

3.2.2 Chloroalkadienes and Chloroalkynes

Dichloroethyne [7572-29-4] C_2Cl_2 MW = 94.93 791

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref.
293.15	1261.00 ± 4.00	1942-ott

3-Chloro-1-propyne [624-65-7] $\text{C}_3\text{H}_3\text{Cl}$ MW = 74.51 792

Table 1. Fit with estimated B coefficient for 2 accepted points. Deviation $\sigma_w = 0.000$.

Coefficient	$\rho = A + BT$
A	1369.75
B	-1.160

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.
293.15	1029.70 ± 1.00	0.00	1951-hat/chi
298.15	1023.90 ± 1.00	0.00	1951-hat/chi

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$
290.00	1033.4 ± 1.0
293.15	1029.7 ± 0.9
298.15	1023.9 ± 0.9

1,1,2,3-Tetrachloro-1,3-butadien [921-09-5] $\text{C}_4\text{H}_2\text{Cl}_4$ MW = 191.87 793

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref.
293.15	1484.10 ± 2.00	1963-ako/saa

1,2,3-Trichloro-1,3-butadiene [1573-58-6] $\text{C}_4\text{H}_3\text{Cl}_3$ MW = 157.43 794

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref.
293.15	1389.40 ± 4.00	1965-bab/pet

1-Chloro-2-butyne [3355-17-7] $\text{C}_4\text{H}_5\text{Cl}$ MW = 88.54 795

Table 1. Fit with estimated B coefficient for 3 accepted points. Deviation $\sigma_w = 0.354$.

Coefficient	$\rho = A + BT$
A	1275.85
B	-0.890

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.
293.15	1015.20 ± 1.00	0.25	1951-hat/chi
298.15	1010.00 ± 1.00	-0.50	1951-hat/chi
303.15	1006.30 ± 1.00	0.25	1951-hat/chi

Table 3. Recommended values.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$
290.00	1017.8 ± 1.1
293.15	1015.0 ± 1.0
298.15	1010.5 ± 1.0
310.00	1000.0 ± 1.2

2-Chloro-3-methyl-1,3-butadiene [1809-02-5] $\text{C}_5\text{H}_7\text{Cl}$ MW = 102.56 796

Table 1. Experimental value with uncertainty.

T K	$\rho_{\text{exp}} \pm 2\sigma_{\text{est}}$ $\text{kg} \cdot \text{m}^{-3}$	Ref.
293.15	959.30 ± 1.00	1932-car/cor

5-Chloro-1-pentyne**[14267-92-6]****C₅H₇Cl****MW = 102.56****797****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	967.80 \pm 1.50	1945-hen/gre
293.15	969.50 \pm 1.00	1952-cam/fat
293.15	969.00 \pm 1.10	Recommended

2-(Chloromethyl)-1,1,5,5-tetrachloro-1,4-pentadiene**[89380-53-0]****C₆H₅Cl₅****MW = 254.37****798****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	1503.00 \pm 2.00	1963-kos/vas

2-Chloro-3-methyl-1,3-pentadiene**[116530-45-1]****C₆H₉Cl****MW = 116.59****799****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	943.70 \pm 1.00	1932-car/cor

3-Chloro-3-methyl-1-pentyne**[14719-94-3]****C₆H₉Cl****MW = 116.59****800****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	916.30 \pm 1.00	1940-cam/eby

2-(3-Chloropropyl)-1,1,5,5-tetrachloro-1,4-pentadiene**[90532-48-2]****C₈H₉Cl₅****MW = 282.42****801****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	1403.00 \pm 2.00	1963-kos/vas

1,2-Dichloro-3,4-dimethyl-1,3-hexadiene [1559-58-6] $\text{C}_8\text{H}_{12}\text{Cl}_2$ MW = 179.09 802

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	1059.90 ± 2.00	1965-fav/tol

2,5-Dichloro-2,5-dimethyl-3-hexyne [500026-65-3] $\text{C}_8\text{H}_{12}\text{Cl}_2$ MW = 179.09 803

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	1009.00 ± 2.00	1946-hen/ban

2,6-Dichloro-2,6-octadiene [99548-49-9] $\text{C}_8\text{H}_{12}\text{Cl}_2$ MW = 179.09 804

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	1010.80 ± 2.00	1960-kle/vos

2,7-Dichloro-2,6-octadiene [17817-99-1] $\text{C}_8\text{H}_{12}\text{Cl}_2$ MW = 179.09 805

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	1056.60 ± 2.00	1960-kle/vos

3-Chloro-5,5-dimethyl-1,3-hexadiene [101567-57-1] $\text{C}_8\text{H}_{13}\text{Cl}$ MW = 144.64 806

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	907.70 ± 2.00	1959-mar/pet

5-Chloro-5-methyl-3-heptyne [500026-06-2] $\text{C}_8\text{H}_{13}\text{Cl}$ MW = 144.64 807

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	910.00 ± 1.00	1940-cam/eby

2-Chloro-2-methyl-3-octyne [20599-21-7] $\text{C}_9\text{H}_{15}\text{Cl}$ MW = 158.67 808

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	892.90 ± 1.00	1940-cam/eby

3-Chloro-5,5-dimethyl-1,3-heptadiene [102872-75-3] $\text{C}_9\text{H}_{15}\text{Cl}$ MW = 158.67 809

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	923.00 ± 2.00	1959-mar/pet

2-(5-Chloropentyl)-1,1,5,5-tetrachloro-1,4-pentadiene [90944-36-8] $\text{C}_{10}\text{H}_{13}\text{Cl}_5$ MW = 310.48 810

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	1331.40 ± 2.00	1963-kos/vas

3-Chloro-5,5-diethyl-1,3-hexadiene [99975-32-3] $\text{C}_{10}\text{H}_{17}\text{Cl}$ MW = 172.7 811

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	926.10 ± 2.00	1959-mar/pet

3-Chloro-5,5-diethyl-1,3-heptadiene [100399-60-8] $\text{C}_{11}\text{H}_{19}\text{Cl}$ MW = 186.72 812

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	934.90 ± 2.00	1959-mar/pet

3-Chloro-3-methyl-4-decyne [500026-09-5] $\text{C}_{11}\text{H}_{19}\text{Cl}$ MW = 186.72 813

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	1158.05 ± 1.00	1940-cam/eby