

2.5.3.3 Chlorofluoroalkanes, C₃ - C₅

1,2-Dichloro-1,1,2,3,3,3-hexafluoropropane

[661-97-2]

C₃Cl₂F₆

MW = 220.93

546

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

$\sigma_{c,w} = 4.8955 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 1.3578 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	$T = 253.15 \text{ to } 403.15 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
<i>A</i>	$2.69359 \cdot 10^3$
<i>B</i>	-6.90809
<i>C</i>	$1.77809 \cdot 10^{-2}$
<i>D</i>	$-2.40719 \cdot 10^{-5}$

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)	$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{\rho_{\text{exp}} - \rho_{\text{ca}}}{\text{kg} \cdot \text{m}^{-3}}$	Ref. (Symbol in Fig. 1)
253.15	1693.30 ± 0.40	-0.47	1990-gor/zad(□)	333.15	1475.20 ± 0.40	-0.36	1990-gor/zad(□)
263.15	1668.60 ± 0.40	0.24	1990-gor/zad(□)	343.15	1444.10 ± 0.40	-0.05	1990-gor/zad(□)
273.15	1643.20 ± 0.40	0.49	1990-gor/zad(□)	353.15	1411.90 ± 0.40	0.56	1990-gor/zad(□)
283.15	1616.80 ± 0.40	0.13	1990-gor/zad(□)	363.15	1377.90 ± 0.40	0.91	1990-gor/zad(□)
293.15	1590.20 ± 0.40	0.11	1990-gor/zad(□)	373.15	1341.30 ± 0.40	0.36	1990-gor/zad(□)
303.15	1563.10 ± 0.40	0.27	1990-gor/zad(□)	383.15	1302.30 ± 0.40	-0.77	1990-gor/zad(□)
313.15	1534.20 ± 0.40	-0.56	1990-gor/zad(□)	393.15	1262.70 ± 0.40	-0.51	1990-gor/zad(□)
323.15	1505.00 ± 0.40	-0.71	1990-gor/zad(□)	403.15	1221.60 ± 0.40	0.36	1990-gor/zad(□)

Further references: [1980-maj/svo].

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

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

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
250.00	1701.75 ± 0.60	300.00	1571.50 ± 0.42	370.00	1352.49 ± 0.42
260.00	1676.39 ± 0.51	310.00	1543.70 ± 0.40	380.00	1315.20 ± 0.45
270.00	1650.83 ± 0.48	320.00	1514.98 ± 0.38	390.00	1275.99 ± 0.51
280.00	1624.92 ± 0.46	330.00	1485.19 ± 0.37	400.00	1234.70 ± 0.61
290.00	1598.53 ± 0.44	340.00	1454.19 ± 0.37	410.00	1191.18 ± 0.77
293.15	1590.09 ± 0.44	350.00	1421.84 ± 0.38		
298.15	1576.56 ± 0.43	360.00	1387.98 ± 0.40		

cont.

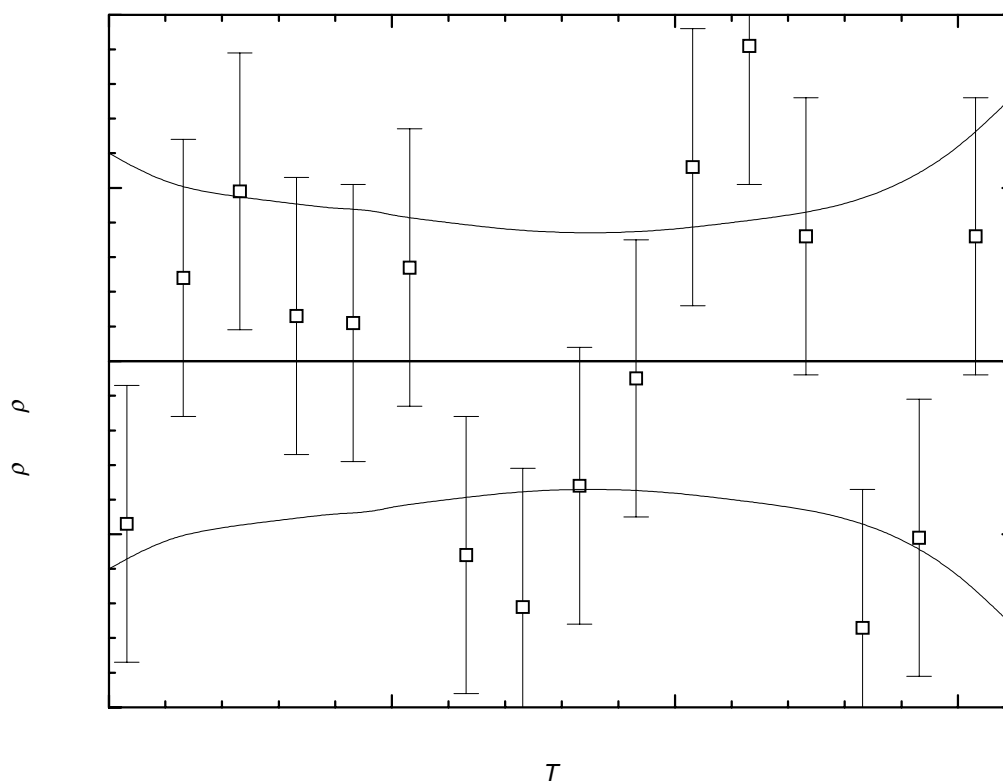
1,2-Dichloro-1,1,2,3,3,3-hexafluoropropane (cont.)

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.)

1,1,3-Trichloro-1,2,2,3,3-pentafluoropropane

[1652-81-9]

C₃Cl₃F₅

MW = 237.38

547

Table 1. Experimental value with uncertainty.

T	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$	Ref.
K	kg · m ⁻³	
298.15	1642.90 ± 2.00	1949-cof/cra

1,1,1,3-Tetrachloro-2,2,3,3-tetrafluoropropane

[2268-46-4]

C₃Cl₄F₄

MW = 253.84

548

Table 1. Experimental value with uncertainty.

T	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$	Ref.
K	kg · m ⁻³	
298.15	1692.70 ± 2.00	1949-cof/cra

1,1,3,3-Tetrachloro-1,2,2,3-tetrafluoropropane

[2354-04-3]



MW = 253.84

549

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	1700.60 ± 2.00	1949-cof/cra

1,1,1,3,3-Pentachloro-2,2,3-trifluoropropane

[2354-06-5]



MW = 270.29

550

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	1760.80 ± 3.00	1949-cof/cra

1,1,1,3,3,3-Hexachloro-2,2-difluoropropane

[3182-26-1]



MW = 286.75

551

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	1797.50 ± 2.00	1949-cof/cra

1,1-Dichloro-2,2,3,3,3-pentafluoropropane

[422-56-0]



MW = 202.94

552

Table 1. Coefficients of the polynomial expansion equation. Standard deviations (see introduction): $\sigma_{\text{c,w}} = 6.5295 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{\text{c,uw}} = 1.3259 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	$T = 273.15 \text{ to } 389.98 \text{ K}$ $\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.90199 \cdot 10^3$
B	$6.05766 \cdot 10^{-2}$
C	$-4.16152 \cdot 10^{-3}$

cont.

1,1-Dichloro-2,2,3,3,3-pentafluoropropane (cont.)**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)
273.15	1609.20 ± 0.90	1.16	1990-kum/tak(○)	329.98	1468.50 ± 2.00	-0.35	1992-wid/mae(□)
283.15	1585.50 ± 0.90	0.00	1990-kum/tak(○)	329.99	1468.40 ± 2.00	-0.42	1992-wid/mae(□)
293.15	1561.50 ± 0.90	-0.62	1990-kum/tak(○)	339.98	1442.00 ± 2.00	0.43	1992-wid/mae(□)
303.15	1537.30 ± 0.90	-0.61	1990-kum/tak(○)	339.99	1440.80 ± 2.00	-0.74	1992-wid/mae(□)
313.15	1512.40 ± 0.90	-0.47	1990-kum/tak(○)	349.97	1414.30 ± 2.00	0.81	1992-wid/mae(□)
323.15	1487.00 ± 0.90	0.00	1990-kum/tak(○)	349.98	1413.40 ± 2.00	-0.06	1992-wid/mae(□)
333.15	1461.10 ± 1.00	0.81	1990-kum/tak(○)	349.99	1414.00 ± 2.00	0.56	1992-wid/mae(□)
343.15	1434.70 ± 1.00	1.95	1990-kum/tak(○)	359.96	1384.50 ± 2.00	-0.08	1992-wid/mae(□)
353.15	1407.50 ± 1.00	3.12	1990-kum/tak ¹⁾	359.99	1384.60 ± 2.00	0.10	1992-wid/mae(□)
280.00	1592.90 ± 2.00	0.21	1992-wid/mae(□)	369.97	1355.20 ± 2.00	0.42	1992-wid/mae(□)
290.00	1569.90 ± 2.00	0.33	1992-wid/mae(□)	369.98	1354.90 ± 2.00	0.15	1992-wid/mae(□)
290.01	1569.30 ± 2.00	-0.25	1992-wid/mae(□)	379.96	1324.20 ± 2.00	-0.01	1992-wid/mae(□)
300.00	1545.80 ± 2.00	0.17	1992-wid/mae(□)	379.98	1323.80 ± 2.00	-0.35	1992-wid/mae(□)
300.01	1544.90 ± 2.00	-0.70	1992-wid/mae(□)	389.98	1291.10 ± 2.00	-1.61	1992-wid/mae(□)
300.02	1544.20 ± 2.00	-1.38	1992-wid/mae(□)	399.97	1255.20 ± 2.00	-5.28	1992-wid/mae ¹⁾
309.99	1520.80 ± 2.00	-0.07	1992-wid/mae(□)	399.98	1255.70 ± 2.00	-4.74	1992-wid/mae ¹⁾
319.99	1495.90 ± 2.00	0.64	1992-wid/mae(□)				

¹⁾ Not included in Fig. 1.**Further references:** [1993-kum/tak].**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

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

$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{\text{K}}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	1614.97 ± 1.75	310.00	1520.85 ± 1.62	370.00	1354.69 ± 2.13
280.00	1592.69 ± 1.71	320.00	1495.24 ± 1.60	380.00	1324.09 ± 2.51
290.00	1569.57 ± 1.68	330.00	1468.79 ± 1.60	390.00	1292.65 ± 3.02
293.15	1562.12 ± 1.67	340.00	1441.52 ± 1.63	400.00	1260.38 ± 3.69
298.15	1550.12 ± 1.66	350.00	1413.41 ± 1.71		
300.00	1545.63 ± 1.65	360.00	1384.47 ± 1.87		

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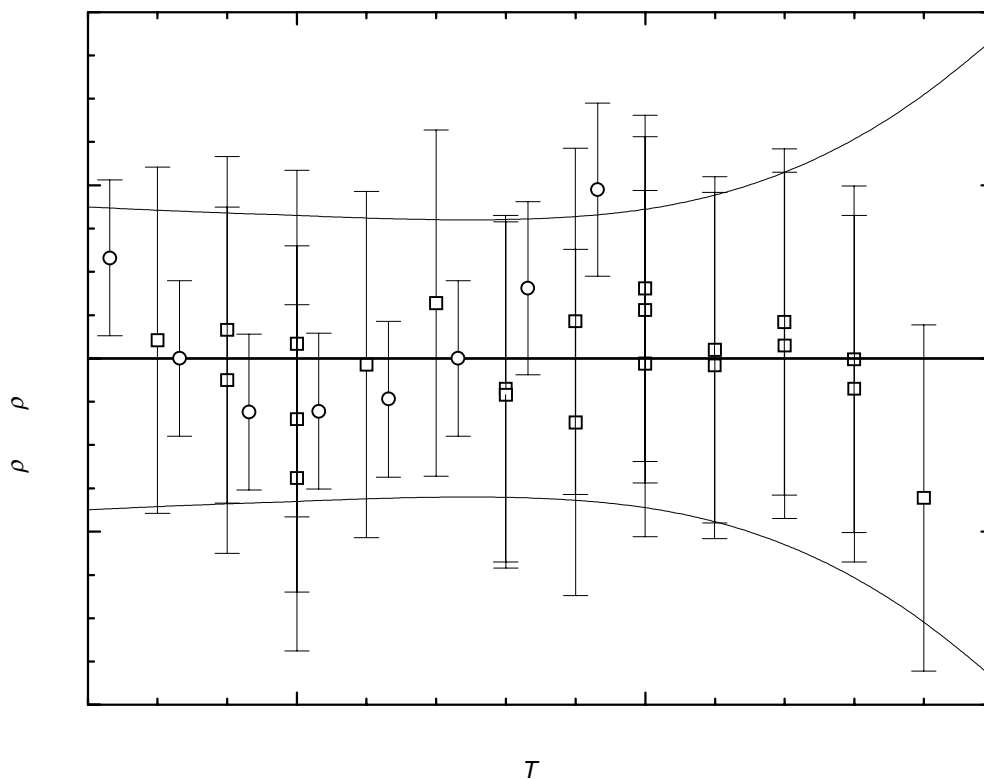


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the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

1,3-Dichloro-1,1,2,2,3-
pentafluoropropane

[507-55-1]

C₃HCl₂F₅

MW = 202.94

553

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

$\sigma_{c,w} = 8.8172 \cdot 10^{-1}$ (combined temperature ranges, weighted), $\sigma_{c,uw} = 1.8541 \cdot 10^{-1}$ (combined temperature ranges, unweighted).

Coefficient	$T = 273.15 \text{ to } 389.98 \text{ K}$
	$\rho = A + BT + CT^2 + DT^3 + \dots$
A	$1.87785 \cdot 10^3$
B	$1.72225 \cdot 10^{-1}$
C	$-4.19812 \cdot 10^{-3}$

cont.

1,3-Dichloro-1,1,2,2,3-pentafluoropropane (cont.)**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)
273.15	1613.20 ± 0.90	1.54	1990-kum/tak(□)	319.97	1502.80 ± 2.00	-0.35	1992-wid/mae(○)
283.15	1590.10 ± 0.90	0.07	1990-kum/tak(□)	319.98	1502.20 ± 2.00	-0.92	1992-wid/mae(○)
293.15	1566.90 ± 0.90	-0.66	1990-kum/tak(□)	329.97	1476.90 ± 2.00	-0.68	1992-wid/mae(○)
303.15	1543.50 ± 0.90	-0.75	1990-kum/tak(□)	329.98	1476.30 ± 2.00	-1.26	1992-wid/mae(○)
313.15	1519.80 ± 0.90	-0.30	1990-kum/tak(□)	339.97	1451.90 ± 2.00	0.72	1992-wid/mae(○)
323.15	1495.40 ± 0.90	0.29	1990-kum/tak(□)	339.98	1451.70 ± 2.00	0.55	1992-wid/mae(○)
333.15	1470.60 ± 0.90	1.32	1990-kum/tak(□)	349.96	1424.90 ± 2.00	0.94	1992-wid/mae(○)
343.15	1445.10 ± 1.00	2.49	1990-kum/tak(□)	349.97	1423.80 ± 2.00	-0.14	1992-wid/mae(○)
353.15	1418.80 ± 1.00	3.70	1990-kum/tak ¹⁾	359.96	1395.20 ± 2.00	-0.68	1992-wid/mae(○)
279.99	1598.00 ± 2.00	1.04	1992-wid/mae(○)	359.98	1397.10 ± 2.00	1.27	1992-wid/mae(○)
289.98	1574.60 ± 2.00	-0.17	1992-wid/mae(○)	369.98	1368.20 ± 2.00	1.30	1992-wid/mae(○)
289.99	1574.50 ± 2.00	-0.25	1992-wid/mae(○)	379.97	1337.60 ± 2.00	0.43	1992-wid/mae(○)
299.98	1551.20 ± 2.00	-0.53	1992-wid/mae(○)	379.98	1337.60 ± 2.00	0.46	1992-wid/mae(○)
299.99	1550.90 ± 2.00	-0.81	1992-wid/mae(○)	389.97	1305.20 ± 2.00	-1.37	1992-wid/mae(○)
309.97	1526.40 ± 2.00	-1.47	1992-wid/mae(○)	389.98	1305.20 ± 2.00	-1.34	1992-wid/mae(○)
309.98	1527.10 ± 2.00	-0.74	1992-wid/mae(○)	399.98	1270.90 ± 2.00	-4.20	1992-wid/mae ¹⁾

¹⁾ Not included in Fig. 1.**Further references:** [1949-cof/cra, 1993-kum/tak].**Table 3.** Recommended values (fit to the reliable experimental values according to the equations

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

$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$	$\frac{T}{K}$	$\frac{\rho \pm \sigma_{\text{fit}}}{\text{kg} \cdot \text{m}^{-3}}$
270.00	1618.30 ± 1.72	310.00	1527.80 ± 1.65	370.00	1366.85 ± 2.04
280.00	1596.94 ± 1.71	320.00	1503.07 ± 1.62	380.00	1337.08 ± 2.37
290.00	1574.73 ± 1.70	330.00	1477.50 ± 1.61	390.00	1306.48 ± 2.83
293.15	1567.56 ± 1.69	340.00	1451.10 ± 1.63	400.00	1275.04 ± 3.42
298.15	1556.01 ± 1.68	350.00	1423.85 ± 1.69		
300.00	1551.68 ± 1.67	360.00	1395.77 ± 1.82		

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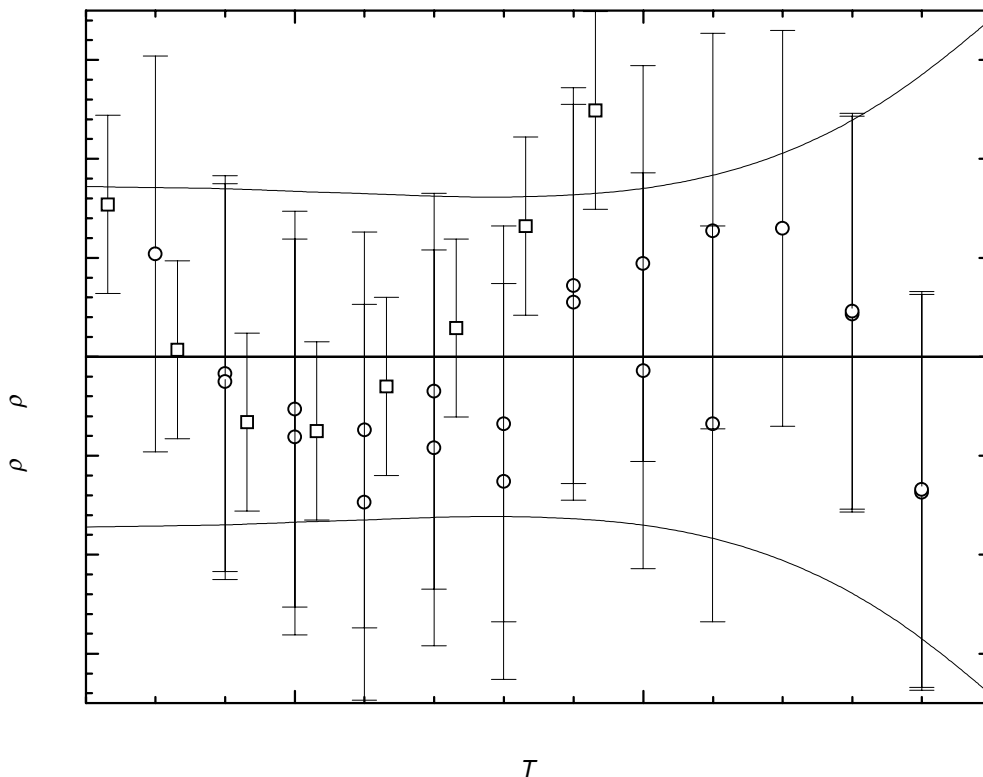


Fig. 1. The symbols show the deviation of the calculated from the experimental values from Table 2. The curves above and below the zero line indicate the calculated error region of the recommended values given in Table 3. The error bars represent the experimental errors. (Error bars smaller than the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

1,1,3-Trichloro-1,2,3,3-tetrafluoropropane

[53063-53-9]

C₃HCl₃F₄

MW = 219.39

554

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
298.15	1616.20 ± 2.00	1949-cof/cra

1,1,3-Trichloro-2,2,3,3-tetrafluoropropane

[422-54-8]

C₃HCl₃F₄

MW = 219.39

555

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ kg · m ⁻³	Ref.
298.15	1611.50 ± 2.00	1949-cof/cra

1,1,3,3-Tetrachloro-1,2,2-trifluoropropane

[422-52-6]



MW = 235.85

556

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	1670.40 ± 2.00	1949-cof/cra

1,1,1,3,3-Pentachloro-2,2-difluoropropane

[422-49-1]



MW = 252.30

557

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	1724.10 ± 3.00	1949-cof/cra

1,1-Dichloro-1,3,3,3-tetrafluoropropane [64712-27-2]

MW = 184.95

558

Table 1. Fit with estimated B coefficient for 6 accepted points. Deviation $\sigma_w = 2.960$.

Coefficient	$\rho = A + BT$
A	2066.67
B	-2.000

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.
284.44	1501.70 ± 0.80	3.91	1976-var/bul	298.24	1467.50 ± 0.80	-2.69	1976-var/bul
288.25	1490.40 ± 0.80	0.23	1976-var/bul	312.65	1437.50 ± 0.80	-3.87	1976-var/bul
293.01	1479.40 ± 0.80	-1.25	1976-var/bul	323.72	1422.90 ± 0.80	3.67	1976-var/bul

Table 3. Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	1506.7 ± 3.4
290.00	1486.7 ± 3.1
293.15	1480.4 ± 3.1
298.15	1470.4 ± 3.0
310.00	1446.7 ± 3.1
320.00	1426.7 ± 3.4
330.00	1406.7 ± 3.7

1,1-Dichloro-3,3,3-trifluoropropane [460-69-5] **C₃H₃Cl₂F₃** MW = 166.96 559**Table 1.** Fit with estimated B coefficient for 6 accepted points. Deviation $\sigma_w = 0.540$.

Coefficient	$\rho = A + BT$
A	2037.70
B	-2.040

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.
288.11	1449.00 \pm 0.80	-0.95	1973-var/bul	311.45	1402.70 \pm 0.80	0.36	1973-var/bul
293.15	1439.40 \pm 0.80	-0.27	1973-var/bul	321.53	1382.30 \pm 0.80	0.52	1973-var/bul
298.13	1429.30 \pm 0.80	-0.21	1973-var/bul	332.97	1359.00 \pm 0.80	0.56	1973-var/bul

Table 3. Recommended values.

$\frac{T}{K}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	1466.5 \pm 1.2
290.00	1446.1 \pm 1.0
293.15	1439.7 \pm 1.0
298.15	1429.5 \pm 0.9
310.00	1405.3 \pm 0.9
320.00	1384.9 \pm 1.0
330.00	1364.5 \pm 1.1
340.00	1344.1 \pm 1.3

1,1,1-Trichloro-3,3,3-trifluoropropane [7125-84-0] **C₃H₂Cl₃F₃** MW = 201.4 560**Table 1.** Fit with estimated B coefficient for 7 accepted points. Deviation $\sigma_w = 0.529$.

Coefficient	$\rho = A + BT$
A	2121.69
B	-1.950

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.
287.53	1560.20 \pm 0.80	-0.81	1973-var/bul	321.52	1495.20 \pm 0.80	0.48	1973-var/bul
293.14	1549.50 \pm 0.80	-0.57	1973-var/bul	332.98	1472.90 \pm 0.80	0.52	1973-var/bul
298.14	1539.90 \pm 0.80	-0.42	1973-var/bul	343.25	1452.80 \pm 0.80	0.45	1973-var/bul
312.63	1512.40 \pm 0.80	0.34	1973-var/bul				

cont.

1,1,1-trichloro-3,3,3-trifluoropropane (cont.)**Table 3.** Recommended values.

$\frac{T}{\text{K}}$	$\frac{\rho_{\text{exp}} \pm 2\sigma_{\text{est}}}{\text{kg} \cdot \text{m}^{-3}}$
280.00	1575.7 ± 1.3
290.00	1556.2 ± 1.1
293.15	1550.0 ± 1.1
298.15	1540.3 ± 1.0
310.00	1517.2 ± 0.9
320.00	1497.7 ± 0.9
330.00	1478.2 ± 1.0
340.00	1458.7 ± 1.2
350.00	1439.2 ± 1.4

1,2-Dichloro-2-fluoropropane [420-97-3] **C₃H₅Cl₂F** **MW = 130.98** **561**

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	1262.40 ± 0.50	1943-hen/plu-1

1-Chloro-1-fluoropropane [430-55-7] **C₃H₆ClF** **MW = 96.53** **562**

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	1030.00 ± 2.00	1943-hen/plu-1

1-Chloro-2-fluoropropane [430-46-6] **C₃H₆ClF** **MW = 96.53** **563**

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	1086.00 ± 1.50	1943-hen/plu-1

2-Chloro-2-fluoropropane [420-44-0] **C₃H₆ClF** **MW = 96.53** **564**

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	998.20 ± 0.50	1943-hen/plu-1

1,2-Dichloro-1,1,3,3,3-pentafluoro-2-(trifluoromethyl)propane [354-91-6] C₄Cl₂F₈ MW = 270.94 565

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	1708.00 ± 1.00	1957-lac/kia-2

1,2-Dichloro-1,1,2,3,3,4,4,4-octafluorobutane [355-21-5] C₄Cl₂F₈ MW = 270.94 566

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	1669.50 ± 3.00	1957-lac/kia-2

2,2,3-Trichloroheptafluorobutane [335-44-4] C₄Cl₃F₇ MW = 287.39 567

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	1739.40 ± 0.70	1959-yen/ree

1,2-Dichloro-1,1,3,3,3-pentafluoro-2-methylpropane [374-45-8] C₄H₃Cl₂F₅ MW = 216.97 568

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	1513.30 ± 2.00	1950-hen/she

1,1,2-Trichloro-3,3,3-trifluoro-2-methylpropane [558-62-3] C₄H₄Cl₃F₃ MW = 215.43 569

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	1520.10 ± 2.50	1950-hen/she

1,2-Dichloro-3,3,3-trifluoro-2-methylpropane [374-18-5] C₄H₅Cl₂F₃ MW = 180.98 570

Table 1. Experimental value with uncertainty.

T	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$	Ref.
K	kg · m ⁻³	
293.15	1389.90 ± 2.00	1950-hen/she

1,2,3-Trichloro-1,1-difluoro-2-methylpropane [374-17-4] C₄H₅Cl₃F₂ MW = 197.44 571

Table 1. Experimental value with uncertainty.

T	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$	Ref.
K	kg · m ⁻³	
293.15	1444.10 ± 2.00	1950-hen/she

1-Chloro-1-fluoro-2-methylpropane [359-26-2] C₄H₈ClF MW = 110.56 572

Table 1. Experimental value with uncertainty.

T	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$	Ref.
K	kg · m ⁻³	
293.15	1036.20 ± 0.50	1943-hen/plu-1

1,2-Dichlorodecafluoropentane [375-69-9] C₅Cl₂F₁₀ MW = 320.94 573

Table 1. Experimental value with uncertainty.

T	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$	Ref.
K	kg · m ⁻³	
293.15	1722.50 ± 1.00	1957-lac/kia-2

1,2-Dichloro-3,3-difluoropentane [337-95-1] C₅H₈Cl₂F₂ MW = 177.02 574

Table 1. Experimental value with uncertainty.

T	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$	Ref.
K	kg · m ⁻³	
293.15	1284.00 ± 1.50	1948-hen/dew

1,4-Dichloro-3,3-difluoropentane [338-14-7] C₅H₈Cl₂F₂ MW = 177.02 575

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	1289.90 ± 1.80	1948-hen/dew

1,5-Dichloro-3,3-difluoropentane [381-42-0] C₅H₈Cl₂F₂ MW = 177.02 576

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	1317.90 ± 1.50	1948-hen/dew

1-Chloro-3,3-difluoropentane [381-33-9] C₅H₉ClF₂ MW = 142.58 577

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	1127.80 ± 1.20	1948-hen/dew

2-Chloro-3,3-difluoropentane [378-28-9] C₅H₉ClF₂ MW = 142.58 578

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	1108.50 ± 1.00	1948-hen/dew