

COMPONENTS: (1) Decane; C ₁₀ H ₂₂ ; [124-18-5] (2) Water; H ₂ O; [7732-18-5]	EVALUATOR: M.C. Haulait-Pirson, Department of Chemistry, University of Leuven, Belgium. G.T. Hefter, School of Mathematical and Physical Sciences, Murdoch University, Perth, W.A., Australia.
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CRITICAL EVALUATION:

Quantitative solubility data for the decane (1) - water (2) system have been reported in the publications listed in Table 1.

TABLE 1: Quantitative Solubility Studies of the Decane (1) - Water (2) System

Reference	T/K	Solubility	Method
Baker (ref 1,2)	298	(1) in (2)	radiotracer
Schatzberg (ref 3)	298,313	(2) in (1)	Karl Fischer
Franks (ref 4)	298	(1) in (2)	GLC
McAuliffe (ref 5)	298	(1) in (2)	GLC
Krasnoshchekova and Gubergrits (ref 7)	298	(1) in (2)	GLC
Mackay <i>et al.</i> (ref 8)	- ^a	(1) in (2)	GLC
Namiot <i>et al.</i> (ref 9)	423-583 ^b	(2) in (1)	vap.-liq. equil.
Skripka (ref 10)	398-563 ^b	(2) in (1)	vap.-liq. equil.
Becke and Quitzsch (ref 11)	293	mutual	refractometric

^a Not specified but probably 298.15K.

^b Pressure also varied 1-78 MPa.

The original data in all of these publications are compiled in the Data Sheets immediately following this Critical Evaluation. In addition, Roof (ref 6) has reported a three phase critical point of unknown composition at 569K and 9.6 MPa. For convenience further discussion of this system will be divided into two parts.

1. SOLUBILITY OF DECANE (1) IN WATER (2)

The available data on the solubility of decane in water are summarized in Table 2 with the following exceptions. The value of Baker in ref 2 is quoted in v/v terms and is therefore excluded from consideration (however it is equivalent to that reported by the same author in ref 1). The values of Mackay *et al.* (ref 8) are rejected not only because the measurement temperature was unspecified but also because the authors themselves regard their solubility values below 2×10^{-3} g(1)/100g sln as potentially unreliable because of emulsion or colloid formation. The value of McAuliffe (ref 5) is also rejected because it is very much higher than all other reported values.

Agreement among the remaining values (Table 2) is not good enough to enable any of the "Best" values to be Recommended.

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COMPONENTS: (1) Decane; C ₁₀ H ₂₂ ; [124-18-5] (2) Water; H ₂ O; [7732-18-5]	EVALUATOR: M.C. Haulait-Pirson, Department of Chemistry, University of Leuven, Belgium. G.T. Hefter, School of Mathematical and Physical Sciences, Murdoch University, Perth, W.A., Australia.
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CRITICAL EVALUATION: (continued)

TABLE 2: Tentative Values of the Solubility of Decane (1) in Water (2)

T/K	Solubility values		
	Reported values 10 ⁶ g(1)/100g sln	"Best" values (± σ _n) ^a 10 ⁶ g(1)/100g sln	10 ⁹ x ₁
293	1.98 (ref 11)	2	2.5
298	1.6 (ref 1), 1.98 (ref 4), 0.87 (ref 7)	1.5 ± 0.5	1.9

^a Obtained by averaging; σ_n has no statistical significance.

2. SOLUBILITY OF WATER (2) IN DECANE (1)

At atmospheric pressure the only available values of the solubility of water in decane are those of Schatzberg (ref 3) and Becke and Quitzsch (ref 11). These data are listed in Table 3 but are in poor agreement and can only be regarded as order of magnitude values.

At higher temperatures and pressure only the data of Skripka and co-workers (ref 9,10) are available and so no Critical Evaluation is possible. The interested user is referred to the relevant Data Sheets for the experimental values.

TABLE 3: Approximate Solubility Values of Water (2) in Decane (1)

T/K	Reported values ^a	
	10 ² g(2)/100g sln	10 ³ x ₂
293	2.92 (ref 11)	2.3
298	0.72 (ref 3)	0.6
313	1.36 (ref 3)	1.1

^a Values considered as order-of-magnitude data only, see text.

REFERENCES

- Baker, E.G. *Am. Chem. Soc., Div. Petrol. Chem., Preprints* 1958, 3, No.4, C61-8.
- Baker, E.G. *Science* 1959, 129, 871-4.
- Schatzberg, P. *J. Phys. Chem.* 1963, 67, 776-9.

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<p>COMPONENTS:</p> <p>(1) Decane; $C_{10}H_{22}$; [124-18-5]</p> <p>(2) Water; H_2O; [7732-18-5]</p>	<p>EVALUATOR:</p> <p>M.C. Haulait-Pirson, Department of Chemistry, University of Leuven, Belgium.</p> <p>G.T. Hefter, School of Mathematical and Physical Sciences, Murdoch University, Perth, W.A., Australia.</p>
<p>CRITICAL EVALUATION: (continued)</p> <p>REFERENCES (continued)</p> <ol style="list-style-type: none">4. Franks, F. <i>Nature</i> <u>1966</u>, <i>210</i>, 87-8.5. McAuliffe, C. <i>Science</i> <u>1969</u>, <i>163</i>, 478-9.6. Roof, J.G. <i>J. Chem. Eng. Data</i> <u>1970</u>, <i>15</i>, 301-3.7. Krasnoshchekova, P.Y.; Gubergrits, M.Y. <i>Neftekhimiya</i> <u>1973</u>, <i>13</i>, 885-7.8. Mackay, D.; Shiu, M.W.; Wolkoff, A.W. <i>Water Quality Parameters</i>, ASTM STP 573, <u>1975</u>, 251-8.9. Namiot, A.Y.; Skripka, V.G.; Lotler, Y.G. <i>Zh. Fiz. Khim.</i> <u>1976</u>, <i>50</i>, 2718; Deposited doc. 1976; VINITI 1213-76.10. Skripka, V.G. <i>Tr. Vses. Neftegazov. Nauch-Issled. Inst.</i> <u>1976</u>, <i>61</i>, 139-51.11. Becke, A.; Quitzsch, G. <i>Chem. Techn.</i> <u>1977</u>, <i>29</i>, 49-51.	

COMPONENTS: (1) Decane; $C_{10}H_{22}$; [124-18-5] (2) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Baker, E.G. <i>Am. Chem. Soc., Div. Petrol. Chem., Preprints</i> <u>1958</u> , 3, N°4, C61-8.
VARIABLES: One temperature: 25°C	PREPARED BY: M.C. Haulait-Pirson
EXPERIMENTAL VALUES: <p>The solubility of decane-1-C^{14} in water at 25°C was reported to be 16×10^{-9} g(1)/g(2). The corresponding mole fraction, calculated by the compiler, is $x_1 = 2.0 \times 10^{-9}$.</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: <p>Carbon-14 labeled (1) was used as radioactive tracer. The technique of preparing a saturated aqueous solution of (1) by ultrafiltration of a (1)-(2) dispersion has been described in ref 1. A Packard Tri-Carb Liquid Scintillation Spectrometer was used to detect the radioactive (1) dissolved in (2).</p>	SOURCE AND PURITY OF MATERIALS: (1) Nuclear Instrument and Chemical Corporation; used as received. (2) distilled. ESTIMATED ERROR: soly. 20% (standard deviation from 17 replicate runs). REFERENCES: 1. Baker, E.G. <i>Am. Chem. Soc., Div. Petrol. Chem., Preprints-Symposia</i> <u>1956</u> , 1, N°2, 5.

COMPONENTS: (1) Decane; C ₁₀ H ₂₂ ; [124-18-5] (2) Water; H ₂ O; [7732-18-5]	ORIGINAL MEASUREMENTS: Baker, E.G. <i>Science</i> <u>1959</u> , 129, 871-4.
VARIABLES: One temperature: 25°C	PREPARED BY: F. Kapuku
EXPERIMENTAL VALUES: <p>The solubility of decane in water at 25°C was reported to be 22×10^{-7} mL(1)/100 mL(2).</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: not specified.	SOURCE AND PURITY OF MATERIALS: not specified. <hr/> ESTIMATED ERROR: not specified. <hr/> REFERENCES:

COMPONENTS: (1) Decane; C ₁₀ H ₂₂ ; [124-18-5] (2) Water; H ₂ O; [7732-18-5]	ORIGINAL MEASUREMENTS: Schatzberg, P. <i>J. Phys. Chem.</i> <u>1963</u> , <i>67</i> , 776-9.									
VARIABLES: Temperature: 25-40°C	PREPARED BY: M.C. Haulait-Pirson									
EXPERIMENTAL VALUES: <p style="text-align: center;">Solubility of water in decane</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th style="text-align: center;"><u>t/°C</u></th> <th style="text-align: center;"><u>mg(2)/kg sln</u></th> <th style="text-align: center;"><u>x₂</u></th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">25</td> <td style="text-align: center;">72^a</td> <td style="text-align: center;">5.7 x 10⁻⁴</td> </tr> <tr> <td style="text-align: center;">40</td> <td style="text-align: center;">136^b</td> <td style="text-align: center;">10.7 x 10⁻⁴</td> </tr> </tbody> </table> <p>a, b See "Estimated Error"</p>		<u>t/°C</u>	<u>mg(2)/kg sln</u>	<u>x₂</u>	25	72 ^a	5.7 x 10 ⁻⁴	40	136 ^b	10.7 x 10 ⁻⁴
<u>t/°C</u>	<u>mg(2)/kg sln</u>	<u>x₂</u>								
25	72 ^a	5.7 x 10 ⁻⁴								
40	136 ^b	10.7 x 10 ⁻⁴								
AUXILIARY INFORMATION										
METHOD/APPARATUS/PROCEDURE: (1) was saturated by storing over a layer of (2) in a brown glass bottle without any agitation. The bottle was sealed with serum cap and completely submerged in the water-bath for 7 days. A 20-mL sample was withdrawn with a silicone-hydrophobized hypodermic syringe. Stabilized Karl Fischer reagent diluted to a titer of 1.0-1.3 mg(2)/mL was used to titrate (2) in (1) directly in the presence of methanol to a "dead-stop" end-point using a Beckman KF3 automatic titrimeter.	SOURCE AND PURITY OF MATERIALS: (1) Phillips Petroleum Co.; research grade; 99.43 mole%; passed repeatedly through a column of silica gel until no absorption occurred in the 220 to 340 nm spectral range. (2) distilled and deionized. ESTIMATED ERROR: temp. ± 0.02°C soly. a) 0-6%; b) 0-2% (deviations from the mean) REFERENCES:									

COMPONENTS: (1) Decane; $C_{10}H_{22}$; [124-18-5] (2) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Franks, F. <i>Nature (London)</i> <u>1966</u> , 210, 87-8.
VARIABLES: One temperature: 25°C	PREPARED BY: F. Kapuku
EXPERIMENTAL VALUES: The solubility of decane in water at 25°C was reported to be in mole fraction $x_1 = 2.5 \times 10^{-9}$. The corresponding mass percent calculated by the compiler is 1.98×10^{-6} g(1)/100 g sln.	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: The analysis was performed by gas liquid chromatography. After equilibrating the (1)/(2) mixtures in a thermostat, up to 0.5 ml of the aqueous phase was injected into the fractionator fitted to the chromatographic column, and (2) was removed by "Drierite". The (1) concentrations were obtained from the peak areas, after initial calibrations.	SOURCE AND PURITY OF MATERIALS: (1) Fluka; purum grade; purity > 97% (chromatographic analysis). (2) not specified. ESTIMATED ERROR: soly. \pm 12% REFERENCES:

COMPONENTS: (1) Decane; $C_{10}H_{22}$; [124-18-5] (2) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: McAuliffe, C. <i>Science</i> <u>1969</u> , 163, 478-9.
VARIABLES: One temperature: 25°C	PREPARED BY: F. Kapuku
EXPERIMENTAL VALUES: The solubility of decane in water at 25°C was reported to be 0.052 mg(1)/kg(2). The corresponding mass percent and mole fraction, x_1 , calculated by the compiler are 5.2×10^{-6} g(1)/100 g sln and 6.58×10^{-9} .	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: (1) was equilibrated with (2). Glass vials were filled with the saturated aqueous phase. Half of water was then displaced and replaced by air. The vials were then sealed and shaken for 2 minutes. The gas phase was then displaced through the sample loop of a gas chromatograph for analyzing for hydrocarbon content.	SOURCE AND PURITY OF MATERIALS: (1) not specified. (2) distilled. ESTIMATED ERROR: soly. \pm 0.0043 mg(1)/kg(2) REFERENCES:

COMPONENTS: (1) Decane; C ₁₀ H ₂₂ ; [124-18-5] (2) Water; H ₂ O; [7732-18-5]	ORIGINAL MEASUREMENTS: Krasnoshchekova, P.Ya.; Gubergrits, M.Ya. <i>Neftekhimiya</i> <u>1973</u> , 13, 885-7.
VARIABLES: One temperature: 25°C	PREPARED BY: A. Maczynski
EXPERIMENTAL VALUES: The solubility of decane in water at 25°C was reported to be $x_1 = 1.1 \times 10^{-9}$. The corresponding mass percent calculated by the compiler is 8.7×10^{-7} g(1)/100 g sln.	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: A mixture of 10 mL (1) and 300 mL (2) was placed in a double-walled bottom-stoppered vessel and vigorously stirred magnetically for 10-12 hr. The phases were allowed to separate; a first sample of the water phase was rejected and next 200 mL of this phase was taken, 20-mL aliquots were introduced into 40-mL hermetic bottles and (1) was allowed to equilibrate with the air, and the (1)-saturated air was analyzed by glc.	SOURCE AND PURITY OF MATERIALS: (1) source not specified; CP reagent; purity not specified. (2) distilled. ESTIMATED ERROR: not specified. REFERENCES:

COMPONENTS: (1) Decane; $C_{10}H_{22}$; [124-18-5] (2) Water; H_2O ; [7732-18-5]	ORIGINAL MEASUREMENTS: Mackay, D.; Shiu, W.J.; Wolkoff, A.W. "Water Quality Parameters" Symp. 1973, ASTM Spec. Tech. Publ. <u>1975</u> , 573, 251-8.
VARIABLES: not specified	PREPARED BY: M.C. Haulait-Pirson
EXPERIMENTAL VALUES: The authors reported two different values for the solubility of decane in water: 0.182 and 1.22 mg(1)dm ⁻³ sln. With the assumption of a solution density of 1.00 g cm ⁻³ , the corresponding mass percents calculated by the compiler, are 0.0000182 and 0.000122 g(1)/100 g sln and the corresponding mole fractions, x_1 , are 2.3×10^{-8} and 1.6×10^{-7} respectively.	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: (1) is partially partitioned into the vapor phase by equilibration of the aqueous sample with helium in a gas syringe, the vapor then being transferred to a gas sampling valve and then to the column of a gas chromatograph equipped with a flame ionization detector. By injecting gas samples from repeated equilibrations it is possible to calculate the amount of (1) in the original sample.	SOURCE AND PURITY OF MATERIALS: (1) not specified. (2) not specified. ESTIMATED ERROR: not estimated. REFERENCES:

COMPONENTS: (1) Decane; $C_{10}H_{22}$; [124-18-5] (2) Water; H_2O ; [7732-18-5]		ORIGINAL MEASUREMENTS: Namiot, A.Yu.; Skripka, V.G.; Lotter, Yu.G. <i>Zh. Fiz. Khim.</i> 1976, 50, 2718 Deposited doc. 1976, VINITI 1213-76.		
VARIABLES: Temperature: 150-310°C Pressure: 0.52-8.44 MPa		PREPARED BY: A. Maczynski		
EXPERIMENTAL VALUES:				
Solubility of water in decane				
$t/^\circ C$	$p/kg\ cm^{-2}$	p/MPa (compiler)	x_2	$g(2)/100\ g\ sln$ (compiler)
150	5.3	0.52	0.028	0.36
200	18.2	1.79	0.095	1.31
225	30	2.9	0.162	2.39
250	47.2	4.63	0.248	4.01
275	73.2	7.18	0.403	7.87
285	83.9	8.23	0.504	11.4
290	95.4	9.36	0.606	16.3
310	20	2.0	0.029	0.38
310	30	2.9	0.069	0.93
310	40	3.0	0.114	1.60
310	50	4.9	0.171	2.54
310	60	5.9	0.239	3.82
310	70	6.9	0.313	5.45
310	80	7.8	0.407	7.99
310	86.1	8.44	0.520	12.06
AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE: The static method for vapor-liquid equilibrium described in ref 1 was used. No more details were reported in the paper.		SOURCE AND PURITY OF MATERIALS: (1) source not specified; CP reagent; used as received. (2) distilled.		
		ESTIMATED ERROR: not specified.		
		REFERENCES: 1. Sultanov, R.G.; Skripka, V.G.; Namiot, Yu.A. <i>Zh. Fiz. Khim.</i> 1976, 46, 2170.		

COMPONENTS: (1) Decane; C ₁₀ H ₂₂ ; [124-18-5] (2) Water, H ₂ O; [7732-18-5]		ORIGINAL MEASUREMENTS: Skripka, V.G. <i>Tr. Vses. Neftegazov. Nauch. Issled. Inst.</i> 1976, 61, 139-51. Sultanov, R.G.; Skripka, V.G. <i>Zh. Fiz. Khim.</i> 1973, 47, 1035.		
VARIABLES: Temperature: 225-290°C Pressure: 2.9-78.5 MPa		PREPARED BY: A. Maczynski		
EXPERIMENTAL VALUES: Solubility of water in decane				
<i>t/°C</i>	<i>p/kg cm⁻²</i>	<i>p/MPa (compiler)</i>	<i>x₂</i>	<i>g(2)/100 g sln (compiler)</i>
225	30	2.9	0.162	2.39
	50	4.9	0.157	2.30
	70	6.9	0.153	2.28
	100	9.8	0.148	2.15
	150	14.7	0.138	1.99
	200	19.6	0.132	1.89
	250	24.5	0.124	1.76
	300	29.4	0.118	1.67
	400	39.2	0.108	1.51
	500	49.0	0.102	1.42
	600	58.8	0.098	1.36
	700	68.6	0.095	1.31
	800	78.5	0.094	1.30
	250	50	4.9	0.255
70		6.9	0.248	4.01
100		9.8	0.240	3.84
150		14.7	0.226	3.56
200		19.6	0.213	3.31
250		24.5	0.200	3.07
300		29.4	0.190	2.88
400		39.2	0.168	2.49
500		49.0	0.158	2.32
600		58.8	0.153	2.24
700		68.6	0.151	2.20
800	78.5	0.148	2.15	
AUXILIARY INFORMATION				
METHOD/APPARATUS/PROCEDURE: The experimental technique was described in ref 1. No details reported in the paper.		SOURCE AND PURITY OF MATERIALS: (1) source not specified, chemical reagent grade; purity not specified; used as received. (2) distilled.		
		ESTIMATED ERROR: not specified.		
		REFERENCES: 1. Sultanov, R.G.; Skripka, V.G.; Namiot, A.Yu. <i>Gazov. Prom.</i> 1971, 4, 6.		

(1) Decane; C₁₀H₂₂; [124-18-5]

Skripka, V.G.

Tr. Vses. Neftegazov. Nauch. Issled.(2) Water; H₂O; [7732-18-5]*Inst.* 1976, 61, 139-51.

Sultanov, R.G.; Skripka, V.G.

Zh. Fiz. Khim. 1973, 47, 1035.

<u>t/°C</u>	<u>p/kg cm⁻²</u>	<u>p/MPa (compiler)</u>	<u>α₂</u>	<u>g(2)/100 g sln (compiler)</u>
275	70	6.9	0.404	7.90
	100	9.8	0.385	7.34
	150	14.7	0.353	6.46
	200	19.6	0.320	5.62
	250	24.5	0.293	4.98
	300	29.4	0.272	4.52
	400	39.2	0.246	3.97
	500	49.0	0.231	3.66
	600	58.8	0.217	3.39
	700	68.6	0.204	3.14
800	78.5	0.197	3.08	
290	100	9.8	0.580	14.88
	150	14.7	0.417	8.30
	200	19.6	0.392	7.54
	250	24.5	0.371	6.95
	300	29.4	0.350	6.38
	400	39.2	0.318	5.57
	500	49.0	0.291	4.94
	600	58.8	0.270	4.47
	700	68.6	0.253	4.11
	800	78.5	0.243	3.90

COMPONENTS: (1) Decane; C ₁₀ H ₂₂ ; [124-18-5] (2) Water; H ₂ O; [7732-18-5]	ORIGINAL MEASUREMENTS: Becke, A.; Quitzsch, G. <i>Chem. Techn.</i> <u>1977</u> , <i>29</i> , 49-51.
VARIABLES: One temperature: 20°C	PREPARED BY: P.L. Huyskens and M.C. Haulait-Pirson
EXPERIMENTAL VALUES: The solubility of decane in water at 20°C was reported to be in mole fraction, $x_1 = 2.5 \times 10^{-9}$. The corresponding mass percent, calculated by the compiler, is 1.976×10^{-6} g(1)/100 g sln. The solubility of water in decane at 20°C was reported to be in mole fraction, $x_2 = 2.3 \times 10^{-3}$. The corresponding mass percent, calculated by the compiler, is 0.0292 g(2)/100 g sln.	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: The refractometric and the Karl-Fischer dead-stop titration methods were used. No more details are given in the paper.	SOURCE AND PURITY OF MATERIALS: not specified.
	ESTIMATED ERROR: soly. 0.05-1% for (1) in (2) 0.3-1.3% for (2) in (1)
	REFERENCES:

COMPONENTS:		EVALUATOR:		
(1) Decane; C ₁₀ H ₂₂ ; [124-18-5] (2) Seawater		D.G. Shaw Institute of Marine Science University of Alaska Fairbanks, Alaska USA December 1982		
CRITICAL EVALUATION:				
The solubility of decane (1) in seawater (2) has been reported in two works:				
<u>Authors</u>	<u>Method</u>	<u>T/K</u>	<u>Salinity g salts/kg sln</u>	<u>g(1)/100 g sln</u>
Krasnoshchekova and Gubergrits (ref 1)	GLC	298	6	8.7 x 10 ⁻⁶
Freearde <i>et al.</i> (ref 2)	GLC	?	?	1.5 x 10 ⁻⁵
Because temperature and salinity are not specified, the data of Freearde <i>et al.</i> are rejected. The value of Krasnoshchekova and Gubergrits is considered doubtful since it is greater than the tentative value for the solubility of decane in pure water at 298 K.				
<u>SOLUBILITY OF DECANE (1) IN SEAWATER (2)</u>				
<u>DOUBTFUL VALUE</u>				
<u>T/K</u>	<u>g salts/kg sln</u>		<u>g(1)/100 g sln</u>	
298	6		8.7 x 10 ⁻⁶	
REFERENCES				
1. Krasnoshchekova, R.Ya.; Gubergrits, M.Ya. <i>Neftekhimiya</i> <u>1973</u> , 13, 885-8.				
2. Freearde, M.; Hatchard, C.G.; Parker, C.A. <i>Lab. Pract.</i> <u>1971</u> , 20, 35-40.				

COMPONENTS: (1) Decane; $C_{10}H_{22}$; [124-18-5] (2) Seawater (composition not specified)	ORIGINAL MEASUREMENTS: Freegarde, M.; Hatchard, C.G.; Parker, C.A. <i>Lab Pract.</i> <u>1971</u> , 20, 35-40.
VARIABLES: Temperature, pressure, salinity not given.	PREPARED BY: M. Kleinschmidt and D. Shaw
EXPERIMENTAL VALUES: The solubility of decane was reported to be 0.15 mg/L. The corresponding mass percent and mole fraction, x_1 , calculated by the compilers are 1.5×10^{-5} g(l)/100 g sln and 1.9×10^{-8} , assuming a solution density of 1.02 kg/L.	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: None given except that analysis was done using gas chromatography.	SOURCE AND PURITY OF MATERIALS: not given. ESTIMATED ERROR: not specified. REFERENCES:

COMPONENTS: (1) Decane; C ₁₀ H ₂₂ ; [124-18-5] (2) Seawater	ORIGINAL MEASUREMENTS: Krasnoshchekova, R.Ya.; Gubergrits, M.Ya. <i>Neftekhimiya</i> <u>1973</u> , 13, 885-8.
VARIABLES: One temperature: 25°C Salinity: 6 g/kg sln	PREPARED BY: M. Kleinschmidt
EXPERIMENTAL VALUES: <p>The solubility of decane in seawater was reported to be 8.7×10^{-6} g(1)/100 g sln. and the corresponding mole fraction, $x_1 = 1.1 \times 10^{-8}$.</p>	
AUXILIARY INFORMATION	
METHOD/APPARATUS/PROCEDURE: <p>A saturated solution was prepared by vigorously stirring hydrocarbon (1) in seawater (2) for 10-12 hrs. in a flask placed in a temperature controlled bath. A sample of solution was then transferred to a closed flask with head space volume equal to solution volume. Hydrocarbon concentration in the head space was determined by gas chromatography and the corresponding solution concentration calculated.</p>	SOURCE AND PURITY OF MATERIALS: (1) "chemically pure" (2) distilled water plus salt mixture. ESTIMATED ERROR: not specified. REFERENCES: