

2.2.4 Chloroalkanes, C₇ - C₂₂

1,1,1,7-Tetrachloroheptane [3922-36-9] C₇H₁₂Cl₄ MW = 237.98 304

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1253.50 ± 1.50	1948-joy/han

1,1,1-Trichloroheptane [3922-26-7] C₇H₁₃Cl₃ MW = 203.54 305

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1121.20 ± 2.00	1950-har/for
293.15	1122.10 ± 1.00	1959-fre/bel

1,1,7-Trichloroheptane [17655-66-2] C₇H₁₃Cl₃ MW = 203.54 306

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1174.40 ± 2.00	1955-nes/zak-1

1,1-Dichloro-3,3-dimethylpentane [6130-99-0] C₇H₁₄Cl₂ MW = 169.09 307

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1032.10 ± 1.50	1946-sch

1,2-Dichloro-4,4-dimethylpentane [6065-90-3] C₇H₁₄Cl₂ MW = 169.09 308

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1025.90 ± 1.00	1946-sch

1,5-Dichloro-3,3-dimethylpentane [62496-53-1] C₇H₁₄Cl₂ MW = 169.09 309

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1056.30 ± 1.50	1946-sch

2,2-Dichloro-4,4-dimethylpentane [500060-49-1] C₇H₁₄Cl₂ MW = 169.09 310

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1012.00 ± 2.50	1946-sch

1,2-Dichloroheptane [10575-87-8] C₇H₁₄Cl₂ MW = 169.09 311

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1062.50 ± 2.00	1953-nek

1,7-Dichloroheptane [821-76-1] C₇H₁₄Cl₂ MW = 169.09 312

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1040.80 ± 3.00	1951-hub
293.15	1062.50 ± 2.00	1953-nek

2-Chloro-2,4-dimethylpentane [35951-33-8] C₇H₁₅Cl MW = 134.65 313

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	862.80 ± 2.00	1957-pet/sus

3-Chloro-2,3-dimethylpentane [596-38-3] C₇H₁₅Cl MW = 134.65 314

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	Ref.
293.15	887.50 ± 1.00	1956-sok/fed

2-Chloro-3-ethylpentane [128399-48-4] C₇H₁₅Cl MW = 134.65 315

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	Ref.
298.15	888.50 ± 2.00	1929-luc

1-Chloroheptane [629-06-1] C₇H₁₅Cl MW = 134.65 316

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{\text{c,w}} = 1.2139$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 4.1171 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	$T = 288.15 \text{ to } 360.15 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.00973 \cdot 10^3$
B	$-1.24337 \cdot 10^{-1}$
C	$-1.14547 \cdot 10^{-3}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg·m ⁻³	Ref. (Symbol in Fig. 1)	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg·m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg·m ⁻³	Ref. (Symbol in Fig. 1)
289.15	880.20 ± 2.00	2.19	1877-cro(×)	334.65	839.80 ± 1.00	-0.04	1943-vog(Δ)
289.15	881.00 ± 0.00	2.99	1877-cro-1 ¹⁾	360.15	816.50 ± 1.00	0.13	1943-vog(Δ)
293.15	872.62 ± 1.00	-2.22	1929-cla/str(∇)	293.15	875.90 ± 0.60	1.06	1950-mum/phi(□)
288.15	878.30 ± 1.00	-0.49	1930-she(○)	298.15	871.50 ± 0.60	0.66	1950-mum/phi(□)
293.15	872.50 ± 1.00	-2.34	1930-she(○)	293.15	874.50 ± 2.00	-0.34	1953-nek(◆)
293.15	876.60 ± 1.00	1.76	1943-vog(Δ)	298.15	870.56 ± 0.50	-0.28	1987-ort/mat(×)
314.45	857.30 ± 1.00	-0.07	1943-vog(Δ)				

¹⁾ Not included in Fig. 1.

Further references: [1930-err/she].

cont.

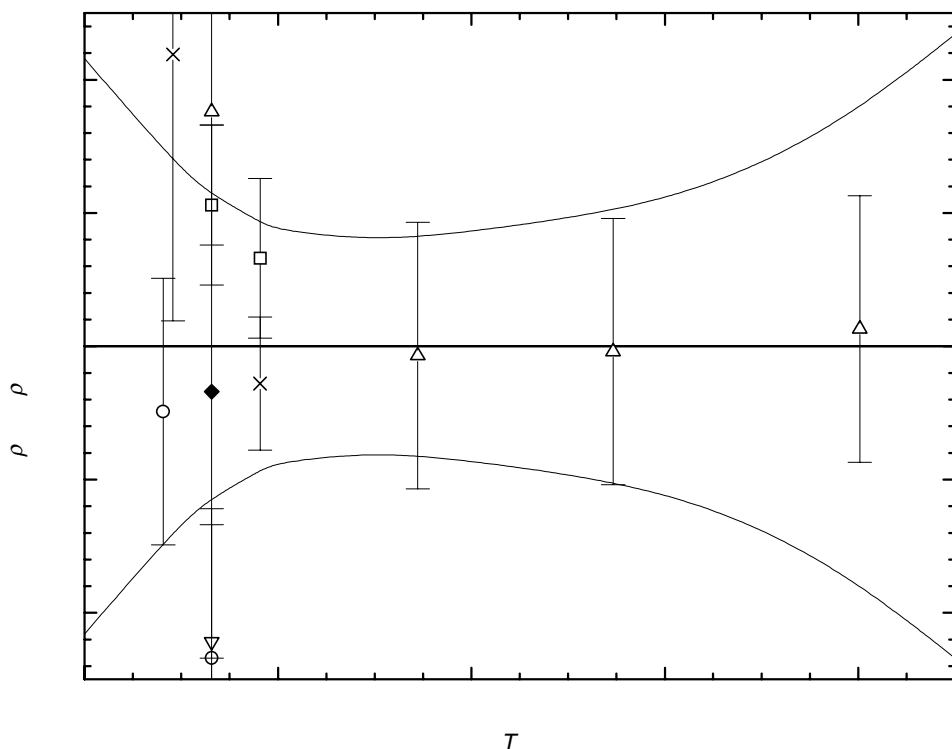
1-Chloroheptane (cont.)

Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Table 3. Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4].$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	885.11 ± 2.16	300.00	869.34 ± 0.87	340.00	835.04 ± 1.10
290.00	877.34 ± 1.32	310.00	861.11 ± 0.79	350.00	825.89 ± 1.36
293.15	874.84 ± 1.14	320.00	852.65 ± 0.86	360.00	816.52 ± 1.77
298.15	870.84 ± 0.93	330.00	843.96 ± 0.96	370.00	806.91 ± 2.34

2-Chloroheptane

[1001-89-4]

C₇H₁₅Cl

MW = 134.65

317

Table 1. Experimental values with uncertainties.

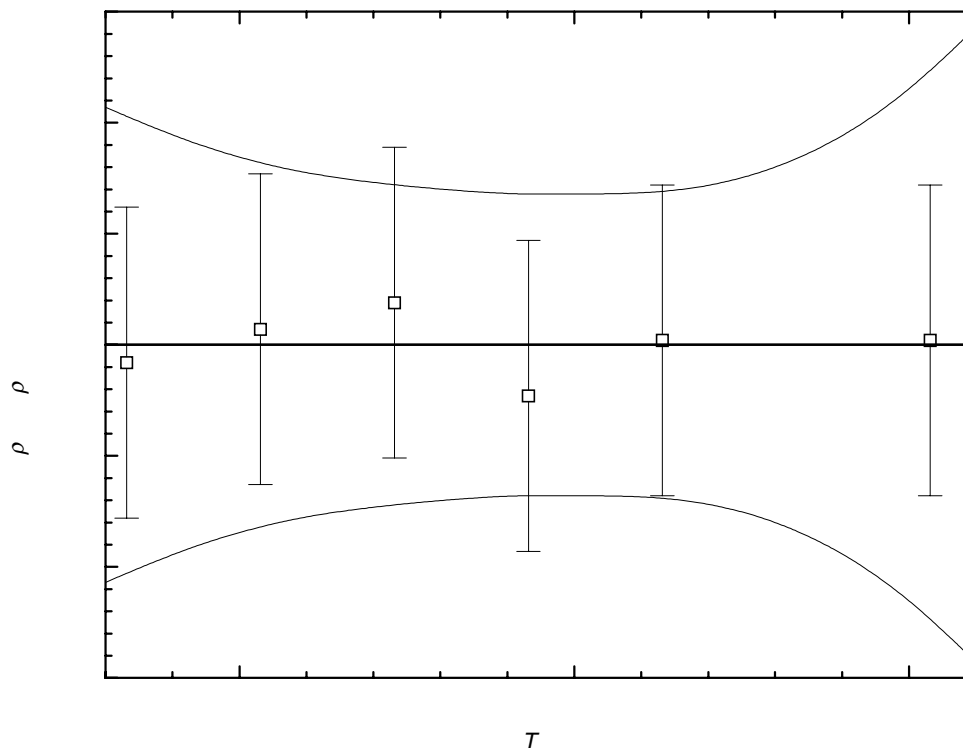
$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	865.10 ± 0.60	1930-err/she
293.15	868.10 ± 2.00	1953-nek
293.15	868.80 ± 3.00	1953-nek-1

3-Chloroheptane**[999-52-0]****C₇H₁₅Cl****MW = 134.65****318****Table 1.** Coefficients of the polynomial expansion equation. Standard deviations (see introduction):
 $\sigma_{c,w} = 1.2898 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 6.4488 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	$T = 233.15 \text{ to } 353.15 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
<i>A</i>	$1.05861 \cdot 10^3$
<i>B</i>	$-6.11211 \cdot 10^{-1}$
<i>C</i>	$-2.08333 \cdot 10^{-4}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
233.15	904.70 ± 0.70	-0.08	1988-mel/ver(□)	293.15	861.30 ± 0.70	-0.23	1988-mel/ver(□)
253.15	890.60 ± 0.70	0.07	1988-mel/ver(□)	313.15	846.80 ± 0.70	0.02	1988-mel/ver(□)
273.15	876.30 ± 0.70	0.19	1988-mel/ver(□)	353.15	816.80 ± 0.70	0.02	1988-mel/ver(□)

Further references: [1930-err/she].**Fig. 1.** The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

cont.

3-Chloroheptane (cont.)**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
230.00	907.01 ± 1.07	290.00	863.84 ± 0.68	330.00	834.22 ± 0.79
240.00	899.92 ± 0.94	293.15	861.53 ± 0.68	340.00	826.71 ± 0.93
250.00	892.78 ± 0.84	298.15	857.86 ± 0.68	350.00	819.16 ± 1.14
260.00	885.61 ± 0.77	300.00	856.49 ± 0.68	360.00	811.57 ± 1.43
270.00	878.39 ± 0.73	310.00	849.11 ± 0.68		
280.00	871.14 ± 0.70	320.00	841.69 ± 0.71		

4-Chloroheptane

[998-95-8]

C₇H₁₅Cl

MW = 134.65

319

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
295.15	869.40 ± 0.60	1930-err/she

1-Chloro-3-methylhexane

[101257-63-0]

C₇H₁₅Cl

MW = 134.65

320

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
302.15	854.00 ± 4.00	1931-lev/mar-5

2-Chloro-2-methylhexane

[4398-65-6]

C₇H₁₅Cl

MW = 134.65

321

Table 1. Experimental values with uncertainties.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	856.90 ± 0.70	1952-lev/tan
293.15	863.50 ± 3.00	1957-pet/sus

1,2-Dichloro-4,4-dimethylhexane

[26981-23-7]

C₈H₁₆Cl₂

MW = 183.12

322

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1029.00 ± 2.00	1946-sch

2,2-Dichloro-4,4-dimethylhexane [500004-41-1] C₈H₁₆Cl₂ MW = 183.12 323

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1032.10 ± 1.00	1946-sch

1,8-Dichlorooctane [2162-99-4] C₈H₁₆Cl₂ MW = 183.12 324

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1024.80 ± 2.00	1951-hub

Erythro-2,3-Dichlorooctane [500017-69-6] C₈H₁₆Cl₂ MW = 183.12 325

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	971.20 ± 0.60	1951-hof/gre

Meso-4,5-Dichlorooctane [500060-51-5] C₈H₁₆Cl₂ MW = 183.12 326

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1017.50 ± 1.00	1951-hof/gre

2,2-Dichloro-3,3,4-trimethylpentane [90483-63-9] C₈H₁₆Cl₂ MW = 183.12 327

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1050.90 ± 2.00	1961-mes/pet

1-Chloro-3,3-dimethylhexane [50902-79-9] C₈H₁₇Cl MW = 148.68 328

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.65	885.00 ± 2.00	1964-sta-1

3-Chloro-2,3-dimethylhexane

[101654-30-2]

C₈H₁₇Cl

MW = 148.68

329

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	886.90 ± 1.00	1933-whi/eve

2-Chloro-2-methylheptane

[4325-49-9]

C₈H₁₇Cl

MW = 148.68

330

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	856.80 ± 1.00	1933-whi/wil

1-Chlorooctane

[111-85-3]

C₈H₁₇Cl

MW = 148.68

331

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{\text{c,w}} = 1.0695$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 1.8984 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	$T = 273.15 \text{ to } 363.75 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.11476 \cdot 10^3$
B	$-8.22876 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
288.15	877.78 ± 1.00	0.13	1885-per-1(◆)	293.15	873.50 ± 0.70	-0.03	1950-mum/phi(∇)
298.15	869.35 ± 1.00	-0.07	1885-per-1(◆)	298.15	869.50 ± 0.70	0.08	1950-mum/phi(∇)
281.55	883.61 ± 1.00	0.53	1896-per(×)	298.15	869.20 ± 0.40	-0.22	1969-cou/her(□)
363.75	813.86 ± 1.00	-1.58	1896-per(×)	298.15	869.22 ± 0.40	-0.20	1971-her/cou(○)
273.15	892.00 ± 2.00	2.01	1904-bou/bla-1(×)	293.00	872.90 ± 1.00	-0.76	1975-str/sun(×)
293.15	873.02 ± 1.00	-0.51	1929-cla/str(×)	298.00	868.90 ± 1.00	-0.64	1975-str/sun(×)
293.15	874.80 ± 1.00	1.27	1943-vog(×)	298.15	869.00 ± 1.00	-0.42	1986-auc/par(×)
314.35	856.50 ± 1.00	0.41	1943-vog(×)	298.15	868.65 ± 0.40	-0.77	1987-ort/mat(×)
334.35	840.60 ± 1.00	0.97	1943-vog(×)	298.15	868.75 ± 0.50	-0.67	1999-san/bal-1(Δ)
359.75	819.20 ± 1.00	0.47	1943-vog(×)				

Further references: [1944-sch, 1952-kla/ste, 1953-nek-1, 1956-goe/mcc, 1959-nek, 1972-her/cou].

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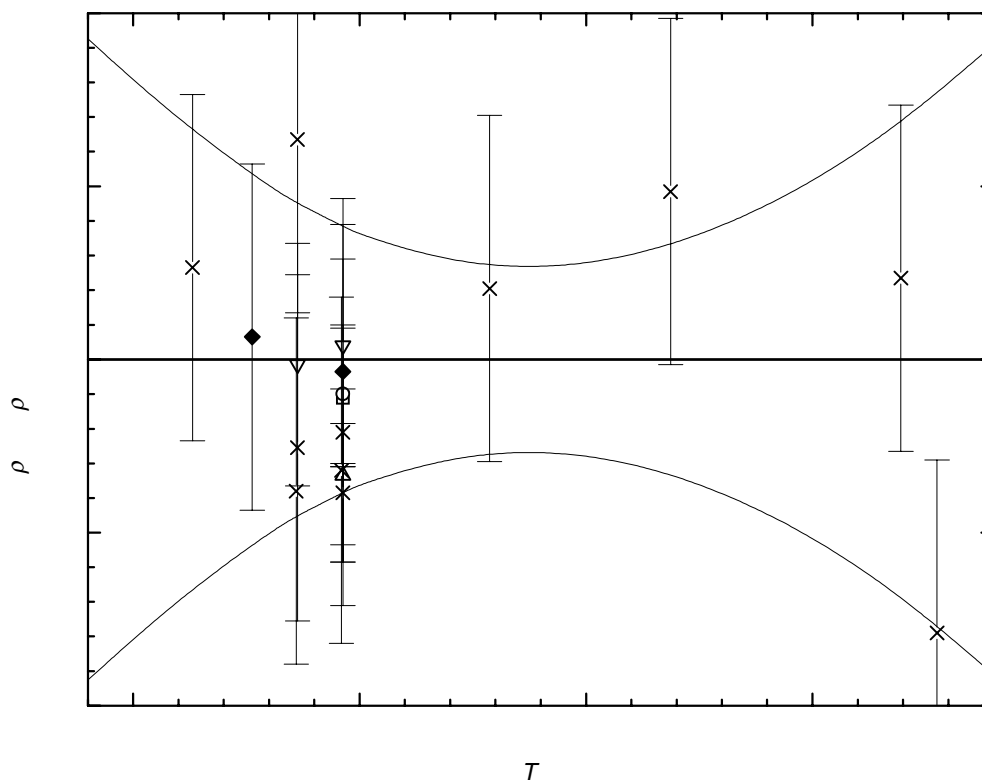


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Table 3. Recommended values (fit to the reliable experimental values according to the equations $\rho = A + BT + CT^2 + DT^3 + \dots$ or $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$).

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	892.58 ± 1.85	300.00	867.90 ± 0.72	350.00	826.75 ± 1.02
280.00	884.35 ± 1.38	310.00	859.67 ± 0.56	360.00	818.52 ± 1.37
290.00	876.13 ± 1.00	320.00	851.44 ± 0.52	370.00	810.30 ± 1.82
293.15	873.53 ± 0.90	330.00	843.21 ± 0.59		
298.15	869.42 ± 0.77	340.00	834.98 ± 0.76		

2-Chlorooctane**[628-61-5]****C₈H₁₇Cl****MW = 148.68****332****Table 1.** Fit with estimated B coefficient for 4 accepted points. Deviation $\sigma_w = 0.185$.

Coefficient	$\rho = A + BT$
A	1129.80
B	-0.900

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
288.15	870.00 \pm 2.00	-0.50	1885-per	298.15	861.60 \pm 1.00	0.13	1950-mum/phi
298.15	861.30 \pm 2.00	-0.14	1885-per	293.15	871.60 \pm 5.00	5.63	1953-nek-1 ¹⁾
293.15	866.00 \pm 1.00	0.03	1950-mum/phi	299.15	866.30 \pm 3.00	5.73	1955-ber/sch ¹⁾

¹⁾ Not included in calculation of linear coefficients.**Table 3.** Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	877.8 \pm 1.8
290.00	868.8 \pm 1.0
293.15	866.0 \pm 0.9
298.15	861.5 \pm 1.0

2-Chloro-2,3,3-trimethylpentane**[69078-89-3]****C₈H₁₇Cl****MW = 148.68****333****Table 1.** Fit with estimated B coefficient for 2 accepted points. Deviation $\sigma_w = 0.000$.

Coefficient	$\rho = A + BT$
A	1145.02
B	-0.800

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	910.50 \pm 0.50	0.00	1947-how/mea
298.15	906.50 \pm 0.50	0.00	1947-how/mea

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	913.0 \pm 0.5
293.15	910.5 \pm 0.5
298.15	906.5 \pm 0.5

2-Chloro-2,3,4-trimethylpentane [102312-39-0] C₈H₁₇Cl MW = 148.68 334

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	888.00 ± 0.50	1947-how/mea

2-Chloro-2,4,4-trimethylpentane [6111-88-2] C₈H₁₇Cl MW = 148.68 335

Table 1. Experimental and recommended values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	872.30 ± 2.00	1952-mes/pet
293.15	874.60 ± 1.00	1957-lev/sha
293.15	874.10 ± 1.10	Recommended

3-Chloro-2,2,3-trimethylpentane [918-09-2] C₈H₁₇Cl MW = 148.68 336

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	906.60 ± 0.50	1947-how/mea

1,1,1,9-Tetrachlorononane [1561-48-4] C₉H₁₆Cl₄ MW = 266.04 337

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1194.30 ± 1.50	1948-joy/han

1,1,1-Trichlorononane [1071-84-7] C₉H₁₇Cl₃ MW = 231.59 338

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1078.60 ± 3.00	1950-har/for
293.15	1079.40 ± 2.00	1959-fre/bel

1,9-Dichlorononane [821-99-8] C₉H₁₈Cl₂ MW = 197.15 339

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
298.15	1017.30 ± 2.00	1951-hub

3-Chloro-2,3-dimethylheptane [116631-95-9] C₉H₁₉Cl MW = 162.70 340

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	885.00 ± 2.00	1933-whi/eve

2-Chloro-2-methyloctane [126529-07-5] C₉H₁₉Cl MW = 162.70 341

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	856.60 ± 1.00	1956-tar/tai

1-Chlorononane [2473-01-0] C₉H₁₉Cl MW = 162.70 342

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{\text{c,w}} = 1.5470 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 8.9316 \cdot 10^{-2}$ (combined temperature ranges, unweighted).

Coefficient	$T = 293.15 \text{ to } 357.95 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.05534 \cdot 10^3$
B	$-5.15993 \cdot 10^{-1}$
C	$-3.92574 \cdot 10^{-4}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref. (Symbol in Fig. 1)	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref. (Symbol in Fig. 1)
293.15	870.40 ± 1.00	0.06	1943-vog(○)	357.95	820.40 ± 1.00	0.06	1943-vog(○)
313.65	855.10 ± 1.00	0.22	1943-vog(○)	293.15	870.20 ± 1.00	-0.14	1959-nek(□)
334.25	838.80 ± 1.00	-0.21	1943-vog(○)				

Further references: [1928-ros/mar, 1929-cla/str, 1953-nek, 1953-nek-1].

cont.

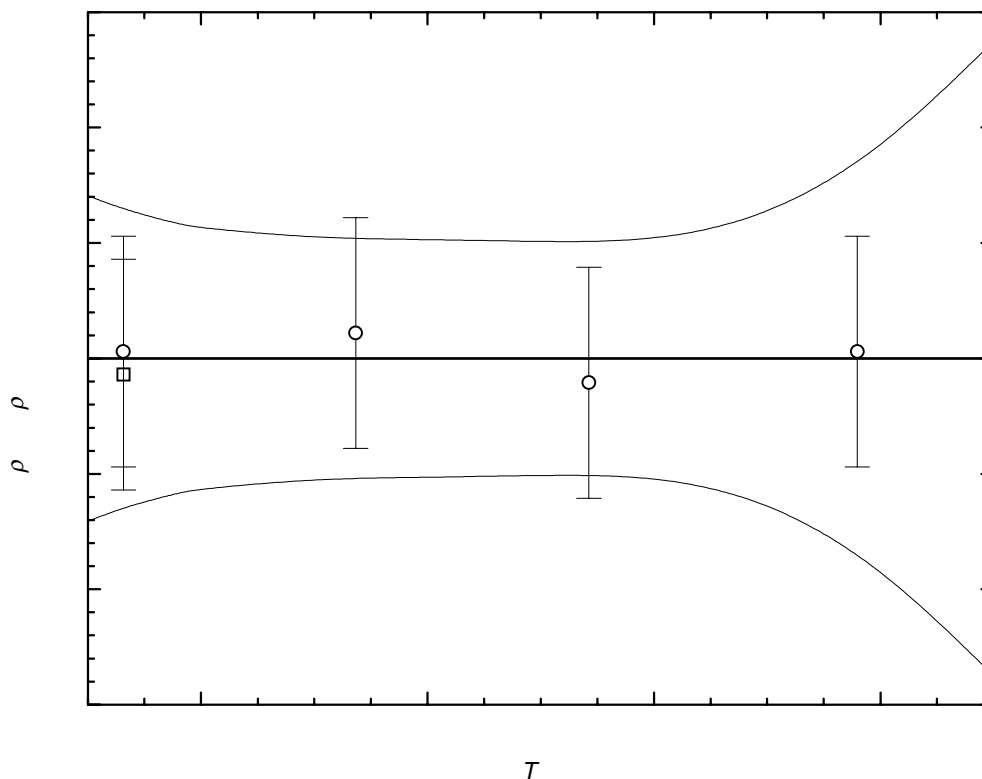


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Table 3. Recommended values (fit to the reliable experimental values according to the equations $\rho = A + BT + CT^2 + DT^3 + \dots$ or $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$).

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	872.68 ± 1.41	310.00	857.65 ± 1.04	350.00	826.65 ± 1.22
293.15	870.34 ± 1.29	320.00	850.02 ± 1.03	360.00	818.70 ± 1.79
298.15	866.60 ± 1.16	330.00	842.31 ± 1.01	370.00	810.68 ± 2.75
300.00	865.21 ± 1.13	340.00	834.52 ± 1.01		

2-Chlorononane**[2216-36-6]****C₉H₁₉Cl****MW = 162.70****343****Table 1.** Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	879.00 ± 5.00	1953-nek-1

2-Chloro-2,4,4-trimethylhexane [102450-43-1] C₉H₁₉Cl MW = 162.70 344

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	876.80 ± 0.60	1957-lev/sha

1,1,1-Trichlorodecane [62108-56-9] C₁₀H₁₉Cl₃ MW = 245.62 345

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1117.00 ± 6.00	1946-sch

1,1-Dichlorodecane [3162-62-7] C₁₀H₂₀Cl₂ MW = 211.17 346

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	994.50 ± 2.00	1951-hub

1,10-Dichlorodecane [2162-98-3] C₁₀H₂₀Cl₂ MW = 211.17 347

Table 1. Experimental values with uncertainties.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	999.20 ± 1.50	1955-nes/zak-1
298.15	992.92 ± 0.40	1995-com/fra-1

1-Chlorodecane [1002-69-3] C₁₀H₂₁Cl MW = 176.73 348

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{\text{c,w}} = 4.6482 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 1.6299 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	$T = 293.15 \text{ to } 358.55 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.10082 \cdot 10^3$
B	$-7.88832 \cdot 10^{-1}$

cont.

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	$\rho_{\text{exp}} - \rho_{\text{calc}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref. (Symbol in Fig. 1)	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	$\rho_{\text{exp}} - \rho_{\text{calc}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref. (Symbol in Fig. 1)
293.15	869.60 ± 1.00	0.03	1927-tal(×)	293.15	869.60 ± 1.00	0.03	1950-set(◆)
293.15	869.60 ± 1.00	0.03	1932-kom/tal(Δ)	293.15	870.40 ± 2.00	0.83	1953-nek-1(×)
293.15	868.30 ± 1.00	-1.27	1943-vog(O)	293.15	869.70 ± 1.00	0.13	1959-nek(∇)
314.15	852.40 ± 1.00	-0.61	1943-vog(O)	298.15	865.84 ± 0.40	0.21	1969-cou/her(×)
334.65	837.20 ± 1.00	0.37	1943-vog(O)	298.15	865.86 ± 0.50	0.23	1971-her/cou(□)
358.55	818.00 ± 1.00	0.02	1943-vog(O)				

Further references: [1928-ros/mar, 1935-rot, 1944-sch, 1953-nek, 1972-her/cou].

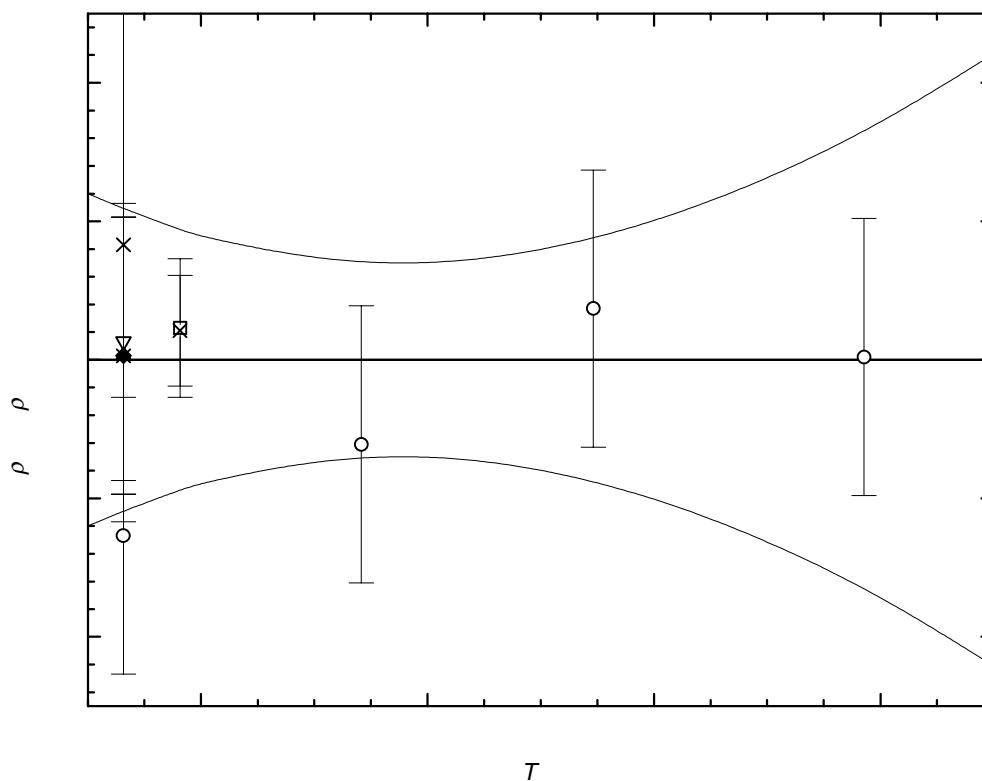


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

cont.

1-Chlorodecane (cont.)**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$$

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	872.06 ± 1.20	310.00	856.28 ± 0.72	350.00	824.73 ± 1.30
293.15	869.57 ± 1.09	320.00	848.39 ± 0.68	360.00	816.84 ± 1.70
298.15	865.63 ± 0.94	330.00	840.50 ± 0.78	370.00	808.95 ± 2.21
300.00	864.17 ± 0.89	340.00	832.61 ± 0.99		

2-Chlorodecane

[1002-56-8]

C₁₀H₂₁Cl

MW = 176.73

349

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	870.60 ± 3.00	1953-nek-1

3-Chloro-2,3-dimethyloctane

[500046-53-7]

C₁₀H₂₁Cl

MW = 176.73

350

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	881.80 ± 1.00	1933-whi/eve

2-Chloro-2,4,4-trimethylheptane

[103906-77-0]

C₁₀H₂₁Cl

MW = 176.73

351

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	878.50 ± 0.60	1957-lev/sha

1,1,1-Trichloroundecane

[3922-25-6]

C₁₁H₂₁Cl₃

MW = 259.65

352

Table 1. Experimental value with uncertainty.

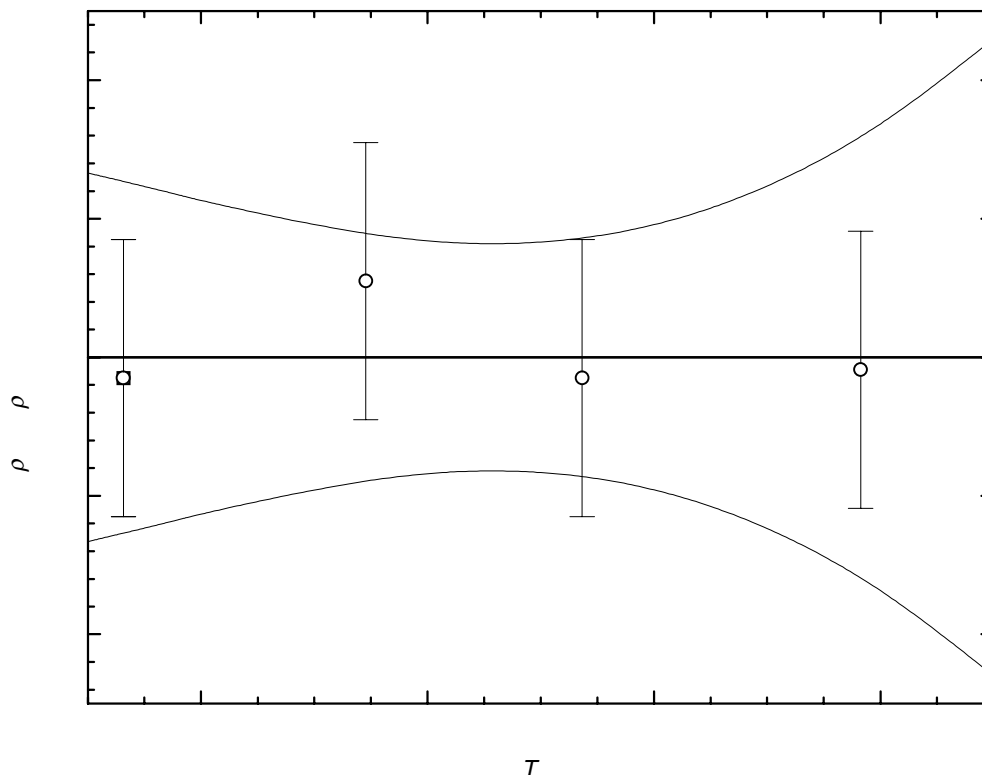
$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	1050.40 ± 2.00	1950-har/for

1-Chloroundecane**[2473-03-2]****C₁₁H₂₃Cl****MW = 190.76****353****Table 1.** Coefficients of the polynomial expansion equation. Standard deviations (see introduction):
 $\sigma_{c,w} = 2.7448 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 1.3724 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	$T = 293.15 \text{ to } 358.25 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
<i>A</i>	$1.08431 \cdot 10^3$
<i>B</i>	$-7.38386 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
293.15	867.70 ± 1.00	-0.15	1943-vog(○)	358.25	819.70 ± 1.00	-0.09	1943-vog(○)
314.55	852.60 ± 1.00	0.55	1943-vog(○)	293.15	867.70 ± 1.00	-0.15	1959-nek(□)
333.65	837.80 ± 1.00	-0.15	1943-vog(○)				

Further references: [1935-rot].**Fig. 1.** The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

cont.

1-Chloroundecane (cont.)**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

$$\rho = A + BT + CT^2 + DT^3 + \dots \text{ or } \rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4].$$

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	870.18 ± 1.33	310.00	855.41 ± 0.95	350.00	825.88 ± 1.21
293.15	867.85 ± 1.27	320.00	848.03 ± 0.82	360.00	818.49 ± 1.65
298.15	864.16 ± 1.17	330.00	840.65 ± 0.81	370.00	811.11 ± 2.30
300.00	862.80 ± 1.13	340.00	833.26 ± 0.93		

2-Chloro-2,4,4-trimethyloctane

[106594-71-2]

C₁₁H₂₃Cl

MW = 190.76

354

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	886.50 ± 0.60	1957-lev/sha

1-Chlorododecane

[112-52-7]

C₁₂H₂₅Cl

MW = 204.78

355

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction):

$\sigma_{c,w} = 2.1548 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 1.6318 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	$T = 293.00 \text{ to } 359.55 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.08295 \cdot 10^3$
B	$-7.35396 \cdot 10^{-1}$

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)	$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
295.15	867.30 ± 2.00	1.40	1935-rot(◆)	293.15	867.00 ± 1.00	-0.37	1959-nek(Δ)
293.15	867.30 ± 1.00	-0.07	1943-vog(∇)	298.15	863.61 ± 0.40	-0.09	1969-cou/her(×)
314.35	851.60 ± 1.00	-0.18	1943-vog(∇)	298.15	863.63 ± 0.40	-0.07	1971-her/cou(□)
333.65	837.70 ± 1.00	0.11	1943-vog(∇)	293.00	867.30 ± 0.60	-0.18	1975-str/sun(○)
359.55	818.10 ± 1.00	-0.44	1943-vog(∇)	298.00	863.70 ± 0.60	-0.11	1975-str/sun(○)

Further references: [1952-kla/ste, 1972-her/cou].

cont.

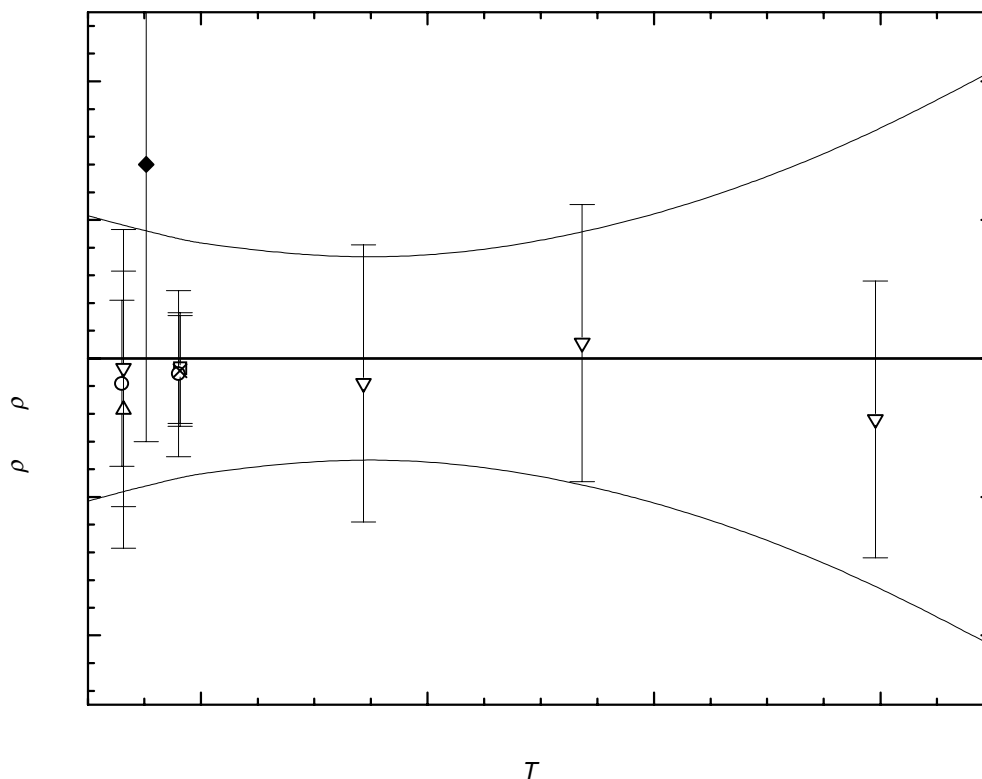


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the symbols are omitted for clarity of the figure.)

Table 3. Recommended values (fit to the reliable experimental values according to the equations $\rho = A + BT + CT^2 + DT^3 + \dots$ or $\rho = [1 + 1.75(1 - T/T_c)^{1/3} + 0.75(1 - T/T_c)][\rho_c + A(T_c - T) + B(T_c - T)^2 + C(T_c - T)^3 + D(T_c - T)^4]$).

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	869.69 ± 1.03	310.00	854.98 ± 0.73	350.00	825.57 ± 1.30
293.15	867.37 ± 0.96	320.00	847.63 ± 0.73	360.00	818.21 ± 1.65
298.15	863.70 ± 0.86	330.00	840.27 ± 0.84	370.00	810.86 ± 2.08
300.00	862.34 ± 0.83	340.00	832.92 ± 1.03		

1,1,1,13-Tetrachlorotridecane

[3922-33-6]

C₁₃H₂₄Cl₄

MW = 322.14

356

Table 1. Experimental value with uncertainty.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1116.60 ± 2.00	1959-nes/kar

1,1,1-Trichlorotridecane [3922-24-5] C₁₃H₂₅Cl₃ MW = 287.70 357

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1033.90 ± 3.00	1956-nes/kar

1-Chlorotridecane [822-13-9] C₁₃H₂₇Cl MW = 218.81 358

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	868.00 ± 1.00	1959-nek

1-Chlorotetradecane [2425-54-9] C₁₄H₂₉Cl MW = 232.84 359

Table 1. Fit with estimated B coefficient for 5 accepted points. Deviation $\sigma_w = 0.540$.

Coefficient	$\rho = A + BT$
A	1090.82
B	-0.767

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	858.90 ± 3.00	-7.08	1937-dra/mar ¹⁾	298.15	861.90 ± 0.40	-0.24	1972-her/cou
293.15	869.00 ± 2.00	3.02	1959-nek ¹⁾	293.15	866.20 ± 0.60	0.22	1981-kor/kov
298.15	861.90 ± 0.40	-0.26	1969-cou/her	353.15	821.40 ± 0.60	1.44	1981-kor/kov
298.15	861.90 ± 0.40	-0.24	1971-her/cou				

¹⁾ Not included in calculation of linear coefficients.

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	868.4 ± 0.9
293.15	866.0 ± 0.8
298.15	862.1 ± 0.7
310.00	853.1 ± 0.7
320.00	845.4 ± 1.0
330.00	837.7 ± 1.4
340.00	830.0 ± 1.9
350.00	822.4 ± 2.4
360.00	814.7 ± 2.9

1,1,1,15-Tetrachloropentadecane [3922-32-5] C₁₅H₂₈Cl₄ MW = 350.20 360

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	1093.50 ± 2.00	1959-nes/kar

1,1,1-Trichloropentadecane [62108-59-2] C₁₅H₂₉Cl₃ MW = 315.75 361

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	1014.20 ± 2.00	1956-nes/kar

1-Chloropentadecane [4862-03-7] C₁₅H₃₁Cl MW = 246.86 362

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
298.15	840.81 ± 2.00	1928-ros/mar

1-Chlorohexadecane [4860-03-1] C₁₆H₃₃Cl MW = 260.89 363

Table 1. Fit with estimated B coefficient for 9 accepted points. Deviation $\sigma_w = 0.280$.

Coefficient	$\rho = A + BT$
A	1076.42
B	-0.723

Table 2. Experimental values with uncertainties and deviation from calculated values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.	T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	$\rho_{\text{exp}} - \rho_{\text{calc}}$ kg · m ⁻³	Ref.
293.15	837.00 ± 10.00	-27.49	1929-cla/str ¹⁾	298.15	860.60 ± 0.40	-0.21	1971-her/cou
293.15	852.00 ± 4.00	-12.47	1937-dra/mar ¹⁾	298.15	860.60 ± 0.40	-0.21	1972-her/cou
293.15	864.90 ± 1.00	0.43	1950-mum/phi	298.15	861.20 ± 0.40	0.34	1988-gar/cob
298.15	861.60 ± 1.00	0.74	1950-mum/phi	298.15	860.70 ± 0.40	-0.16	1995-pet/gas
296.65	858.00 ± 4.00	-3.94	1952-kla/ste ¹⁾	293.15	864.80 ± 0.60	0.33	1981-kor/kov
293.15	850.30 ± 5.00	-14.17	1954-ste/cir ¹⁾	353.15	821.40 ± 0.60	0.31	1981-kor/kov
298.15	860.60 ± 0.40	-0.23	1969-cou/her				

¹⁾ Not included in calculation of linear coefficients.

cont.

1-Chlorohexadecane (cont.)**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
290.00	866.8 ± 0.5
293.15	864.5 ± 0.5
298.15	860.9 ± 0.5
310.00	852.3 ± 0.5
320.00	845.1 ± 0.6
330.00	837.8 ± 0.7
340.00	830.6 ± 0.9
350.00	823.4 ± 1.1
360.00	816.1 ± 1.3

1,1,1,17-Tetrachloroheptadecane [93479-16-4] C₁₇H₃₂Cl₄ MW = 378.25 364

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	1077.30 ± 2.00	1959-nes/kar

1,1,1-Trichloroheptadecane [62108-61-6] C₁₇H₃₃Cl₃ MW = 343.81 365

Table 1. Experimental value with uncertainty.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
293.15	999.20 ± 2.00	1956-nes/kar

1-Chlorooctadecane [3386-33-2] C₁₈H₃₇Cl MW = 288.94 366

Table 1. Fit with estimated B coefficient for 8 accepted points. Deviation $\sigma_w = 0.222$.

Coefficient	$\rho = A + BT$
A	1069.76
B	-0.705

Table 2. Experimental values with uncertainties and deviation from calculated values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{calc}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref.
298.15	859.70 ± 0.40	0.10	1969-cou/her	303.00	856.20 ± 1.00	0.06	1975-str/sun
298.15	859.70 ± 0.40	0.12	1971-her/cou	298.15	859.00 ± 1.00	-0.56	1986-auc/par
298.15	859.60 ± 0.40	0.09	1972-her/cou	293.15	862.80 ± 0.60	-0.29	1981-kor/kov
298.00	860.10 ± 1.00	0.43	1975-str/sun	353.15	820.40 ± 0.60	-0.39	1981-kor/kov

cont.

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³
290.00	865.3 ± 0.7
293.15	863.1 ± 0.7
298.15	859.6 ± 0.7
310.00	851.2 ± 0.7
320.00	844.2 ± 0.7
330.00	837.1 ± 0.8
340.00	830.1 ± 1.0
350.00	823.0 ± 1.1
360.00	816.0 ± 1.3

1,1,1,19-Tetrachlorononadecane [96949-53-0] C₁₉H₃₆Cl₄ MW = 406.31 367

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	1054.60 ± 2.00	1959-nes/kar

1,1,1,21-Tetrachloroheneicosane [102444-85-9] C₂₁H₄₀Cl₄ MW = 434.36 368

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	1036.10 ± 2.00	1959-nes/kar

1,1,1,22-Tetrachlorodocosane [102884-96-8] C₂₂H₄₂Cl₄ MW = 448.39 369

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
293.15	1019.20 ± 2.00	1959-nes/kar