)	g(1)/100 g sln (compiler)	$10^6 x_1$ (compiler)
25.0	5.92 ± 0.06	0.000592	1.06
40.1	6.78 ± 0.20	0.000678	1.22
55.7	8.17 ± 0.46	0.000817	1.47
69.7	10.3 ± 0.7	0.00103	1.85
99.1	15.8 ± 0.7	0.00158	2.84
118.0	27.3 ± 0.4	0.00273	4.91
140.4	67.3 ± 1.7	0.00673	12.10
150.4	86.1 ± 1.8	0.00861	15.48

AUXILIARY INFORMATION

METHOD/APPARATUS/PROCEDURE:

Room-temperature solubilities were determined by use of screw-cap test tubes. The (1) phase floated on top of (2) and insured saturation (in 2 to 4 days) of the aqueous phase. High-temperature solubility work was carried out in the ovens of the gas chromatograph. The solutions were contained in 75 mL double ended stainless steel sample cylinders. Modified Micro Linear Valves sealed the bottom of the cylinder and allowed syringe access to the solution during sampling. The sample is then transferred to the gas chromatograph equipped with dual flame ionization detectors. Many details are given in the paper.

SOURCE AND PURITY OF MATERIALS:

(1) Phillips Petroleum Company; 99+%.

(2) distilled.

ESTIMATED ERROR:

temp. ± 1 K
soly. range of values given above

REFERENCES:

COMPONENTS:	ORIGINAL MEASUREMENTS:
(1) 3,3-Dimethylpentane; C_7H_{16}; [562-49-2] (2) Water; H_2O; [7732-18-5]	Krzyzanowska, T.; Szeliga, J. *Nafta (Katowice)* 1978, *12*, 413-7.
VARIABLES:	**PREPARED BY:**
One temperature: 25°C	M.C. Haulait-Pirson

EXPERIMENTAL VALUES:

The solubility of 3,3-dimethylpentane in water at 25°C was reported to be 5.94 mg(1)/kg(2).
The corresponding mass percent and mole fraction, x_1, calculated by compiler are 5.94×10^{-4} g(1)/100 g sln and 1.07×10^{-6}.

Editor's Note: Based on the results for this and other hydrocarbon-water systems, uncertainity 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:	SOURCE AND PURITY OF MATERIALS:
Saturated solutions of (1) in (2) were prepared in two ways. First, 200 µL 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.	(1) not specified. (2) not specified.
	ESTIMATED ERROR: soly. 0.18 mg(1)/kg(2) (standard deviation from 7-9 determinations)
	REFERENCES: