

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm\*

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
Acenaphthalene	C <sub>12</sub> H <sub>10</sub>		114.8	131.2	148.7	168.2	181.2	197.5	222.1	250.0	277.5	95
Acetal	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	-23.0	-2.3	+8.0	19.6	31.9	39.8	50.1	66.3	84.0	102.2	
Acetaldehyde	C <sub>2</sub> H <sub>4</sub> O	-81.5	-65.1	-56.8	-47.8	-37.8	-31.4	-22.6	-10.0	+4.9	20.2	-123.5
Acetamide	C <sub>2</sub> H <sub>5</sub> NO	65.0	92.0	105.0	120.0	135.8	145.8	158.0	178.3	200.0	222.0	81
Acetanilide	C <sub>8</sub> H <sub>9</sub> NO	114.0	146.6	162.0	180.0	199.6	211.8	227.2	250.5	277.0	303.8	113.5
Acetic acid	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	-17.2	+6.3	17.5	29.9	43.0	51.7	63.0	80.0	99.0	118.1	16.7
anhydride	C <sub>4</sub> H <sub>6</sub> O <sub>3</sub>	1.7	24.8	36.0	48.3	62.1	70.8	82.2	100.0	119.8	139.6	-73
Acetone	C <sub>3</sub> H <sub>6</sub> O	-59.4	-40.5	-31.1	-20.8	-9.4	-2.0	+7.7	22.7	39.5	56.5	-94.6
Acetonitrile	C <sub>2</sub> H <sub>3</sub> N	-47.0	-26.6	-16.3	-5.0	+7.7	15.9	27.0	43.7	62.5	81.8	-41
Acetophenone	C <sub>8</sub> H <sub>8</sub> O	37.1	64.0	78.0	92.4	109.4	119.8	133.6	154.2	178.0	202.4	20.5
Acetyl chloride	C <sub>2</sub> H <sub>3</sub> OCl	-50.0	-35.0	-27.6	-19.6	-10.4	-4.5	+3.2	16.1	32.0	50.8	-112.0
Acetylene	C <sub>2</sub> H <sub>2</sub>	-142.9	-133.0	-128.2	-122.8	-116.7	-112.8	-107.9	-100.3	-92.0	-84.0	-81.5
Acridine	C <sub>13</sub> H <sub>9</sub> N	129.4	165.8	184.0	203.5	224.2	238.7	256.0	284.0	314.3	346.0	110.5
Acrolein (2-propenal)	C <sub>3</sub> H <sub>4</sub> O	-64.5	-46.0	-36.7	-26.3	-15.0	-7.5	+2.5	17.5	34.5	52.5	-87.7
Acrylic acid	C <sub>3</sub> H <sub>4</sub> O <sub>2</sub>	+3.5	27.3	39.0	52.0	66.2	75.0	86.1	103.3	122.0	141.0	14
Adipic acid	C <sub>6</sub> H <sub>10</sub> O <sub>4</sub>	159.5	191.0	205.5	222.0	240.5	251.0	265.0	287.8	312.5	337.5	152
Allene (propadiene)	C <sub>3</sub> H <sub>4</sub>	-120.6	-108.0	-101.0	-93.4	-85.2	-78.8	-72.5	-61.3	-48.5	-35.0	-136
Allyl alcohol (propen-1-ol-3)	C <sub>3</sub> H <sub>6</sub> O	-20.0	+0.2	10.5	21.7	33.4	40.3	50.0	64.5	80.2	96.6	-129
chloride (3-chloropropene)	C <sub>3</sub> H <sub>5</sub> Cl	-70.0	-52.0	-42.9	-32.8	-21.2	-14.1	-4.5	10.4	27.5	44.6	-136.4
isopropyl ether	C <sub>6</sub> H <sub>12</sub> O	-43.7	-23.1	-12.9	-1.8	+10.9	18.7	29.0	44.3	61.7	79.5	
isothiocyanate	C <sub>3</sub> H <sub>2</sub> NS	-2.0	+25.3	38.3	52.1	67.4	76.2	89.5	108.0	129.8	150.7	-80
<i>n</i> -propyl ether	C <sub>6</sub> H <sub>12</sub> O	-39.0	-18.2	-7.9	+3.7	16.4	25.0	35.8	52.6	71.4	90.5	
4-Allylveratrole	C <sub>11</sub> H <sub>14</sub> O <sub>2</sub>	85.0	113.9	127.0	142.8	158.3	169.6	183.7	204.0	226.2	248.0	
iso-Amyl acetate	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	0.0	+23.7	35.2	47.8	62.1	71.0	83.2	101.3	121.5	142.0	
<i>n</i> -Amyl alcohol	C <sub>6</sub> H <sub>12</sub> O	+13.6	34.7	44.9	55.8	68.0	75.5	85.8	102.0	119.8	137.8	
iso-Amyl alcohol	C <sub>6</sub> H <sub>12</sub> O	+10.0	30.9	40.8	51.7	63.4	71.0	80.7	95.8	113.7	130.6	-117.2
sec-Amyl alcohol (2-pentanol)	C <sub>5</sub> H <sub>12</sub> O	+1.5	22.1	32.2	42.6	54.1	61.5	70.7	85.7	102.3	119.7	
tert-Amyl alcohol	C <sub>5</sub> H <sub>12</sub> O	-12.9	+7.2	17.2	27.9	38.8	46.0	55.3	69.7	85.7	101.7	-11.9
sec-Amylbenzene	C <sub>11</sub> H <sub>16</sub>	29.0	55.8	69.2	83.8	100.0	110.4	124.1	145.2	168.0	193.0	
iso-Amyl benzoate	C <sub>12</sub> H <sub>16</sub> O <sub>2</sub>	72.0	104.5	121.6	139.7	158.3	171.4	186.8	210.2	235.8	262.0	
bromide (1-bromo-3-methylbutane)	C <sub>6</sub> H <sub>11</sub> Br	-20.4	+2.1	13.6	26.1	39.8	48.7	60.4	78.7	99.4	120.4	
<i>n</i> -butyrate	C <sub>9</sub> H <sub>18</sub> O <sub>2</sub>	21.2	47.1	59.9	74.0	90.0	99.8	113.1	133.2	155.3	178.6	
formate	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	-17.5	+5.4	17.1	30.0	44.0	53.3	65.4	83.2	102.7	123.3	
iodide (1-iodo-3-methylbutane)	C <sub>6</sub> H <sub>11</sub> I	-2.5	+21.9	34.1	47.6	62.3	71.9	84.4	103.8	125.8	148.2	
isobutyrate	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	14.8	40.1	52.8	66.6	81.8	91.7	104.4	124.2	146.0	168.8	
Amyl isopropionate	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	+8.5	33.7	46.3	60.0	75.5	85.2	97.6	117.3	138.4	160.2	
iso-Amyl isovalerate	C <sub>10</sub> H <sub>20</sub> O <sub>2</sub>	27.0	54.4	68.6	83.8	100.6	110.3	125.1	146.1	169.5	194.0	
<i>n</i> -Amyl levulinate	C <sub>10</sub> H <sub>18</sub> O <sub>3</sub>	81.3	110.0	124.0	139.7	155.8	165.2	180.5	203.1	227.4	253.2	
iso-Amyl levulinate	C <sub>10</sub> H <sub>18</sub> O <sub>3</sub>	75.6	104.0	118.8	134.4	151.7	162.6	177.0	198.1	222.7	247.9	
nitrate	C <sub>8</sub> H <sub>11</sub> NO <sub>3</sub>	+5.2	28.8	40.3	53.5	67.6	76.3	88.6	106.7	126.5	147.5	
4-tert-Amylphenol	C <sub>11</sub> H <sub>16</sub> O	109.8	125.5	142.3	160.3	172.6	189.0	213.0	239.5	266.0	293.0	93
Anethole	C <sub>10</sub> H <sub>12</sub> O	62.6	91.6	106.0	121.8	139.3	149.8	164.2	186.1	210.5	235.3	22.5
Angelonitrile	C <sub>7</sub> H <sub>7</sub> N	-8.0	+15.0	28.0	41.0	55.8	65.2	77.5	96.3	117.7	140.0	
Aniline	C <sub>6</sub> H <sub>7</sub> N	34.8	57.9	69.4	82.0	96.7	106.0	119.9	140.1	161.9	184.4	-6.2
2-Anilinoethanol	C <sub>8</sub> H <sub>11</sub> NO	104.0	134.3	149.6	165.7	183.7	194.0	209.5	230.6	254.5	279.6	
Anisaldehyde	C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	73.2	102.6	117.8	133.5	150.5	161.7	176.7	199.0	223.0	248.0	2.5
<i>o</i> -Anisidine (2-methoxyaniline)	C <sub>7</sub> H <sub>9</sub> NO	61.0	88.0	101.7	116.1	132.0	142.1	155.2	175.3	197.3	218.5	5.2
Anthracene	C <sub>14</sub> H <sub>10</sub>	145.0	173.5	187.2	201.9	217.5	231.8	250.0	279.0	310.2	342.0	217.5
Anthraquinone	C <sub>14</sub> H <sub>8</sub> O <sub>2</sub>	190.0	219.4	234.2	248.3	264.3	273.3	285.0	314.6	346.2	379.9	286
Azelaic acid	C <sub>9</sub> H <sub>16</sub> O <sub>4</sub>	178.3	210.4	225.5	242.4	260.0	271.8	286.5	309.6	332.8	356.5	106.5
Azelaldehyde	C <sub>9</sub> H <sub>16</sub> O	33.3	58.4	71.6	85.0	100.2	110.0	123.0	142.1	163.4	185.0	
Azobenzene	C <sub>12</sub> H <sub>10</sub> N <sub>2</sub>	103.5	135.7	151.5	168.3	187.9	199.8	216.0	240.0	266.1	293.0	68
Benzal chloride (α,α-Dichlorotoluene)	C <sub>7</sub> H <sub>6</sub> Cl <sub>2</sub>	35.4	64.0	78.7	94.3	112.1	123.4	138.3	160.7	187.0	214.0	-16.1
Benzaldehyde	C <sub>7</sub> H <sub>6</sub> O	26.2	50.1	62.0	75.0	90.1	99.6	112.5	131.7	154.1	179.0	-26
Benzanthrone	C <sub>17</sub> H <sub>10</sub> O	225.0	274.5	297.2	322.5	350.0	368.8	390.0	426.5			174
Benzene	C <sub>6</sub> H <sub>6</sub>	-36.7	-19.6	-11.5	-2.6	+7.6	15.4	26.1	42.2	60.6	80.1	+5.5
Benzenesulfonylchloride	C <sub>6</sub> H <sub>5</sub> ClO <sub>2</sub> S	65.9	96.5	112.0	129.0	147.7	158.2	174.5	198.0	224.0	251.5	14.5
Benzil	C <sub>14</sub> H <sub>10</sub> O <sub>2</sub>	128.4	165.2	183.0	202.8	224.5	238.2	255.8	283.5	314.3	347.0	95
Benzoic acid	C <sub>7</sub> H <sub>6</sub> O <sub>2</sub>	96.0	119.5	132.1	146.7	162.6	172.8	186.2	205.8	227.0	249.2	121.7
anhydride	C <sub>14</sub> H <sub>10</sub> O <sub>3</sub>	143.8	180.0	198.0	218.0	239.8	252.7	270.4	299.1	328.8	360.0	42
Benzoin	C <sub>14</sub> H <sub>12</sub> O <sub>2</sub>	135.6	170.2	188.1	207.0	227.6	241.7	258.0	284.4	313.5	343.0	132
Benzonitrile	C <sub>7</sub> H <sub>5</sub> N	28.2	55.3	69.2	83.4	99.6	109.8	123.5	144.1	166.7	190.6	-12.9
Benzophenone	C <sub>13</sub> H <sub>10</sub> O	108.2	141.7	157.6	175.8	195.7	208.2	224.4	249.8	276.8	305.4	48.5
Benzotrifluoride (α,α,α-Trichlorotoluene)	C <sub>7</sub> H <sub>3</sub> Cl <sub>3</sub>	45.8	73.7	87.6	102.7	119.8	130.0	144.3	165.6	189.2	213.5	-21.2
Benzotrifluoride (α,α,α-Trifluorotoluene)	C <sub>7</sub> H <sub>3</sub> F <sub>3</sub>	-32.0	-10.3	-0.4	12.2	25.7	34.0	45.3	62.5	82.0	102.2	-29.3
Benzoyl bromide	C <sub>7</sub> H <sub>5</sub> BrO	47.0	75.4	89.8	105.4	122.6	133.4	147.7	169.2	193.7	218.5	0
chloride	C <sub>7</sub> H <sub>5</sub> ClO	32.1	59.1	73.0	87.6	103.8	114.7	128.0	149.5	172.8	197.2	-0.5
nitrile	C <sub>8</sub> H <sub>5</sub> NO	44.5	71.7	85.5	100.2	116.6	127.0	141.0	161.3	185.0	208.0	33.5
Benzyl acetate	C <sub>9</sub> H <sub>10</sub> O <sub>2</sub>	45.0	73.4	87.6	102.3	119.6	129.8	144.0	165.5	189.0	213.5	-51.5
alcohol	C <sub>7</sub> H <sub>8</sub> O	58.0	80.8	92.6	105.8	119.8	129.3	141.7	160.0	183.0	204.7	-15.3

\*Compiled from the extended tables published by D. R. Stull in *Ind. Eng. Chem.*, **39**, 517 (1947). For information on fuels see Hibbard, N.A.C.A. Research Mem. E56121, 1956. For methane see Johnson (ed.), WADD-TR-60-56, 1960.

## 2-62 PHYSICAL AND CHEMICAL DATA

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
Benzylamine	C <sub>7</sub> H <sub>9</sub> N	29.0	54.8	67.7	81.8	97.3	107.3	120.0	140.0	161.3	184.5	
Benzyl bromide ( $\alpha$ -bromotoluene)	C <sub>7</sub> H <sub>7</sub> Br	32.2	59.6	73.4	88.3	104.8	115.6	129.8	150.8	175.2	198.5	-4
chloride ( $\alpha$ -chlorotoluene)	C <sub>7</sub> H <sub>7</sub> Cl	22.0	47.8	60.8	75.0	90.7	100.5	114.2	134.0	155.8	179.4	-39
cinnamate	C <sub>16</sub> H <sub>14</sub> O <sub>2</sub>	173.8	206.3	221.5	239.3	255.8	267.0	281.5	303.8	326.7	350.0	39
Benzylchlorosilane	C <sub>7</sub> H <sub>7</sub> Cl <sub>2</sub> Si	45.3	70.2	83.2	96.7	111.8	121.3	133.5	152.0	173.0	194.3	
Benzyl ethyl ether	C <sub>9</sub> H <sub>12</sub> O	26.0	52.0	65.0	79.6	95.4	105.5	118.9	139.6	161.5	185.0	
phenyl ether	C <sub>12</sub> H <sub>10</sub> O	95.4	127.7	144.0	160.7	180.1	192.6	209.2	233.2	259.8	287.0	
isothiocyanate	C <sub>8</sub> H <sub>7</sub> NS	79.5	107.8	121.8	137.0	153.0	163.8	177.7	198.0	220.4	243.0	
Biphenyl	C <sub>12</sub> H <sub>10</sub>	70.6	101.8	117.0	134.2	152.5	165.2	180.7	204.2	229.4	254.9	69.5
1-Biphenyloxy-2,3-epoxypropane	C <sub>15</sub> H <sub>14</sub> O <sub>2</sub>	135.3	169.9	187.2	205.8	226.3	239.7	255.0	280.4	309.8	340.0	
<i>d</i> -Bornyl acetate	C <sub>12</sub> H <sub>20</sub> O <sub>2</sub>	46.9	75.7	90.2	106.0	123.7	135.7	149.8	172.0	197.5	223.0	29
Bornyl <i>n</i> -butyrate	C <sub>14</sub> H <sub>24</sub> O <sub>2</sub>	74.0	103.4	118.0	133.8	150.7	161.8	176.4	198.0	222.2	247.0	
formate	C <sub>11</sub> H <sub>18</sub> O <sub>2</sub>	47.0	74.8	89.3	104.0	121.2	131.7	145.8	166.4	190.2	214.0	
isobutyrate	C <sub>14</sub> H <sub>24</sub> O <sub>2</sub>	70.0	99.8	114.0	130.0	147.2	157.6	172.2	194.2	218.2	243.0	
propionate	C <sub>15</sub> H <sub>22</sub> O <sub>2</sub>	64.6	93.7	108.0	123.7	140.4	151.2	165.7	187.5	211.2	235.0	
Brassicidic acid	C <sub>22</sub> H <sub>32</sub> O <sub>2</sub>	209.6	241.7	256.0	272.9	290.0	301.5	316.2	336.8	359.6	382.5	61.5
Bromoacetic acid	C <sub>2</sub> H <sub>3</sub> BrO <sub>2</sub>	54.7	81.6	94.1	108.2	124.0	133.8	146.3	165.8	186.7	208.0	49.5
4-Bromoanisole	C <sub>7</sub> H <sub>7</sub> BrO	48.8	77.8	91.9	107.8	125.0	136.0	150.1	172.7	197.5	223.0	12.5
Bromobenzene	C <sub>6</sub> H <sub>5</sub> Br	+2.9	27.8	40.0	53.8	68.6	78.1	90.8	110.1	132.3	156.2	-30.7
4-Bromobiphenyl	C <sub>12</sub> H <sub>9</sub> Br	98.0	133.7	150.6	169.8	190.8	204.5	221.8	248.2	277.7	310.0	90.5
1-Bromo-2-butanol	C <sub>4</sub> H <sub>9</sub> BrO	23.7	45.4	55.8	67.2	79.5	87.0	97.6	112.1	128.3	145.0	
1-Bromo-2-butanone	C <sub>4</sub> H <sub>7</sub> BrO	+6.2	30.0	41.8	54.2	68.2	77.3	89.2	107.0	126.3	147.0	
<i>cis</i> -1-Bromo-1-butene	C <sub>4</sub> H <sub>7</sub> Br	-44.0	-23.2	-12.8	-1.4	+11.5	19.8	30.8	47.8	66.8	86.2	
<i>trans</i> -1-Bromo-1-butene	C <sub>4</sub> H <sub>7</sub> Br	-38.4	-17.0	-6.4	+5.4	18.4	27.2	38.1	55.7	75.0	94.7	-100.3
2-Bromo-1-butene	C <sub>4</sub> H <sub>7</sub> Br	-47.3	-27.0	-16.8	-5.3	+7.2	15.4	26.3	42.8	61.9	81.0	-133.4
<i>cis</i> -2-Bromo-2-butene	C <sub>4</sub> H <sub>7</sub> Br	-39.0	-17.9	-7.2	+4.6	17.7	26.2	37.5	54.5	74.0	93.9	-111.2
<i>trans</i> -2-Bromo-2-butene	C <sub>4</sub> H <sub>7</sub> Br	-45.0	-24.1	-13.8	-2.4	+10.5	18.7	29.9	46.5	66.0	85.5	-114.6
1,4-Bromochlorobenzene	C <sub>6</sub> H <sub>4</sub> BrCl	32.0	59.5	72.7	87.8	103.8	114.8	128.0	149.5	172.6	196.9	
1-Bromo-1-chloroethane	C <sub>2</sub> H <sub>4</sub> BrCl	-36.0	-18.0	-9.4	0.0	+10.4	17.0	28.0	44.7	63.4	82.7	16.6
1-Bromo-2-chloroethane	C <sub>2</sub> H <sub>4</sub> BrCl	-28.8	-7.0	+4.1	16.0	29.7	38.0	49.5	66.8	86.0	106.7	-16.6
2-Bromo-4,6-dichlorophenol	C <sub>6</sub> H <sub>3</sub> BrCl <sub>2</sub> O	84.0	115.6	130.8	147.7	165.8	177.6	193.2	216.5	242.0	268.0	68
1-Bromo-4-ethyl benzene	C <sub>8</sub> H <sub>9</sub> Br	30.4	42.5	54.0	66.2	79.2	89.5	101.0	115.5	132.0	150.0	-45.0
(2-Bromoethyl)-benzene	C <sub>8</sub> H <sub>9</sub> Br	48.0	76.2	90.5	105.8	123.2	133.8	148.2	169.8	194.0	219.0	
2-Bromoethyl 2-chloroethyl ether	C <sub>4</sub> H <sub>8</sub> BrClO	36.5	63.2	76.3	90.8	106.6	116.4	129.8	150.0	172.3	195.8	
(2-Bromoethyl)-cyclohexane	C <sub>8</sub> H <sub>15</sub> Br	38.7	66.6	80.5	95.8	113.0	123.7	138.0	160.0	186.2	213.0	
1-Bromoethylene	C <sub>2</sub> H <sub>3</sub> Br	-95.4	-77.8	-68.8	-58.8	-48.1	-41.2	-31.9	-17.2	-1.1	+15.8	-138
Bromoform (tribromomethane)	CHBr <sub>3</sub>		22.0	34.0	48.0	63.6	73.4	85.9	106.1	127.9	150.5	8.5
1-Bromonaphthalene	C <sub>10</sub> H <sub>7</sub> Br	84.2	117.5	133.6	150.2	170.2	183.5	198.8	224.2	252.0	281.1	5.5
2-Bromo-4-phenylphenol	C <sub>12</sub> H <sub>9</sub> BrO	100.0	135.4	152.3	171.8	193.8	207.0	224.5	251.0	280.2	311.0	95
3-Bromopyridine	C <sub>5</sub> H <sub>4</sub> BrN	16.8	42.0	55.2	69.1	84.1	94.1	107.8	127.7	150.0	173.4	
2-Bromotoluene	C <sub>7</sub> H <sub>7</sub> Br	24.4	49.7	62.3	76.0	91.0	100.0	112.0	133.6	157.3	181.8	-28
3-Bromotoluene	C <sub>7</sub> H <sub>7</sub> Br	14.8	50.8	64.0	78.1	93.9	104.1	117.8	138.0	160.0	183.7	39.8
4-Bromotoluene	C <sub>7</sub> H <sub>7</sub> Br	10.3	47.5	61.1	75.2	91.8	102.3	116.4	137.4	160.2	184.5	28.5
3-Bromo-2,4,6-trichlorophenol	C <sub>6</sub> H <sub>2</sub> BrCl <sub>3</sub> O	112.4	146.2	163.2	181.8	200.5	213.0	229.3	253.0	278.0	305.8	
2-Bromo-1,4-xylene	C <sub>8</sub> H <sub>9</sub> Br	37.5	65.0	78.8	94.0	110.6	121.6	135.7	156.4	181.0	206.7	+9.5
1,2-Butadiene (methyl allene)	C <sub>4</sub> H <sub>6</sub>	-89.0	-72.7	-64.2	-54.9	-44.3	-37.5	-28.3	-14.2	+1.8	18.5	
1,3-Butadiene	C <sub>4</sub> H <sub>6</sub>	-102.8	-87.6	-79.7	-71.0	-61.3	-55.1	-46.8	-33.9	-19.3	-4.5	-108.9
<i>n</i> -Butane	C <sub>4</sub> H <sub>10</sub>	-101.5	-85.7	-77.8	-68.9	-59.1	-52.8	-44.2	-31.2	-16.3	-0.5	-135
iso-Butane (2-methylpropane)	C <sub>4</sub> H <sub>10</sub>	-109.2	-94.1	-86.4	-77.9	-68.4	-62.4	-54.1	-41.5	-27.1	-11.7	-145
1,3-Butanediol	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	22.2	67.5	85.3	100.0	117.4	127.5	141.2	161.0	183.8	206.5	77
1,2,3-Butanetriol	C <sub>4</sub> H <sub>10</sub> O <sub>3</sub>	102.0	132.0	146.0	161.0	178.0	188.0	202.5	222.0	243.5	264.0	
1-Butene	C <sub>4</sub> H <sub>8</sub>	-104.8	-89.4	-81.6	-73.0	-63.4	-57.2	-48.9	-36.2	-21.7	-6.3	-130
<i>cis</i> -2-Butene	C <sub>4</sub> H <sub>8</sub>	-96.4	-81.1	-73.4	-64.6	-54.7	-48.4	-39.8	-26.8	-12.0	+3.7	-138.9
<i>trans</i> -2-Butene	C <sub>4</sub> H <sub>8</sub>	-99.4	-84.0	-76.3	-67.5	-57.6	-51.3	-42.7	-29.7	-14.8	+0.9	-105.4
3-Butenenitrile	C <sub>4</sub> H <sub>5</sub> N	-19.6	+2.9	14.1	26.6	40.0	48.8	60.2	78.0	98.0	119.0	
iso-Butyl acetate	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	-21.2	+1.4	12.8	25.5	39.2	48.0	59.7	77.6	97.5	118.0	-98.9
<i>n</i> -Butyl acrylate	C <sub>8</sub> H <sub>12</sub> O <sub>2</sub>	-0.5	+23.5	35.5	48.6	63.4	72.6	85.1	104.0	125.2	147.4	-64.6
alcohol	C <sub>4</sub> H <sub>10</sub> O	-1.2	+20.0	30.2	41.5	53.4	60.3	70.1	84.3	100.8	117.5	-79.9
iso-Butyl alcohol	C <sub>4</sub> H <sub>10</sub> O	-9.0	+11.6	21.7	32.4	44.1	51.7	61.5	75.9	91.4	108.0	-108
<i>sec</i> -Butyl alcohol	C <sub>4</sub> H <sub>10</sub> O	-12.2	+7.2	16.9	27.3	38.1	45.2	54.1	67.9	83.9	99.5	-114.7
<i>tert</i> -Butyl alcohol	C <sub>4</sub> H <sub>10</sub> O	-20.4	-3.0	+5.5	14.3	24.5	31.0	39.8	52.7	68.0	82.9	25.3
iso-Butyl amine	C <sub>4</sub> H <sub>11</sub> N	-50.0	-31.0	-21.0	-10.3	+1.3	8.8	18.8	32.0	50.7	68.6	-85.0
<i>n</i> -Butylbenzene	C <sub>10</sub> H <sub>14</sub>	22.7	48.8	62.0	76.3	92.4	102.6	116.2	136.9	159.2	183.1	-88.0
iso-Butylbenzene	C <sub>10</sub> H <sub>14</sub>	14.1	40.5	53.7	67.8	83.3	93.3	107.0	127.2	149.6	172.8	-51.5
<i>sec</i> -Butylbenzene	C <sub>10</sub> H <sub>14</sub>	18.6	44.2	57.0	70.6	86.2	96.0	109.5	128.8	150.3	173.5	-75.5
<i>tert</i> -Butylbenzene	C <sub>10</sub> H <sub>14</sub>	13.0	39.0	51.7	65.6	80.8	90.6	103.8	123.7	145.8	168.5	-58
iso-Butyl benzoate	C <sub>11</sub> H <sub>14</sub> O <sub>2</sub>	64.0	93.6	108.6	124.2	141.8	152.0	166.4	188.2	212.8	237.0	
<i>n</i> -Butyl bromide (1-bromobutane)	C <sub>4</sub> H <sub>9</sub> Br	-33.0	-11.2	-0.3	+11.6	24.8	33.4	44.7	62.0	81.7	101.6	-112.4
iso-Butyl <i>n</i> -butyrate	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	+4.6	30.0	42.2	56.1	71.7	81.3	94.0	113.9	135.7	156.9	
carbamate	C <sub>8</sub> H <sub>11</sub> NO <sub>2</sub>		83.7	96.4	110.1	125.3	134.6	147.2	165.7	186.0	206.5	65
Butyl carbitol (diethylene glycol butyl ether)	C <sub>8</sub> H <sub>18</sub> O <sub>3</sub>	70.0	95.7	107.8	120.5	135.5	146.0	159.8	181.2	205.0	231.2	
<i>n</i> -Butyl chloride (1-chlorobutane)	C <sub>4</sub> H <sub>9</sub> Cl	-49.0	-28.9	-18.6	-7.4	+5.0	13.0	24.0	40.0	58.8	77.8	-123.1
iso-Butyl chloride	C <sub>4</sub> H <sub>9</sub> Cl	-53.8	-34.3	-24.5	-13.8	-1.9	+5.9	16.0	32.0	50.0	68.9	-131.2

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
<i>sec</i> -Butyl chloride (2-Chlorobutane)	C <sub>4</sub> H <sub>9</sub> Cl	-60.2	-39.8	-29.2	-17.7	-5.0	+3.4	14.2	31.5	50.0	68.0	-131.3
<i>tert</i> -Butyl chloride	C <sub>4</sub> H <sub>9</sub> Cl					-19.0	-11.4	-1.0	+14.6	32.6	51.0	-26.5
<i>sec</i> -Butyl chloroacetate	C <sub>6</sub> H <sub>11</sub> ClO <sub>2</sub>	17.0	41.8	54.6	68.2	83.6	93.0	105.5	124.1	146.0	167.8	
2- <i>tert</i> -Butyl-4-cresol	C <sub>11</sub> H <sub>16</sub> O	70.0	98.0	112.0	127.2	143.9	153.7	167.0	187.8	210.0	232.6	
4- <i>tert</i> -Butyl-2-cresol	C <sub>11</sub> H <sub>16</sub> O	74.3	103.7	118.0	134.0	150.8	161.7	176.2	197.8	221.8	247.0	
iso-Butyl dichloroacetate	C <sub>6</sub> H <sub>10</sub> Cl <sub>2</sub> O <sub>2</sub>	28.6	54.3	67.5	81.4	96.7	106.6	119.8	139.2	160.0	183.0	
2,3-Butylene glycol (2,3-butanediol)	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	44.0	68.4	80.3	93.4	107.8	116.3	127.8	145.6	164.0	182.0	22.5
2-Butyl-2-ethylbutane-1,3-diol	C <sub>10</sub> H <sub>22</sub> O <sub>2</sub>	94.1	122.6	136.8	151.2	167.8	178.0	191.9	212.0	233.5	255.0	
2- <i>tert</i> -Butyl-4-ethylphenol	C <sub>12</sub> H <sub>15</sub> O	76.3	106.2	121.0	137.0	154.0	165.4	179.0	200.3	223.8	247.8	
<i>n</i> -Butyl formate	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	-26.4	-4.7	+6.1	18.0	31.6	39.8	51.0	67.9	86.2	106.0	
iso-Butyl formate	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	-32.7	-11.4	-0.8	+11.0	24.1	32.4	43.4	60.0	79.0	98.2	-95.3
<i>sec</i> -Butyl formate	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	-34.4	-13.3	-3.1	+8.4	21.3	29.6	40.2	56.8	75.2	93.6	
<i>sec</i> -Butyl glycolate	C <sub>6</sub> H <sub>12</sub> O <sub>3</sub>	28.3	53.6	66.0	79.8	94.2	104.0	116.4	135.5	155.6	177.5	
iso-Butyl iodide (1-iodo-2-methylpropane)	C <sub>4</sub> H <sub>9</sub> I	-17.0	+5.8	17.0	29.8	42.8	51.8	63.5	81.0	100.3	120.4	-90.7
isobutyrate	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	+4.1	28.0	39.9	52.4	67.2	75.9	88.0	106.3	126.3	147.5	-80.7
isovalerate	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	16.0	41.2	53.8	67.7	82.7	92.4	105.2	124.8	146.4	168.7	
levulinate	C <sub>6</sub> H <sub>10</sub> O <sub>3</sub>	65.0	92.1	105.9	120.2	136.2	147.0	160.2	181.8	205.5	229.9	
naphthylketone (1-isovaleronaphthone)	C <sub>15</sub> H <sub>16</sub> O	136.0	167.9	184.0	201.6	219.7	231.5	246.7	269.7	294.0	320.0	
2- <i>sec</i> -Butylphenol	C <sub>10</sub> H <sub>14</sub> O	57.4	86.0	100.8	116.1	133.4	143.9	157.3	179.7	203.8	228.0	
2- <i>tert</i> -Butylphenol	C <sub>10</sub> H <sub>14</sub> O	56.6	84.2	98.1	113.0	129.2	140.0	153.5	173.8	196.3	219.5	
4-iso-Butylphenol	C <sub>10</sub> H <sub>14</sub> O	72.1	100.9	115.5	130.3	147.2	157.0	171.2	192.1	214.7	237.0	
4- <i>sec</i> -Butylphenol	C <sub>10</sub> H <sub>14</sub> O	71.4	100.5	114.8	130.3	147.8	157.9	172.4	194.3	217.6	242.1	
4- <i>tert</i> -Butylphenol	C <sub>10</sub> H <sub>14</sub> O	70.0	99.2	114.0	129.5	146.0	156.0	170.2	191.5	214.0	238.0	99
2-(4- <i>tert</i> -Butylphenoxy)ethyl acetate	C <sub>14</sub> H <sub>20</sub> O <sub>3</sub>	118.0	150.0	165.8	183.3	201.5	212.8	228.0	250.3	277.6	304.4	
4- <i>tert</i> -Butylphenyl dichlorophosphate	C <sub>10</sub> H <sub>13</sub> Cl <sub>2</sub> O <sub>2</sub> P	96.0	129.6	146.0	164.0	184.3	197.2	214.3	240.0	268.2	299.0	
<i>tert</i> -Butyl phenyl ketone (pivalophenone)	C <sub>11</sub> H <sub>14</sub> O	57.8	85.7	99.0	114.3	130.4	140.8	154.0	175.0	197.7	220.0	
iso-Butyl propionate	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	-2.3	+20.9	32.3	44.8	58.5	67.6	79.5	97.0	116.4	136.8	-71
4- <i>tert</i> -Butyl-2,5-xyleneol	C <sub>12</sub> H <sub>18</sub> O	88.2	119.8	135.0	151.0	169.8	180.3	195.0	217.5	241.3	265.3	
4- <i>tert</i> -Butyl-2,6-xyleneol	C <sub>12</sub> H <sub>18</sub> O	74.0	103.9	119.0	135.0	152.2	163.6	176.0	196.0	217.8	239.8	
6- <i>tert</i> -Butyl-2,4-xyleneol	C <sub>12</sub> H <sub>18</sub> O	70.3	100.2	115.0	131.0	148.5	158.2	172.0	192.3	214.2	236.5	
6- <i>tert</i> -Butyl-3,4-xyleneol	C <sub>12</sub> H <sub>18</sub> O	83.9	113.6	127.0	143.0	159.7	170.0	184.0	204.5	226.7	249.5	
Butyric acid	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	25.5	49.8	61.5	74.0	88.0	96.5	108.0	125.5	144.5	163.5	-74
iso-Butyric acid	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	14.7	39.3	51.2	64.0	77.8	86.3	98.0	115.8	134.5	154.5	-47
Butyronitrile	C <sub>4</sub> H <sub>7</sub> N	-20.0	+2.1	13.4	25.7	38.4	47.3	59.0	76.7	96.8	117.5	
iso-Valerophenone	C <sub>11</sub> H <sub>14</sub> O	58.3	87.0	101.4	116.8	133.8	144.6	158.0	180.1	204.2	228.0	
Camphene	C <sub>10</sub> H <sub>16</sub>			47.2	60.4	75.7	85.0	97.9	117.5	138.7	160.5	50
Campholenic acid	C <sub>10</sub> H <sub>16</sub> O <sub>2</sub>	97.6	125.7	139.8	153.9	170.0	180.0	193.7	212.7	234.0	256.0	
<i>d</i> -Camphor	C <sub>10</sub> H <sub>16</sub> O	41.5	68.6	82.3	97.5	114.0	124.0	138.0	157.9	182.0	209.2	178.5
Camphylamine	C <sub>10</sub> H <sub>16</sub> N	45.3	74.0	83.7	97.6	112.5	122.0	134.6	153.0	173.8	195.0	
Capraldehyde	C <sub>10</sub> H <sub>20</sub> O	51.9	78.8	92.0	106.3	122.2	132.0	145.3	164.8	186.3	208.5	
Capric acid	C <sub>10</sub> H <sub>20</sub> O <sub>2</sub>	125.0	142.0	152.2	165.0	179.9	189.8	200.0	217.1	240.3	268.4	31.5
<i>n</i> -Caproic acid	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	71.4	89.5	99.5	111.8	125.0	133.3	144.0	160.8	181.0	202.0	-1.5
iso-Caproic acid	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	66.2	83.0	94.0	107.0	120.4	129.6	141.4	158.3	181.0	207.7	-35
iso-Caprolactone	C <sub>8</sub> H <sub>14</sub> O <sub>2</sub>	38.3	66.4	80.3	95.7	112.3	123.2	137.2	157.8	182.1	207.0	
Capronitrile	C <sub>6</sub> H <sub>11</sub> N	9.2	34.6	47.5	61.7	76.9	86.8	99.8	119.7	141.0	163.7	
Capryl alcohol (2-octanol)	C <sub>8</sub> H <sub>18</sub> O	32.8	57.6	70.0	83.3	98.0	107.4	119.8	138.0	157.5	178.5	-38.6
Caprylaldehyde	C <sub>8</sub> H <sub>16</sub> O	73.4	92.0	101.2	110.2	120.0	126.0	133.9	145.4	156.5	168.5	
Caprylic acid (octanoic acid)	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	92.3	114.1	124.0	136.4	150.6	160.0	172.2	190.3	213.9	237.5	16
Caprylonitrile	C <sub>8</sub> H <sub>15</sub> N	43.0	67.6	80.4	94.6	110.6	121.2	134.8	155.2	179.5	204.5	
Carbazole	C <sub>12</sub> H <sub>9</sub> N							248.2	292.5	323.0	354.8	244.8
Carbon dioxide	CO <sub>2</sub>	-134.3	-124.4	-119.5	-114.4	-108.6	-104.8	-100.2	-93.0	-85.7	-78.2	-57.5
disulfide	CS <sub>2</sub>	-73.8	-54.3	-44.7	-34.3	-22.5	-15.3	-5.1	+10.4	28.0	46.5	-110.8
monoxide	CO	-222.0	-217.2	-215.0	-212.8	-210.0	-208.1	-205.7	-201.3	-196.3	-191.3	-205.0
oxyselenide (carbonyl selenide)	COSe	-117.1	-102.3	-95.0	-86.3	-76.4	-70.2	-61.7	-49.8	-35.6	-21.9	
oxysulfide (carbonyl sulfide)	COS	-132.4	-119.8	-113.3	-106.0	-98.3	-93.0	-85.9	-75.0	-62.7	-49.9	-138.8
tetrabromide	CBr <sub>4</sub>					96.3	106.3	119.7	139.7	163.5	189.5	90.1
tetrachloride	CCl <sub>4</sub>	-50.0	-30.0	-19.6	-8.2	+4.3	12.3	23.0	38.3	57.8	76.7	-22.6
tetrafluoride	CF <sub>4</sub>	-184.6	-174.1	-169.3	-164.3	-158.8	-155.4	-150.7	-143.6	-135.5	-127.7	-183.7
Carvacrol	C <sub>10</sub> H <sub>14</sub> O	70.0	98.4	113.2	127.9	145.2	155.3	169.7	191.2	213.8	237.0	+0.5
Carvone	C <sub>10</sub> H <sub>14</sub> O	57.4	86.1	100.4	116.1	133.0	143.8	157.3	179.6	203.5	227.5	
Chavibetol	C <sub>10</sub> H <sub>12</sub> O <sub>2</sub>	83.6	113.3	127.0	143.2	159.8	170.7	185.5	206.8	229.8	254.0	
Chloral (trichloroacetaldehyde)	C <sub>2</sub> HCl <sub>3</sub> O	-37.8	-16.0	-5.0	+7.2	20.2	29.1	40.2	57.8	77.5	97.7	-57
hydrate (trichloroacetaldehyde hydrate)	C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub> O <sub>2</sub>	-9.8	+10.0	19.5	29.2	39.7	46.2	55.0	68.0	82.1	96.2	51.7
Chloramil	C <sub>6</sub> Cl <sub>4</sub> O <sub>2</sub>	70.7	89.3	97.8	106.4	116.1	122.0	129.5	140.3	151.3	162.6	290
Chloroacetic acid	C <sub>2</sub> H <sub>3</sub> ClO <sub>2</sub>	43.0	68.3	81.0	94.2	109.2	118.3	130.7	149.0	169.0	189.5	61.2
anhydride	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> O <sub>2</sub>	67.2	94.1	108.0	122.4	138.2	148.0	159.8	177.8	197.0	217.0	46
2-Chloroaniline	C <sub>6</sub> H <sub>6</sub> ClN	46.3	72.3	84.8	99.2	115.6	125.7	139.5	160.0	183.7	208.8	0
3-Chloroaniline	C <sub>6</sub> H <sub>6</sub> ClN	63.5	89.8	102.0	116.7	133.6	144.1	158.0	179.5	203.5	228.5	-10.4
4-Chloroaniline	C <sub>6</sub> H <sub>6</sub> ClN	59.3	87.9	102.1	117.8	135.0	145.8	159.9	182.3	206.6	230.5	70.5
Chlorobenzene	C <sub>6</sub> H <sub>5</sub> Cl	-13.0	+10.6	22.2	35.3	49.7	58.3	70.7	89.4	110.0	132.2	-45.2
2-Chlorobenzotrichloride												
(2- $\alpha,\alpha,\alpha$ -tetrachlorotoluene)	C <sub>7</sub> H <sub>4</sub> Cl <sub>4</sub>	69.0	101.8	117.9	135.8	155.0	167.8	185.0	208.0	233.0	262.1	28.7

## 2-64 PHYSICAL AND CHEMICAL DATA

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
2-Chlorobenzotrifluoride (2-chloro- $\alpha,\alpha,\alpha$ -trifluorotoluene)	$C_7H_4ClF_3$	0.0	24.7	37.1	50.6	65.9	75.4	88.3	108.3	130.0	152.2	-6.0
2-Chlorobiphenyl	$C_{12}H_9Cl$	89.3	109.8	134.7	151.2	169.9	182.1	197.0	219.6	243.8	267.5	34
4-Chlorobiphenyl	$C_{12}H_9Cl$	96.4	129.8	146.0	164.0	183.8	196.0	212.5	237.8	264.5	292.9	75.5
$\alpha$ -Chlorocrotonic acid	$C_5H_7ClO_2$	70.0	95.6	108.0	121.2	135.6	144.4	155.9	173.8	193.2	212.0	
Chlorodifluoromethane	$CHClF_2$	-122.8	-110.2	-103.7	-96.5	-88.6	-83.4	-76.4	-65.8	-53.6	-40.8	-160
Chlorodimethylphenylsilane	$C_8H_{11}ClSi$	29.8	56.7	70.0	84.7	101.2	111.5	124.7	145.5	168.6	193.5	
1-Chloro-2-ethoxybenzene	$C_8H_9ClO$	45.8	72.8	86.5	101.5	117.8	127.8	141.8	162.0	185.5	208.0	
2-(2-Chloroethoxy) ethanol	$C_6H_9ClO_2$	53.0	78.3	90.7	104.1	118.4	127.5	139.5	157.2	176.5	196.0	
bis-2-Chloroethyl acetacetal	$C_8H_{12}Cl_2O_2$	56.2	83.7	97.6	112.2	127.8	138.0	150.7	169.8	190.5	212.6	
1-Chloro-2-ethylbenzene	$C_8H_9Cl$	17.2	43.0	56.1	70.3	86.2	96.4	110.0	130.2	152.2	177.6	-80.2
1-Chloro-3-ethylbenzene	$C_8H_9Cl$	18.6	45.2	58.1	73.0	89.2	99.6	113.6	133.8	156.7	181.1	-53.3
1-Chloro-4-ethylbenzene	$C_8H_9Cl$	19.2	46.4	60.0	75.5	91.8	102.0	116.0	137.0	159.8	184.3	-62.6
2-Chloroethyl chloroacetate	$C_6H_8Cl_2O_2$	46.0	72.1	86.0	100.0	116.0	126.2	140.0	159.8	182.2	205.0	
2-Chloroethyl 2-chloroisopropyl ether	$C_8H_{10}Cl_2O$	24.7	50.1	63.0	77.2	92.4	102.2	115.8	135.7	156.5	180.0	
2-Chloroethyl 2-chloropropyl ether	$C_8H_{10}Cl_2O$	29.8	56.5	70.0	84.8	101.5	111.8	125.6	146.3	169.8	194.1	
2-Chloroethyl $\alpha$ -methylbenzyl ether	$C_{10}H_{13}ClO$	62.3	91.4	106.0	121.8	139.6	150.0	164.8	186.3	210.8	235.0	
Chloroform (trichloromethane)	$CHCl_3$	-58.0	-39.1	-29.7	-19.0	-7.1	+0.5	10.4	25.9	42.7	61.3	-63.5
1-Chloronaphthalene	$C_{10}H_7Cl$	80.6	104.8	118.6	134.4	153.2	165.6	180.4	204.2	230.8	259.3	-20
4-Chlorophenethyl alcohol	$C_8H_9ClO$	84.0	114.3	129.0	145.0	162.0	173.5	188.1	210.0	234.5	259.3	
2-Chlorophenol	$C_6H_5ClO$	12.1	38.2	51.2	65.9	82.0	92.0	106.0	126.4	149.8	174.5	7
3-Chlorophenol	$C_6H_5ClO$	44.2	72.0	86.1	101.7	118.0	129.4	143.0	164.8	188.7	214.0	32.5
4-Chlorophenol	$C_6H_5ClO$	49.8	78.2	92.2	108.1	125.0	136.1	150.0	172.0	196.0	220.0	42
2-Chloro-3-phenylphenol	$C_{12}H_7ClO$	118.0	152.2	169.7	186.7	207.4	219.6	237.0	261.3	289.4	317.5	+6
2-Chloro-6-phenylphenol	$C_{12}H_7ClO$	119.8	153.7	170.7	189.8	208.2	220.0	237.1	261.6	289.5	317.0	
Chloropicrin (trichloronitromethane)	$CCl_3NO_2$	-25.5	-3.3	+7.8	20.0	33.8	42.3	53.8	71.8	91.8	111.9	-64
1-Chloropropene	$C_3H_5Cl$	-81.3	-63.4	-54.1	-44.0	-32.7	-25.1	-15.1	+1.3	18.0	37.0	-99.0
2-Chloropyridine	$C_5H_4ClN$	13.3	38.8	51.7	65.8	81.7	91.6	104.6	125.0	147.7	170.2	
3-Chlorostyrene	$C_8H_7Cl$	25.3	51.3	65.2	80.0	96.5	107.2	121.2	142.2	165.7	190.0	
4-Chlorostyrene	$C_8H_7Cl$	28.0	54.5	67.5	82.0	98.0	108.5	122.0	143.5	166.0	191.0	-15.0
1-Chlorotetradecane	$C_{14}H_{29}Cl$	98.5	131.8	148.2	166.2	187.0	199.8	215.5	240.3	267.5	296.0	+0.9
2-Chlorotoluene	$C_7H_7Cl$	+5.4	30.6	43.2	56.9	72.0	81.8	94.7	115.0	137.1	159.3	
3-Chlorotoluene	$C_7H_7Cl$	+4.8	30.3	43.2	57.4	73.0	83.2	96.3	116.6	139.7	162.3	
4-Chlorotoluene	$C_7H_7Cl$	+5.5	31.0	43.8	57.8	73.5	83.3	96.6	117.1	139.8	162.3	+7.3
Chlorotriethylsilane	$C_6H_{15}ClSi$	-4.9	+19.8	32.0	45.5	60.2	69.5	82.3	101.6	123.6	146.3	
1-Chloro-1,2,2-trifluoroethylene	$C_2ClF_3$	-116.0	-102.5	-95.9	-88.2	-79.7	-74.1	-66.7	-55.0	-41.7	-27.9	-157.5
Chlorotrifluoromethane	$CClF_3$	-149.5	-139.2	-134.1	-128.5	-121.9	-117.3	-111.7	-102.5	-92.7	-81.2	
Chlorotrimethylsilane	$C_3H_9ClSi$	-62.8	-43.6	-34.0	-23.2	-11.4	-4.0	+6.0	21.9	39.4	57.9	
<i>trans</i> -Cinnamic acid	$C_9H_8O_2$	127.5	157.8	173.0	189.5	207.1	217.8	232.4	253.3	276.7	300.0	133
Cinnamyl alcohol	$C_9H_{10}O$	72.6	102.5	117.8	133.7	151.0	162.0	177.8	199.8	224.6	250.0	33
Cinnamylaldehyde	$C_9H_8O$	76.1	105.8	120.0	135.7	152.2	163.7	177.7	199.3	222.4	246.0	-7.5
Citraconic anhydride	$C_8H_8O_3$	47.1	74.8	88.9	103.8	120.3	131.3	145.4	165.8	189.8	213.5	
<i>cis</i> - $\alpha$ -Citral	$C_{10}H_{16}O$	61.7	90.0	103.9	119.4	135.9	146.3	160.0	181.8	205.0	228.0	
<i>d</i> -Citronellal	$C_{10}H_{16}O$	44.0	71.4	84.8	99.8	116.1	126.2	140.1	160.0	183.8	206.5	
Citronellal acid	$C_{10}H_{18}O_2$	99.5	127.3	141.4	155.6	171.9	182.1	195.4	214.5	236.6	257.0	
Citronellol	$C_{10}H_{20}O$	66.4	93.6	107.0	121.5	137.2	147.2	159.8	179.8	201.0	221.5	
Citronellyl acetate	$C_{12}H_{22}O_2$	74.7	100.2	113.0	126.0	140.5	149.7	161.0	178.8	197.8	217.0	
Coumarin	$C_9H_6O_2$	106.0	137.8	153.4	170.0	189.0	200.5	216.5	240.0	264.7	291.0	70
<i>o</i> -Cresol (2-cresol; 2-methylphenol)	$C_7H_8O$	38.2	64.0	76.7	90.5	105.8	115.5	127.4	146.7	168.4	190.8	30.8
<i>m</i> -Cresol (3-cresol; 3-methylphenol)	$C_7H_8O$	52.0	76.0	87.8	101.4	116.0	125.8	138.0	157.3	179.0	202.8	10.9
<i>p</i> -Cresol (4-cresol; 4-methylphenol)	$C_7H_8O$	53.0	76.5	88.6	102.3	117.7	127.0	140.0	157.3	179.4	201.8	35.5
<i>cis</i> -Crotonic acid	$C_4H_6O_2$	33.5	57.4	69.0	82.0	96.0	104.5	116.3	133.9	152.2	171.9	15.5
<i>trans</i> -Crotonic acid	$C_4H_6O_2$			80.0	93.0	107.8	116.7	128.0	146.0	165.5	185.0	72
<i>cis</i> -Crotononitrile	$C_4H_5N$	-29.0	-7.1	+4.0	16.4	30.0	38.5	50.1	68.0	88.0	108.0	
<i>trans</i> -Crotononitrile	$C_4H_5N$	-19.5	+3.5	15.0	27.8	41.8	50.9	62.8	81.1	101.5	122.8	
Cumene	$C_9H_{12}$	+2.9	26.8	38.3	51.5	66.1	75.4	88.1	107.3	129.2	152.4	-96.0
4-Cumidene	$C_9H_{12}$	60.0	88.2	102.2	117.8	134.2	145.0	158.0	180.0	203.2	227.0	
Cuminal	$C_{10}H_{12}O$	58.0	87.3	102.0	117.9	135.2	146.0	160.0	182.8	206.7	232.0	
Cumyl alcohol	$C_{10}H_{14}O$	74.2	103.7	118.0	133.8	150.3	161.7	176.2	197.9	221.7	246.6	
2-Cyano-2- <i>n</i> -butyl acetate	$C_7H_{11}NO_2$	42.0	68.7	82.0	96.2	111.8	121.5	133.8	152.2	173.4	195.2	
Cyanogen bromide	$C_2N_2$	-95.8	-83.2	-76.8	-70.1	-62.7	-57.9	-51.8	-42.6	-33.0	-21.0	-34.4
chloride	$CBrN$	-35.7	-18.3	-10.0	-1.0	+8.6	14.7	22.6	33.8	46.0	61.5	58
iodide	$CClN$	-76.7	-61.4	-53.8	-46.1	-37.5	-32.1	-24.9	-14.1	-2.3	+13.1	-6.5
	$CIN$	25.2	47.2	57.7	68.6	80.3	88.0	97.6	111.5	126.1	141.1	
Cyclobutane	$C_4H_8$	-92.0	-76.0	-67.9	-58.7	-48.4	-41.8	-32.8	-18.9	-3.4	+12.9	-50
Cyclobutene	$C_4H_6$	-99.1	-83.4	-75.4	-66.6	-56.4	-50.0	-41.2	-27.8	-12.2	+2.4	
Cyclohexane	$C_6H_{12}$	-45.3	-25.4	-15.9	-5.0	+6.7	14.7	25.4	42.0	60.8	80.7	+6.6
Cyclohexaneethanol	$C_8H_{16}O$	50.4	77.2	90.0	104.0	119.8	129.8	142.7	161.7	183.5	205.4	
Cyclohexanol	$C_6H_{12}O$	21.0	44.0	56.0	68.8	83.0	91.8	103.7	121.7	141.4	161.0	23.9
Cyclohexanone	$C_6H_{10}O$	+1.4	26.4	38.7	52.5	67.8	77.5	90.4	110.3	132.5	155.6	-45.0
2-Cyclohexyl-4,6-dinitrophenol	$C_{12}H_{14}N_2O_5$	132.8	161.8	175.9	191.2	206.7	216.0	229.0	248.7	269.8	291.5	
Cyclopentane	$C_5H_{10}$	-68.0	-49.6	-40.4	-30.1	-18.6	-11.3	-1.3	+13.8	31.0	49.3	-93.7
Cyclopropane	$C_3H_6$	-116.8	-104.2	-97.5	-90.3	-82.3	-77.0	-70.0	-59.1	-46.9	-33.5	-126.6
Cymene	$C_{10}H_{14}$	17.3	43.9	57.0	71.1	87.0	97.2	110.8	131.4	153.5	177.2	-68.2

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
<i>cis</i> -Decalin	C <sub>10</sub> H <sub>18</sub>	22.5	50.1	64.2	79.8	97.2	108.0	123.2	145.4	169.9	194.6	-43.3
<i>trans</i> -Decalin	C <sub>10</sub> H <sub>18</sub>	-0.8	+30.6	47.2	65.3	85.7	98.4	114.6	136.2	160.1	186.7	-30.7
Decane	C <sub>10</sub> H <sub>22</sub>	16.5	42.3	55.7	69.8	85.5	95.5	108.6	128.4	150.6	174.1	-29.7
Decan-2-one	C <sub>10</sub> H <sub>20</sub> O	44.2	71.9	85.8	100.7	117.1	127.8	142.0	163.2	186.7	211.0	+3.5
1-Decene	C <sub>10</sub> H <sub>20</sub>	14.7	40.3	53.7	67.8	83.3	93.5	106.5	126.7	149.2	172.0	
Decyl alcohol	C <sub>10</sub> H <sub>22</sub> O	69.5	97.3	111.3	125.8	142.1	152.0	165.8	186.2	208.8	231.0	+7
Decyltrimethylsilane	C <sub>13</sub> H <sub>30</sub> Si	67.4	96.4	111.0	126.5	144.0	154.3	169.5	191.0	215.5	240.0	
Dehydroacetic acid	C <sub>8</sub> H <sub>8</sub> O <sub>4</sub>	91.7	122.0	137.3	153.0	171.0	181.5	197.5	219.5	244.5	269.0	
Desoxybenzoin	C <sub>14</sub> H <sub>12</sub> O	123.3	156.2	173.5	192.0	212.0	224.5	241.3	265.2	293.0	321.0	60
Diacetamide	C <sub>8</sub> H <sub>7</sub> NO <sub>2</sub>	70.0	95.0	108.0	122.6	138.2	148.0	160.6	180.8	202.0	223.0	78.5
Diacetylene (1,3-butadiyne)	C <sub>4</sub> H <sub>2</sub>	-82.5	-68.0	-61.2	-53.8	-45.9	-41.0	-34.0	-20.9	-6.1	+9.7	-34.9
Diallyldichlorosilane	C <sub>6</sub> H <sub>10</sub> Cl <sub>2</sub> Si	+9.5	34.8	47.4	61.3	76.4	86.3	99.7	119.4	142.0	165.3	
Diallyl sulfide	C <sub>6</sub> H <sub>10</sub> S	-9.5	+14.4	26.6	39.7	54.2	63.7	75.8	94.8	116.1	138.6	-83
Diisomyl ether	C <sub>10</sub> H <sub>22</sub> O	18.6	44.3	57.0	70.7	86.3	96.0	109.6	129.0	150.3	173.4	
oxalate	C <sub>12</sub> H <sub>22</sub> O <sub>4</sub>	85.4	116.0	131.4	147.7	165.7	177.0	192.2	215.0	240.0	265.0	
sulfide	C <sub>10</sub> H <sub>22</sub> S	43.0	73.0	87.6	102.7	120.0	130.6	145.3	166.4	191.0	216.0	
Dibenzylamine	C <sub>14</sub> H <sub>15</sub> N	118.3	149.8	165.6	182.2	200.2	212.2	227.3	249.8	274.3	300.0	-26
Dibenzyl ketone (1,3-diphenyl-2-propanone)	C <sub>15</sub> H <sub>14</sub> O	125.5	159.8	177.6	195.7	216.6	229.4	246.6	272.3	301.7	330.5	34.5
1,4-Dibromobenzene	C <sub>6</sub> H <sub>4</sub> Br <sub>2</sub>	61.0	79.3	87.7	103.6	120.8	131.6	146.5	168.5	192.5	218.6	87.5
1,2-Dibromobutane	C <sub>4</sub> H <sub>8</sub> Br <sub>2</sub>	7.5	33.2	46.1	60.0	76.0	86.0	99.8	120.2	143.5	166.3	-64.5
<i>dl</i> -2,3-Dibromobutane	C <sub>4</sub> H <sub>8</sub> Br <sub>2</sub>	+5.0	30.0	41.6	56.4	72.0	82.0	95.3	115.7	138.0	160.5	
<i>meso</i> -2,3-Dibromobutane	C <sub>4</sub> H <sub>8</sub> Br <sub>2</sub>	+1.5	26.6	39.3	53.2	68.0	78.0	91.7	111.8	134.2	157.3	-34.5
1,2-Dibromodecane	C <sub>10</sub> H <sub>20</sub> Br <sub>2</sub>	95.7	123.6	137.3	151.0	167.4	177.5	190.2	209.6	229.8	250.4	
Di(2-bromoethyl) ether	C <sub>6</sub> H <sub>12</sub> Br <sub>2</sub> O	47.7	75.3	88.5	103.6	119.8	130.0	144.0	165.0	188.0	212.5	
α,β-Dibromomaleic anhydride	C <sub>6</sub> H <sub>4</sub> Br <sub>2</sub> O <sub>3</sub>	50.0	78.0	92.0	106.7	123.5	133.8	147.7	168.0	192.0	215.0	
1,2-Dibromo-2-methylpropane	C <sub>4</sub> H <sub>8</sub> Br <sub>2</sub>	-28.8	-3.0	+10.5	25.7	42.3	53.7	68.8	92.1	119.8	149.0	-70.3
1,3-Dibromo-2-methylpropane	C <sub>4</sub> H <sub>8</sub> Br <sub>2</sub>	14.0	40.0	53.0	67.5	83.5	93.7	107.4	117.8	150.6	174.6	
1,2-Dibromopentane	C <sub>5</sub> H <sub>10</sub> Br <sub>2</sub>	19.8	45.4	58.0	72.0	87.4	97.4	110.1	130.2	151.8	175.0	
1,2-Dibromopropane	C <sub>3</sub> H <sub>6</sub> Br <sub>2</sub>	-7.0	+17.3	29.4	42.3	57.2	66.4	78.7	97.8	118.5	141.6	-55.5
1,3-Dibromopropane	C <sub>3</sub> H <sub>6</sub> Br <sub>2</sub>	+9.7	35.4	48.0	62.1	77.8	87.8	101.3	121.7	144.1	167.5	-34.4
2,3-Dibromopropane	C <sub>3</sub> H <sub>6</sub> Br <sub>2</sub>	-6.0	+17.9	30.0	43.2	57.8	67.0	79.5	98.0	119.5	141.2	
2,3-Dibromo-1-propanol	C <sub>3</sub> H <sub>6</sub> Br <sub>2</sub> O	57.0	84.5	98.2	113.5	129.8	140.0	153.0	173.8	196.0	219.0	
Diisobutylamine	C <sub>8</sub> H <sub>19</sub> N	-5.1	+18.4	30.6	43.7	57.8	67.0	79.2	97.6	118.0	139.5	-70
2,6-Ditert-butyl-4-cresol	C <sub>15</sub> H <sub>24</sub> O	85.8	116.2	131.0	147.0	164.1	175.2	190.0	212.8	237.6	262.5	
4,6-Ditert-butyl-2-cresol	C <sub>15</sub> H <sub>24</sub> O	86.2	117.3	132.4	149.0	167.4	179.0	194.0	217.5	243.4	269.3	
4,6-Ditert-butyl-3-cresol	C <sub>15</sub> H <sub>24</sub> O	103.7	135.2	150.0	167.0	185.3	196.1	211.0	233.0	257.1	282.0	
2,6-Ditert-butyl-4-ethylphenol	C <sub>16</sub> H <sub>26</sub> O	89.1	121.4	137.0	154.0	172.1	183.9	198.0	220.0	244.0	268.6	
4,6-Ditert-butyl-3-ethylphenol	C <sub>16</sub> H <sub>26</sub> O	111.5	142.6	157.4	174.0	192.3	204.4	218.0	241.7	264.6	290.0	
Diisobutyl oxalate	C <sub>10</sub> H <sub>18</sub> O <sub>4</sub>	63.2	91.2	105.3	120.3	137.5	147.8	161.8	183.5	205.8	229.5	
2,4-Ditert-butylphenol	C <sub>14</sub> H <sub>22</sub> O	84.5	115.4	130.0	146.0	164.3	175.8	190.0	212.5	237.0	260.8	
Dibutyl phthalate	C <sub>16</sub> H <sub>22</sub> O <sub>4</sub>	148.2	182.1	198.2	216.2	235.8	247.8	263.7	287.0	313.5	340.0	
sulfide	C <sub>8</sub> H <sub>18</sub> S	+21.7	51.8	66.4	80.5	96.0	105.8	118.6	138.0	159.0	182.0	-79.7
Diisobutyl <i>d</i> -tartrate	C <sub>12</sub> H <sub>22</sub> O <sub>6</sub>	117.8	151.8	169.0	188.0	208.5	221.6	239.5	264.7	294.0	324.0	73.5
Dicaracryl-mono-(6-chloro-2-xenyl) phosphate	C <sub>20</sub> H <sub>34</sub> ClO <sub>4</sub> P	204.2	234.5	249.3	264.5	280.5	290.7	304.9	323.8	342.0	361.0	
Dicaracryl-2-tolyl phosphate	C <sub>27</sub> H <sub>35</sub> O <sub>4</sub> P	180.2	209.3	221.8	237.0	251.5	260.3	272.5	290.0	309.8	330.0	
Dichloroacetic acid	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub> O <sub>2</sub>	44.0	69.8	82.6	96.3	111.8	121.5	134.0	152.3	173.7	194.4	9.7
1,2-Dichlorobenzene	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>	20.0	46.0	59.1	73.4	89.4	99.5	112.9	133.4	155.8	179.0	-17.6
1,3-Dichlorobenzene	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>	12.1	39.0	52.0	66.2	82.0	92.2	105.0	125.9	149.0	173.0	-24.2
1,4-Dichlorobenzene	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub>			54.8	69.2	84.8	95.2	108.4	128.3	150.2	173.9	53.0
1,2-Dichlorobutane	C <sub>4</sub> H <sub>8</sub> Cl <sub>2</sub>	-23.6	-0.3	+11.5	24.5	37.7	47.8	60.2	79.7	100.8	123.5	
2,3-Dichlorobutane	C <sub>4</sub> H <sub>8</sub> Cl <sub>2</sub>	-25.2	-3.0	+8.5	21.2	35.0	43.9	56.0	74.0	94.2	116.0	-80.4
1,2-Dichloro-1,2-difluoroethylene	C <sub>2</sub> Cl <sub>2</sub> F <sub>2</sub>	-82.0	-65.6	-57.3	-48.3	-38.2	-31.8	-23.0	-10.0	+5.0	20.9	-112
Dichlorodifluoromethane	CCl <sub>2</sub> F <sub>2</sub>	-118.5	-104.6	-97.8	-90.1	-81.6	-76.1	-68.6	-57.0	-43.9	-29.8	
Dichlorodiphenyl silane	C <sub>12</sub> H <sub>10</sub> Cl <sub>2</sub> Si	109.6	142.4	158.0	176.0	195.5	207.5	223.8	248.0	275.5	304.0	
Dichlorodisopropyl ether	C <sub>6</sub> H <sub>12</sub> Cl <sub>2</sub> O	29.6	55.2	68.2	82.2	97.3	106.9	119.7	139.0	159.8	182.7	
Di(2-chloroethoxy) methane	C <sub>4</sub> H <sub>10</sub> Cl <sub>2</sub> O <sub>2</sub>	53.0	80.4	94.0	109.5	125.5	135.8	149.6	170.0	192.0	215.0	
Dichloroethoxymethylsilane	C <sub>8</sub> H <sub>16</sub> Cl <sub>2</sub> O <sub>2</sub> Si	-33.8	-12.1	-1.3	+11.3	24.4	32.6	44.1	61.0	80.3	100.6	
1,2-Dichloro-3-ethylbenzene	C <sub>8</sub> H <sub>8</sub> Cl <sub>2</sub>	46.0	75.0	90.0	105.9	123.8	135.0	149.8	172.0	197.0	222.1	-40.8
1,2-Dichloro-4-ethylbenzene	C <sub>8</sub> H <sub>8</sub> Cl <sub>2</sub>	47.0	77.2	92.3	109.6	127.5	139.0	153.3	176.0	201.7	226.6	-76.4
1,4-Dichloro-2-ethylbenzene	C <sub>8</sub> H <sub>8</sub> Cl <sub>2</sub>	38.5	68.0	83.2	99.8	118.0	129.0	144.0	166.2	191.5	216.3	-61.2
<i>cis</i> -1,2-Dichloroethylene	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	-58.4	-39.2	-29.9	-19.4	-7.9	-0.5	+9.5	24.6	41.0	59.0	-80.5
<i>trans</i> -1,2-Dichloroethylene	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	-65.4	-47.2	-38.0	-28.0	-17.0	-10.0	-0.2	+14.3	30.8	47.8	-50.0
Di(2-chloroethyl) ether	C <sub>4</sub> H <sub>8</sub> Cl <sub>2</sub> O	23.5	49.3	62.0	76.0	91.5	101.5	114.5	134.0	155.4	178.5	
Dichlorofluoromethane	CHCl <sub>2</sub> F	-91.3	-75.5	-67.5	-58.6	-48.8	-42.6	-33.9	-20.9	-6.2	+8.9	-135
1,5-Dichlorohexamethyltrisiloxane	C <sub>6</sub> H <sub>18</sub> Cl <sub>2</sub> O <sub>3</sub> Si <sub>3</sub>	26.0	52.0	65.1	79.0	94.8	105.0	118.2	138.3	160.2	184.0	-53.0
Dichloromethylphenylsilane	C <sub>7</sub> H <sub>8</sub> Cl <sub>2</sub> Si	35.7	63.5	77.4	92.4	109.5	120.0	134.2	155.5	180.2	205.5	
1,1-Dichloro-2-methylpropane	C <sub>4</sub> H <sub>8</sub> Cl <sub>2</sub>	-31.0	-8.4	+2.6	14.6	28.2	37.0	48.2	65.8	85.4	106.0	
1,2-Dichloro-2-methylpropane	C <sub>4</sub> H <sub>8</sub> Cl <sub>2</sub>	-25.8	-4.2	+6.7	18.7	32.0	40.2	51.7	68.9	87.8	108.0	
1,3-Dichloro-2-methylpropane	C <sub>4</sub> H <sub>8</sub> Cl <sub>2</sub>	-3.0	+20.6	32.0	44.8	58.6	67.5	78.8	96.1	115.4	135.0	
2,4-Dichlorophenol	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub> O	53.0	80.0	92.8	107.7	123.4	133.5	146.0	165.2	187.5	210.0	45.0
2,6-Dichlorophenol	C <sub>6</sub> H <sub>4</sub> Cl <sub>2</sub> O	59.5	87.6	101.0	115.5	131.6	141.8	154.6	175.5	197.7	220.0	

## 2-66 PHYSICAL AND CHEMICAL DATA

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
$\alpha,\alpha$ -Dichlorophenylacetone	$C_8H_7Cl_2N$	56.0	84.0	98.1	113.8	130.0	141.0	154.5	176.2	199.5	223.5	
Dichlorophenylarsine	$C_6H_5AsCl_2$	61.8	100.0	116.0	133.1	151.0	163.2	178.9	202.8	228.8	256.5	
1,2-Dichloropropane	$C_3H_6Cl_2$	-38.5	-17.0	-6.1	+6.0	19.4	28.0	39.4	57.0	76.0	96.8	
2,3-Dichlorostyrene	$C_8H_6Cl_2$	61.0	90.1	104.6	120.5	137.8	149.0	163.5	185.7	210.0	235.0	
2,4-Dichlorostyrene	$C_8H_6Cl_2$	53.5	82.2	97.4	111.8	129.2	140.0	153.8	176.0	200.0	225.0	
2,5-Dichlorostyrene	$C_8H_6Cl_2$	55.5	83.9	98.2	114.0	131.0	142.0	155.8	178.0	202.5	227.0	
2,6-Dichlorostyrene	$C_8H_6Cl_2$	47.8	75.7	90.0	105.5	122.4	133.3	147.6	169.0	193.5	217.0	
3,4-Dichlorostyrene	$C_8H_6Cl_2$	57.2	86.0	100.4	116.2	133.7	144.6	158.2	181.5	205.7	230.0	
3,5-Dichlorostyrene	$C_8H_6Cl_2$	53.5	82.2	97.4	111.8	129.2	140.0	153.8	176.0	200.0	225.0	
1,2-Dichlorotetraethylbenzene	$C_{14}H_{20}Cl_2$	105.6	138.7	155.0	172.5	192.2	204.8	220.7	245.6	272.8	302.0	
1,4-Dichlorotetraethylbenzene	$C_{14}H_{20}Cl_2$	91.7	126.1	143.8	162.0	183.2	195.8	212.0	238.5	265.8	296.5	
1,2-Dichloro-1,1,2,2-tetrafluoroethane	$C_2Cl_2F_4$	-95.4	-80.0	-72.3	-63.5	-53.7	-47.5	-39.1	-26.3	-12.0	+3.5	-94
Dichloro-4-tolylsilane	$C_7H_5Cl_2Si$	46.2	71.7	84.2	97.8	113.2	122.6	135.5	153.5	175.2	196.3	
3,4-Dichloro- $\alpha,\alpha,\alpha$ -trifluorotoluene	$C_7H_3Cl_2F_3$	11.0	38.3	52.2	67.3	84.0	95.0	109.2	129.0	150.5	172.8	-12.1
Dicyclopentadiene	$C_{10}H_8$		34.1	47.6	62.0	77.9	88.0	101.7	121.8	144.2	166.6	32.9
Diethoxydimethylsilane	$C_6H_{16}O_2Si$	-19.1	+2.4	13.3	25.3	38.0	46.3	57.6	74.2	93.2	113.5	
Diethoxydiphenylsilane	$C_{16}H_{20}O_2Si$	111.5	142.8	157.6	174.3	193.2	205.0	220.0	243.8	259.7	296.0	
Diethyl adipate	$C_{10}H_{18}O_4$	74.0	106.6	123.0	138.3	154.6	165.8	179.0	198.2	219.1	240.0	-21
Diethylamine	$C_4H_{11}N$			-33.0	-22.6	-11.3	-4.0	+6.0	21.0	38.0	55.5	-38.9
N-Diethylaniline	$C_{10}H_{15}N$	49.7	78.0	91.9	107.2	123.6	133.8	147.3	168.2	192.4	215.5	-34.4
Diethyl arsenilate	$C_{10}H_{16}As$											
	$NO_3$	38.0	62.6	74.8	88.0	102.6	111.8	123.8	141.9	161.0	181.0	
1,2-Diethylbenzene	$C_{10}H_{14}$	22.3	48.7	62.0	76.4	92.5	102.6	116.2	136.7	159.0	183.5	-31.4
1,3-Diethylbenzene	$C_{10}H_{14}$	20.7	46.8	59.9	74.5	90.4	100.7	114.4	134.8	156.9	181.1	-83.9
1,4-Diethylbenzene	$C_{10}H_{14}$	20.7	47.1	60.3	74.7	91.1	101.3	115.3	136.1	159.0	183.8	-43.2
Diethyl carbonate	$C_8H_{10}O_3$	-10.1	+12.3	23.8	36.0	49.5	57.9	69.7	86.5	105.8	125.8	-43
cis-Diethyl citraconate	$C_8H_{14}O_4$	59.8	88.3	103.0	118.2	135.7	146.2	160.0	182.3	206.5	230.3	
Diethyl dioxosuccinate	$C_8H_{10}O_6$	70.0	98.0	112.0	126.8	143.8	153.7	167.7	188.0	210.8	233.5	
Diethylene glycol	$C_4H_{10}O_3$	91.8	120.0	133.8	148.0	164.3	174.0	187.5	207.0	226.5	244.8	
Diethyleneglycol-bis-chloroacetate	$C_8H_{12}Cl_2O_5$	148.3	180.0	195.8	212.0	229.0	239.5	252.0	271.5	291.8	313.0	
Diethylene glycol dimethyl ether												
Di(2-methoxyethyl) ether	$C_6H_{14}O_3$	13.0	37.6	50.0	63.0	77.5	86.8	99.5	118.0	138.5	159.8	
glycol ethyl ether	$C_6H_{14}O_3$	45.3	72.0	85.8	100.3	116.7	126.8	140.3	159.0	180.3	201.9	
Diethyl ether	$C_4H_{10}O$	-74.3	-56.9	-48.1	-38.5	27.7	-21.8	-11.5	+2.2	17.9	34.6	-116.3
ethylmalonate	$C_8H_{16}O_4$	50.8	77.8	91.6	106.0	122.4	132.4	146.0	166.0	188.7	211.5	
fumarate	$C_8H_{12}O_4$	53.2	81.2	95.3	110.2	126.7	137.7	151.1	172.2	195.8	218.5	+0.6
glutarate	$C_9H_{16}O_4$	65.6	94.7	109.7	125.4	142.8	153.2	167.8	189.5	212.8	237.0	
Diethylhexadecylamine	$C_{20}H_{43}N$	139.8	175.8	194.0	213.5	235.0	248.5	265.5	292.8	324.6	355.0	
Diethyl itaconate	$C_8H_{14}O_4$	51.3	80.2	95.2	111.0	128.2	139.9	154.3	177.5	203.1	227.9	
ketone (3-pentanone)	$C_5H_{10}O$	-12.7	+7.5	17.2	27.9	39.4	46.7	56.2	70.6	86.3	102.7	-42
malate	$C_8H_{14}O_5$	80.7	110.4	125.3	141.2	157.8	169.0	183.9	205.3	229.5	253.4	
maleate	$C_8H_{12}O_4$	57.3	85.6	100.0	115.3	131.8	142.4	156.0	177.8	201.7	225.0	
malonate	$C_7H_{12}O_4$	40.0	67.5	81.3	95.9	113.3	123.0	136.2	155.5	176.8	198.9	-49.8
mesaconate	$C_8H_{14}O_4$	62.8	91.0	105.3	120.3	137.3	147.9	161.6	183.2	205.8	229.0	
oxalate	$C_6H_{10}O_4$	47.4	71.8	83.8	96.8	110.6	119.7	130.8	147.9	166.2	185.7	-40.6
phthalate	$C_{12}H_{14}O_4$	108.8	140.7	156.0	173.6	192.1	204.1	219.5	243.0	267.5	294.0	
sebacate	$C_{18}H_{36}O_4$	125.3	156.2	172.1	189.8	207.5	218.4	234.4	255.8	280.3	305.5	1.3
2,5-Diethylstyrene	$C_{14}H_{16}$	49.7	78.4	92.6	108.5	125.8	136.8	151.0	173.2	198.0	223.0	
Diethyl succinate	$C_8H_{14}O_4$	54.6	83.0	96.6	111.7	127.8	138.2	151.1	171.7	193.8	216.5	-20.8
isosuccinate	$C_8H_{14}O_4$	39.8	66.7	80.0	94.7	111.0	121.4	134.8	155.1	177.7	201.3	
sulfate	$C_4H_{10}O_4S$	47.0	74.0	87.7	102.1	118.0	128.6	142.5	162.5	185.5	209.5	-25.0
sulfide	$C_4H_{10}S$	-39.6	-18.6	-8.0	+3.5	16.1	24.2	35.0	51.3	69.7	88.0	-99.5
sulfite	$C_4H_{10}O_3S$	10.0	34.2	46.4	59.7	74.2	83.8	96.3	115.8	137.0	159.0	
d-Diethyl tartrate	$C_8H_{14}O_6$	102.0	133.0	148.0	164.2	182.3	194.0	208.5	230.4	254.8	280.0	17
dl-Diethyl tartrate	$C_8H_{14}O_6$	100.0	131.7	147.2	163.8	181.7	193.2	208.0	230.0	254.3	280.0	
3,5-Diethyltoluene	$C_{11}H_{16}$	34.0	61.5	75.3	90.2	107.0	117.7	131.7	152.4	176.5	200.7	
Diethylzinc	$C_4H_{10}Zn$	-22.4	0.0	+11.7	24.2	38.0	47.2	59.1	77.0	97.3	118.0	-28
1-Dihydrocarvone	$C_{10}H_{16}O$	46.6	75.5	90.0	106.0	123.7	134.7	149.7	171.8	197.0	223.0	
Dihydrocitronellol	$C_{10}H_{18}O$	68.0	91.7	103.0	115.0	127.6	136.7	145.9	160.2	176.8	193.5	
1,4-Dihydroxyanthraquinone	$C_{14}H_8O_4$	196.7	239.8	259.8	282.0	307.4	323.3	344.5	377.8	413.0	450.0	194
Dimethylacetylene (2-butyne)	$C_4H_6$	-73.0	-57.9	-50.5	-42.5	-33.9	-27.8	-18.8	-5.0	+10.6	27.2	-32.5
Dimethylamine	$C_2H_7N$	-87.7	-72.2	-64.6	-56.0	-46.7	-40.7	-32.6	-20.4	-7.1	+7.4	-96
N,N-Dimethylaniline	$C_8H_{11}N$	29.5	56.3	70.0	84.8	101.6	111.9	125.8	146.5	169.2	193.1	+2.5
Dimethyl arsenilate	$C_8H_{12}AsNO_3$	15.0	39.6	51.8	65.0	79.7	88.6	101.0	119.8	140.3	160.5	
Di( $\alpha$ -methylbenzyl) ether	$C_{16}H_{18}O$	96.7	128.3	144.0	160.3	179.6	191.5	206.8	229.7	254.8	281.0	
2,2-Dimethylbutane	$C_6H_{14}$	-69.3	-50.7	-41.5	-31.1	-19.5	-12.1	-2.0	+13.4	31.0	49.7	-99.8
2,3-Dimethylbutane	$C_6H_{14}$	-63.6	-44.5	-34.9	-24.1	-12.4	-4.9	+5.4	21.1	39.0	58.0	-128.2
Dimethyl citraconate	$C_8H_{10}O_4$	50.8	78.2	91.8	106.5	122.6	132.7	145.8	165.8	188.0	210.5	
1,1-Dimethylcyclohexane	$C_8H_{16}$	-24.4	-1.4	+10.3	23.0	37.3	45.7	57.9	76.2	97.2	119.5	-34
cis-1,2-Dimethylcyclohexane	$C_8H_{16}$	-15.9	+7.3	18.4	31.1	45.3	54.4	66.8	85.6	107.0	129.7	-50.0
trans-1,2-Dimethylcyclohexane	$C_8H_{16}$	-21.1	+1.7	13.0	25.6	39.7	48.7	61.0	79.6	100.9	123.4	-88.0
trans-1,3-Dimethylcyclohexane	$C_8H_{16}$	-19.4	+3.4	14.9	27.4	41.4	50.4	62.5	81.0	102.1	124.4	-92.0
cis-1,3-Dimethylcyclohexane	$C_8H_{16}$	-22.7	0.0	+11.2	23.6	37.5	46.4	58.5	76.9	97.8	120.1	-76.2
cis-1,4-Dimethylcyclohexane	$C_8H_{16}$	-20.0	+3.2	14.5	27.1	41.1	50.1	62.3	80.8	101.9	124.3	-87.4
trans-1,4-Dimethylcyclohexane	$C_8H_{16}$	-24.3	-1.7	+10.1	22.6	36.5	45.4	57.6	76.0	97.0	119.3	-36.9

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
Dimethyl ether	C <sub>2</sub> H <sub>6</sub> O	-115.7	-101.1	-93.3	-85.2	-76.2	-70.4	-62.7	-50.9	-37.8	-23.7	-138.5
2,2-Dimethylhexane	C <sub>8</sub> H <sub>18</sub>	-29.7	-7.9	+3.1	15.0	28.2	36.7	48.2	65.7	85.6	106.8	
2,3-Dimethylhexane	C <sub>8</sub> H <sub>18</sub>	-23.0	-1.1	+9.9	22.1	35.6	44.2	56.0	73.8	94.1	115.6	
2,4-Dimethylhexane	C <sub>8</sub> H <sub>18</sub>	-26.9	-5.3	+5.2	17.2	30.5	39.0	50.6	68.1	88.2	109.4	
2,5-Dimethylhexane	C <sub>8</sub> H <sub>18</sub>	-26.7	-5.5	+5.3	17.2	30.4	38.9	50.5	68.0	87.9	109.1	-90.7
3,3-Dimethylhexane	C <sub>8</sub> H <sub>18</sub>	-25.8	-4.4	+6.1	18.2	31.7	40.4	52.5	70.0	90.4	112.0	
3,4-Dimethylhexane	C <sub>8</sub> H <sub>18</sub>	-22.1	+0.2	11.3	23.5	37.1	45.8	57.7	75.6	96.0	117.7	
Dimethyl itaconate	C <sub>7</sub> H <sub>10</sub> O <sub>4</sub>	69.3	94.0	106.6	119.7	133.7	142.6	153.7	171.0	189.8	208.0	38
1-Dimethyl maleate	C <sub>6</sub> H <sub>10</sub> O <sub>5</sub>	75.4	104.0	118.3	133.8	150.1	160.4	175.1	196.3	219.5	242.6	
Dimethyl malate	C <sub>6</sub> H <sub>8</sub> O <sub>4</sub>	45.7	73.0	86.4	101.3	117.2	127.1	140.4	160.0	182.2	205.0	
malonate	C <sub>6</sub> H <sub>8</sub> O <sub>4</sub>	35.0	59.8	72.0	85.0	100.0	109.7	121.9	140.0	159.8	180.7	-62
trans-Dimethyl mesaconate	C <sub>7</sub> H <sub>10</sub> O <sub>4</sub>	46.8	74.0	87.8	102.1	118.0	127.8	141.5	161.0	183.5	206.0	
2,7-Dimethyloctane	C <sub>10</sub> H <sub>22</sub>	+6.3	30.5	42.3	55.8	71.2	80.8	93.9	114.0	136.0	159.7	-52.8
Dimethyl oxalate	C <sub>6</sub> H <sub>8</sub> O <sub>4</sub>	20.0	44.0	56.0	69.4	83.6	92.8	104.8	123.3	143.3	163.3	
2,2-Dimethylpentane	C <sub>7</sub> H <sub>16</sub>	-49.0	-28.7	-18.7	-7.5	+5.0	13.0	23.9	40.3	59.2	79.2	-123.7
2,3-Dimethylpentane	C <sub>7</sub> H <sub>16</sub>	-42.0	-20.8	-10.3	+1.1	13.9	22.1	33.3	50.1	69.4	89.8	-135
2,4-Dimethylpentane	C <sub>7</sub> H <sub>16</sub>	-48.0	-27.4	-17.1	-5.9	+6.5	14.5	25.4	41.8	60.6	80.5	-119.5
3,3-Dimethylpentane	C <sub>7</sub> H <sub>16</sub>	-45.9	-25.0	-14.4	-2.9	+9.9	18.1	29.3	46.2	65.5	86.1	-135.0
2,3-Dimethylphenol (2,3-xyleneol)	C <sub>8</sub> H <sub>10</sub> O	56.0	83.8	97.6	112.0	129.2	139.5	152.2	173.0	196.0	218.0	75
2,4-Dimethylphenol (2,4-xyleneol)	C <sub>8</sub> H <sub>10</sub> O	51.8	78.0	91.3	105.0	121.5	131.0	143.0	161.5	184.2	211.5	25.5
2,5-Dimethylphenol (2,5-xyleneol)	C <sub>8</sub> H <sub>10</sub> O	51.8	78.0	91.3	105.0	121.5	131.0	143.0	161.5	184.2	211.5	74.5
3,4-Dimethylphenol (3,4-xyleneol)	C <sub>8</sub> H <sub>10</sub> O	66.2	93.8	107.7	122.0	138.0	148.0	161.0	181.5	203.6	225.2	62.5
3,5-Dimethylphenol (3,5-xyleneol)	C <sub>8</sub> H <sub>10</sub> O	62.0	89.2	102.4	117.0	133.3	143.5	156.0	176.2	197.8	219.5	68
Dimethylphenylsilane	C <sub>8</sub> H <sub>12</sub> Si	+5.3	30.3	42.6	56.2	71.4	81.3	94.2	114.2	136.4	159.3	
Dimethyl phthalate	C <sub>10</sub> H <sub>10</sub> O <sub>4</sub>	100.3	131.8	147.6	164.0	182.8	194.0	210.0	232.7	257.8	283.7	
3,5-Dimethyl-1,2-pyrone	C <sub>7</sub> H <sub>6</sub> O <sub>2</sub>	78.6	107.6	122.0	136.4	152.7	163.8	177.5	198.0	221.0	245.0	51.5
4,6-Dimethylresorcinol	C <sub>8</sub> H <sub>10</sub> O <sub>2</sub>	49.0	76.8	90.7	105.8	122.5	133.2	147.3	167.8	192.0	215.0	
Dimethyl sebacate	C <sub>10</sub> H <sub>22</sub> O <sub>4</sub>	104.0	139.8	156.2	175.8	196.0	208.0	222.6	245.0	269.6	293.5	38
2,4-Dimethylstyrene	C <sub>10</sub> H <sub>12</sub>	34.2	61.9	75.8	90.8	107.7	118.0	132.3	153.2	177.5	202.0	
2,5-Dimethylstyrene	C <sub>10</sub> H <sub>12</sub>	29.0	55.9	69.0	84.0	100.2	110.7	124.7	145.6	168.7	193.0	
α,α-Dimethylsuccinic anhydride	C <sub>8</sub> H <sub>8</sub> O <sub>3</sub>	61.4	88.1	102.0	116.3	132.3	142.4	155.3	175.8	197.5	219.5	
Dimethyl sulfide	C <sub>2</sub> H <sub>6</sub> S	-75.6	-58.0	-49.2	-39.4	-28.4	-21.4	-12.0	+2.6	18.7	36.0	-83.2
<i>d</i> -Dimethyl tartrate	C <sub>8</sub> H <sub>10</sub> O <sub>6</sub>	102.1	133.2	148.2	164.3	182.4	193.8	208.8	230.5	255.0	280.0	61.5
<i>dl</i> -Dimethyl tartrate	C <sub>8</sub> H <sub>10</sub> O <sub>6</sub>	100.4	131.8	147.5	164.0	182.4	193.8	209.5	232.3	257.4	282.0	89
<i>N,N</i> -Dimethyl-2-toluidine	C <sub>9</sub> H <sub>13</sub> N	28.8	54.1	66.2	80.2	95.0	105.2	118.1	138.3	161.5	184.8	-61
<i>N,N</i> -Dimethyl-4-toluidine	C <sub>9</sub> H <sub>13</sub> N	50.1	74.3	86.7	100.0	116.3	126.4	140.3	161.6	185.4	209.5	
Di(nitrosomethyl) amine	C <sub>2</sub> H <sub>5</sub> N <sub>3</sub> O <sub>2</sub>	+3.2	27.8	40.0	53.7	68.2	77.7	90.3	110.0	131.3	153.0	
Diosphenol	C <sub>10</sub> H <sub>16</sub> O <sub>2</sub>	66.7	95.4	109.0	124.0	141.2	151.3	165.6	186.2	209.5	232.0	
1,4-Dioxane	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	-35.8	-12.8	-1.2	+12.0	25.2	33.8	45.1	62.3	81.8	101.1	10
Dipentene	C <sub>10</sub> H <sub>16</sub>	14.0	40.4	53.8	68.2	84.3	94.6	108.3	128.2	150.5	174.6	
Diphenylamine	C <sub>12</sub> H <sub>11</sub> N	108.3	141.7	157.0	175.2	194.3	206.9	222.8	247.5	274.1	302.0	52.9
Diphenyl carbinol (benzhydrol)	C <sub>13</sub> H <sub>12</sub> O	110.0	145.0	162.0	180.9	200.0	212.0	227.5	250.0	275.6	301.0	68.5
chlorophosphate	C <sub>12</sub> H <sub>10</sub> ClP <sub>3</sub> O <sub>3</sub>	121.5	160.5	182.0	203.8	227.9	244.2	265.0	299.5	337.2	378.0	
disulfide	C <sub>12</sub> H <sub>10</sub> S <sub>2</sub>	131.6	164.0	180.0	197.0	214.8	226.2	241.3	262.6	285.8	310.0	61
1,2-Diphenylethane (dibenzyl)	C <sub>14</sub> H <sub>14</sub>	86.8	119.8	136.0	153.7	173.7	186.0	202.8	227.8	255.0	284.0	51.5
Diphenyl ether	C <sub>12</sub> H <sub>10</sub> O	66.1	97.8	114.0	130.8	150.0	162.0	178.8	203.3	230.7	258.5	27
1,1-Diphenylethylene	C <sub>14</sub> H <sub>12</sub>	87.4	119.6	135.0	151.8	170.8	183.4	198.6	222.8	249.8	277.0	
trans-Diphenylethylene	C <sub>14</sub> H <sub>12</sub>	113.2	145.8	161.0	179.8	199.0	211.5	227.4	251.7	278.3	306.5	124
1,1-Diphenylhydrazine	C <sub>12</sub> H <sub>12</sub> N <sub>2</sub>	126.0	159.3	176.1	194.0	213.5	225.9	242.5	267.2	294.0	322.2	44
Diphenylmethane	C <sub>13</sub> H <sub>12</sub>	76.0	107.4	122.8	139.8	157.8	170.2	186.3	210.7	237.5	264.5	26.5
Diphenyl sulfide	C <sub>12</sub> H <sub>10</sub> S	96.1	129.0	145.0	162.0	182.8	194.8	211.8	236.8	263.9	292.5	
Diphenyl-2-tolyl thiophosphate	C <sub>15</sub> H <sub>17</sub> O <sub>3</sub> PS	159.7	179.8	201.6	215.5	230.6	240.4	252.5	270.3	290.0	310.0	
1,2-Dipropoxyethane	C <sub>8</sub> H <sub>18</sub> O <sub>2</sub>	-38.8	-10.3	+5.0	22.3	42.3	55.8	74.2	103.8	140.0	180.0	
1,2-Diisopropylbenzene	C <sub>12</sub> H <sub>18</sub>	40.0	67.8	81.8	96.8	114.0	124.3	138.7	159.8	184.3	209.0	
1,3-Diisopropylbenzene	C <sub>12</sub> H <sub>18</sub>	34.7	62.3	76.0	91.2	107.9	118.2	132.3	153.7	177.6	202.0	-105
Dipropylene glycol	C <sub>6</sub> H <sub>14</sub> O <sub>3</sub>	73.8	102.1	116.2	131.3	147.4	156.5	169.9	189.9	210.5	231.8	
Dipropylene glycol monobutyl ether	C <sub>10</sub> H <sub>22</sub> O <sub>3</sub>	64.7	92.0	106.0	120.4	136.3	146.3	159.8	180.0	203.8	227.0	
isopropyl ether	C <sub>6</sub> H <sub>14</sub> O	46.0	72.8	86.2	100.8	117.0	126.8	140.3	160.0	183.1	205.6	
Di- <i>n</i> -propyl ether	C <sub>6</sub> H <sub>14</sub> O	-43.3	-22.3	-11.8	0.0	+13.2	21.6	33.0	50.3	69.5	89.5	-122
Diisopropyl ether	C <sub>6</sub> H <sub>14</sub> O	-57.0	-37.4	-27.4	-16.7	-4.5	+3.4	13.7	30.0	48.2	67.5	-60
Di- <i>n</i> -propyl ketone (4-heptanone)	C <sub>7</sub> H <sub>14</sub> O	23.0	44.4	55.0	66.2	78.1	85.8	96.0	111.2	127.3	143.7	-32.6
Di- <i>n</i> -propyl oxalate	C <sub>8</sub> H <sub>14</sub> O <sub>4</sub>	53.4	80.2	93.9	108.6	124.6	134.8	148.1	168.0	190.3	213.5	
Diisopropyl oxalate	C <sub>8</sub> H <sub>14</sub> O <sub>4</sub>	43.2	69.0	81.9	95.6	110.5	120.0	132.6	151.2	171.8	193.5	
Di- <i>n</i> -propyl succinate	C <sub>10</sub> H <sub>18</sub> O <sub>4</sub>	77.5	107.6	122.2	138.0	154.8	166.0	180.3	202.5	226.5	250.8	
Di- <i>n</i> -propyl <i>d</i> -tartrate	C <sub>10</sub> H <sub>18</sub> O <sub>6</sub>	115.6	147.7	163.5	180.4	199.7	211.7	227.0	250.1	275.6	303.0	
Diisopropyl <i>d</i> -tartrate	C <sub>10</sub> H <sub>18</sub> O <sub>6</sub>	103.7	133.7	148.2	164.0	181.8	192.6	207.3	228.2	251.8	275.0	
Divinyl acetylene (1,5-hexadiene-3-yne)	C <sub>6</sub> H <sub>6</sub>	-45.1	-24.4	-14.0	-2.8	+10.0	18.1	29.5	46.0	64.4	84.0	
1,3-Divinylbenzene	C <sub>10</sub> H <sub>10</sub>	32.7	60.0	73.8	88.7	105.5	116.0	130.0	151.4	175.2	199.5	-66.9
Docosane	C <sub>22</sub> H <sub>46</sub>	157.8	195.4	213.0	233.5	254.5	268.3	286.0	314.2	343.5	376.0	44.5
<i>n</i> -Dodecane	C <sub>12</sub> H <sub>26</sub>	47.8	75.8	90.0	104.6	121.7	132.1	146.2	167.2	191.0	216.2	-9.6
1-Dodecene	C <sub>12</sub> H <sub>24</sub>	47.2	74.0	87.8	102.4	118.6	128.5	142.3	162.2	185.5	208.0	-31.5
<i>n</i> -Dodecyl alcohol	C <sub>12</sub> H <sub>26</sub> O	91.0	120.2	134.7	150.0	167.2	177.8	192.0	213.0	235.7	259.0	24
Dodecylamine	C <sub>12</sub> H <sub>27</sub> N	82.8	111.8	127.8	141.6	157.4	168.0	182.1	203.0	225.0	248.0	
Dodecyltrimethylsilane	C <sub>15</sub> H <sub>34</sub> Si	91.2	122.1	137.7	153.8	172.1	184.2	199.5	222.0	248.0	273.0	
Elaidic acid	C <sub>18</sub> H <sub>34</sub> O <sub>2</sub>	171.3	206.7	223.5	242.3	260.8	273.0	288.0	312.4	337.0	362.0	51.5

## 2-68 PHYSICAL AND CHEMICAL DATA

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
Epichlorohydrin	C <sub>3</sub> H <sub>5</sub> ClO	-16.5	+5.6	16.6	29.0	42.0	50.6	62.0	79.3	98.0	117.9	-25.6
1,2-Epoxy-2-methylpropane	C <sub>4</sub> H <sub>8</sub> O	-69.0	-50.0	-40.3	-29.5	-17.3	-9.7	+1.2	17.5	36.0	55.5	
Erucic acid	C <sub>22</sub> H <sub>42</sub> O <sub>2</sub>	206.7	239.7	254.5	270.6	289.1	300.2	314.4	336.5	358.8	381.5	33.5
Estragole ( <i>p</i> -methoxy allyl benzene)	C <sub>10</sub> H <sub>12</sub> O	52.6	80.0	93.7	108.4	124.6	135.2	148.5	168.7	192.0	215.0	
Ethane	C <sub>2</sub> H <sub>6</sub>	-159.5	-148.5	-142.9	-136.7	-129.8	-125.4	-119.3	-110.2	-99.7	-88.6	-183.2
Ethoxydimethylphenylsilane	C <sub>10</sub> H <sub>16</sub> OSi	36.3	63.1	76.2	91.0	107.2	127.5	131.4	151.5	175.0	199.5	
Ethoxytrimethylsilane	C <sub>8</sub> H <sub>14</sub> OSi	-50.9	-31.0	-20.7	-9.8	+3.7	11.5	22.1	38.1	56.3	75.7	
Ethoxytriphenylsilane	C <sub>20</sub> H <sub>20</sub> OSi	167.0	198.2	213.5	230.0	247.0	258.3	273.5	295.0	319.5	344.0	
Ethyl acetate	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	-43.4	-23.5	-13.5	-3.0	+9.1	16.6	27.0	42.0	59.3	77.1	-82.4
acetoacetate	C <sub>6</sub> H <sub>10</sub> O <sub>3</sub>	28.5	54.0	67.3	81.1	96.2	106.0	118.5	138.0	158.2	180.8	-45
Ethylacetylene (1-butyne)	C <sub>4</sub> H <sub>6</sub>	-92.5	-76.7	-68.7	-59.9	-50.0	-43.4	-34.9	-21.6	-6.9	+8.7	-130
Ethyl acrylate	C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	-29.5	-8.7	+2.0	13.0	26.0	33.5	44.5	61.5	80.0	99.5	-71.2
α-Ethylacrylic acid	C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	47.0	70.7	82.0	94.4	108.1	116.7	127.5	144.0	160.7	179.2	
α-Ethylacrylonitrile	C <sub>7</sub> H <sub>7</sub> N	-29.0	-6.4	+5.0	17.7	31.8	40.6	53.0	71.6	92.2	114.0	
Ethyl alcohol (ethanol)	C <sub>2</sub> H <sub>6</sub> O	-31.3	-12.0	-2.3	+8.0	19.0	26.0	34.9	48.4	63.5	78.4	-112
Ethylamine	C <sub>2</sub> H <sub>7</sub> N	-82.3	-66.4	-58.3	-48.6	-39.8	-33.4	-25.1	-12.3	+2.0	16.6	-80.6
4-Ethylaniline	C <sub>8</sub> H <sub>11</sub> N	52.0	80.0	93.8	109.0	125.7	136.0	149.8	170.6	194.2	217.4	-4
N-Ethylaniline	C <sub>8</sub> H <sub>11</sub> N	38.5	66.4	80.6	96.0	113.2	123.6	137.3	156.9	180.8	204.0	-63.5
2-Ethylanisole	C <sub>9</sub> H <sub>12</sub> O	29.7	55.9	69.0	83.1	98.8	109.0	122.3	142.1	164.2	187.1	
3-Ethylanisole	C <sub>9</sub> H <sub>12</sub> O	33.7	60.3	73.9	88.5	104.8	115.5	129.2	149.7	172.8	196.5	
4-Ethylanisole	C <sub>9</sub> H <sub>12</sub> O	33.5	60.2	73.9	88.5	104.7	115.4	128.4	149.2	172.3	196.5	
Ethylbenzene	C <sub>8</sub> H <sub>10</sub>	-9.8	+13.9	25.9	38.6	52.8	61.8	74.1	92.7	113.8	136.2	-94.9
Ethyl benzoate	C <sub>9</sub> H <sub>10</sub> O <sub>2</sub>	44.0	72.0	86.0	101.4	118.2	129.0	143.2	164.8	188.4	213.4	-34.6
benzoylacetate	C <sub>11</sub> H <sub>12</sub> O <sub>3</sub>	107.6	136.4	150.3	166.8	181.8	191.9	205.0	223.8	244.7	265.0	
bromide	C <sub>8</sub> H <sub>7</sub> Br	-74.3	-56.4	-47.5	-37.8	-26.7	-19.5	-10.0	+4.5	21.0	38.4	-117.8
α-bromoisobutyrate	C <sub>8</sub> H <sub>11</sub> BrO <sub>2</sub>	10.6	35.8	48.0	61.8	77.0	86.7	99.8	119.7	141.2	163.6	
<i>n</i> -butyrate	C <sub>8</sub> H <sub>12</sub> O <sub>2</sub>	-18.4	+4.0	15.3	27.8	41.5	50.1	62.0	79.8	100.0	121.0	-93.3
isobutyrate	C <sub>8</sub> H <sub>12</sub> O <sub>2</sub>	-24.3	-2.4	+8.4	20.6	33.8	42.3	53.5	71.0	90.0	110.0	-88.2
Ethylcamphoronic anhydride	C <sub>11</sub> H <sub>16</sub> O <sub>5</sub>	118.2	149.8	165.0	181.8	199.8	211.5	226.6	248.5	272.8	298.0	
Ethyl isocaproate	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	11.0	35.8	48.0	61.7	76.3	85.8	98.4	117.8	139.2	160.4	
carbamate	C <sub>8</sub> H <sub>7</sub> NO <sub>2</sub>		65.8	77.8	91.0	105.6	114.8	126.2	144.2	164.0	184.0	49
carbanilate	C <sub>9</sub> H <sub>11</sub> NO <sub>2</sub>	107.8	131.8	143.7	155.5	168.8	177.3	187.9	203.8	220.0	237.0	52.5
Ethylcetylamine	C <sub>18</sub> H <sub>30</sub> N	133.2	168.2	186.0	205.5	226.5	239.8	256.8	283.3	313.0	342.0	
Ethyl chloride	C <sub>2</sub> H <sub>5</sub> Cl	-89.8	-73.9	-65.8	-56.8	-47.0	-40.6	-32.0	-18.6	-3.9	+14.2	-139
chloroacetate	C <sub>3</sub> H <sub>7</sub> ClO <sub>2</sub>	+1.0	25.9	37.5	50.4	65.2	74.0	86.0	103.8	123.8	144.2	-26
chloroglyoxylate	C <sub>4</sub> H <sub>5</sub> ClO <sub>3</sub>	-5.1	+18.0	29.9	42.0	56.0	65.2	76.6	94.5	114.7	135.0	
α-chloropropionate	C <sub>5</sub> H <sub>7</sub> ClO <sub>2</sub>	+6.6	30.2	41.9	54.3	68.2	77.3	89.3	107.2	126.2	146.5	
<i>trans</i> -cinnamate	C <sub>11</sub> H <sub>12</sub> O <sub>2</sub>	87.6	108.5	134.0	150.3	169.2	181.2	196.0	219.3	245.0	271.0	12
3-Ethylcumene	C <sub>11</sub> H <sub>16</sub>	28.3	55.5	68.8	83.6	99.9	110.2	124.3	145.4	168.2	193.0	
4-Ethylcumene	C <sub>11</sub> H <sub>16</sub>	31.5	58.4	72.0	86.7	103.3	113.8	127.2	148.3	171.8	195.8	
Ethyl cyanoacetate	C <sub>5</sub> H <sub>7</sub> NO <sub>2</sub>	67.8	93.5	106.0	119.8	133.8	142.1	152.8	169.8	187.8	206.0	
Ethylcyclohexane	C <sub>8</sub> H <sub>16</sub>	-14.5	+9.2	20.6	33.4	47.6	56.7	69.0	87.8	109.1	131.8	-111.3
Ethylcyclopentane	C <sub>7</sub> H <sub>14</sub>	-32.2	-10.8	-0.1	+11.7	25.0	33.4	45.0	62.4	82.3	103.4	-138.6
Ethyl dichloroacetate	C <sub>4</sub> H <sub>6</sub> Cl <sub>2</sub> O <sub>2</sub>	9.6	34.0	46.3	59.5	74.0	83.6	96.1	115.2	135.9	156.5	
<i>N,N</i> -diethyloxamate	C <sub>8</sub> H <sub>15</sub> NO <sub>3</sub>	76.0	106.3	121.7	137.7	154.4	166.0	180.3	202.8	226.5	252.0	
N-Ethylidiphenylamine	C <sub>14</sub> H <sub>15</sub> N	98.3	130.2	146.0	162.8	182.0	193.7	209.8	233.0	258.8	286.0	
Ethylene	C <sub>2</sub> H <sub>4</sub>	-168.3	-158.3	-153.2	-147.6	-141.3	-137.3	-131.8	-123.4	-113.9	-103.7	-169
Ethylene-bis-(chloroacetate)	C <sub>6</sub> H <sub>8</sub> Cl <sub>2</sub> O <sub>4</sub>	112.0	142.4	158.0	173.5	191.0	201.8	215.0	237.3	259.5	283.5	
Ethylene chlorohydrin (2-chloroethanol)	C <sub>2</sub> H <sub>5</sub> ClO	-4.0	+19.0	30.3	42.5	56.0	64.1	75.0	91.8	110.0	128.8	-69
diamine (1,2-ethanediamine)	C <sub>2</sub> H <sub>8</sub> N <sub>2</sub>	-11.0	+10.5	21.5	33.0	45.8	53.8	62.5	81.0	99.0	117.2	8.5
dibromide (1,2-dibromethane)	C <sub>2</sub> H <sub>4</sub> Br <sub>2</sub>	-27.0	+4.7	18.6	32.7	48.0	57.9	70.4	89.8	110.1	131.5	10
dichloride (1,2-dichloroethane)	C <sub>2</sub> H <sub>4</sub> Cl <sub>2</sub>	-44.5	-24.0	-13.6	-2.4	+10.0	18.1	29.4	45.7	64.0	82.4	-35.3
glycol (1,2-ethanediol)	C <sub>2</sub> H <sub>6</sub> O <sub>2</sub>	53.0	79.7	92.1	105.8	120.0	129.5	141.8	158.5	178.5	197.3	-15.6
glycol diethyl ether	C <sub>6</sub> H <sub>14</sub> O <sub>2</sub>	-33.5	-10.2	+1.6	14.7	29.7	39.0	51.8	71.8	94.1	119.5	
(1,2-diethoxyethane)												
glycol dimethyl ether	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub>	-48.0	-26.2	-15.3	-3.0	+10.7	19.7	31.8	50.0	70.8	93.0	
(1,2-dimethoxyethane)												
glycol monomethyl ether	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	-13.5	+10.2	22.0	34.3	47.8	56.4	68.0	85.3	104.3	124.4	
(2-methoxyethanol)												
oxide	C <sub>2</sub> H <sub>4</sub> O	-89.7	-73.8	-65.7	-56.6	-46.9	-40.7	-32.1	-19.5	-4.9	+10.7	-111.3
Ethyl α-ethylacetoacetate	C <sub>8</sub> H <sub>14</sub> O <sub>3</sub>	40.5	67.3	80.2	94.6	110.3	120.6	133.8	153.2	175.6	198.0	
fluoride	C <sub>8</sub> H <sub>7</sub> F	-117.0	-103.8	-97.7	-90.0	-81.8	-76.4	-69.3	-58.0	-45.5	-32.0	
formate	C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	-60.5	-42.2	-33.0	-22.7	-11.5	-4.3	-5.4	20.0	37.1	54.3	-79
2-furoate	C <sub>7</sub> H <sub>8</sub> O <sub>3</sub>	37.6	63.8	77.1	91.5	107.5	117.5	130.4	150.1	172.5	195.0	34
glycolate	C <sub>7</sub> H <sub>8</sub> O <sub>3</sub>	14.3	38.8	50.5	63.9	78.1	87.6	99.8	117.8	138.0	158.2	
3-Ethylhexane	C <sub>8</sub> H <sub>18</sub>	-20.0	+2.1	12.8	25.0	38.5	47.1	58.9	76.7	97.0	118.5	
2-Ethylhexyl acrylate	C <sub>14</sub> H <sub>26</sub> O <sub>2</sub>	50.0	77.7	91.8	106.3	123.7	134.0	147.9	168.2	192.2	216.0	
Ethylidene chloride (1,1-dichloroethane)	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	-60.7	-41.9	-32.3	-21.9	-10.2	-2.9	+7.2	22.4	39.8	57.4	-96.7
fluoride (1,1-difluoroethane)	C <sub>2</sub> H <sub>2</sub> F <sub>2</sub>	-112.5	-98.4	-91.7	-84.1	-75.8	-70.4	-63.2	-52.0	-39.5	-26.5	-117
Ethyl iodide	C <sub>2</sub> H <sub>5</sub> I	-54.4	-34.3	-24.3	-13.1	-0.9	+7.2	18.0	34.1	52.3	72.4	-105
Ethyl <i>l</i> -leucinate	C <sub>8</sub> H <sub>17</sub> NO <sub>2</sub>	27.8	57.3	72.1	88.0	106.0	117.8	131.8	149.8	167.3	184.0	
Ethyl levulinate	C <sub>8</sub> H <sub>12</sub> O <sub>3</sub>	47.3	74.0	87.3	101.8	117.7	127.6	141.3	160.2	183.0	206.2	
Ethyl mercaptan (ethanethiol)	C <sub>2</sub> H <sub>6</sub> S	-76.7	-59.1	-50.2	-40.7	-29.8	-22.4	-13.0	+1.5	17.7	35.0	-121
Ethyl methylcarbamate	C <sub>4</sub> H <sub>9</sub> NO <sub>2</sub>	26.5	51.0	63.2	76.1	91.0	100.0	112.0	130.0	149.8	170.0	
Ethyl methyl ether	C <sub>3</sub> H <sub>8</sub> O	-91.0	-75.6	-67.8	-59.1	-49.4	-43.3	-34.8	-22.0	-7.8	+7.5	

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
1-Ethynaphthalene	C <sub>12</sub> H <sub>12</sub>	70.0	101.4	116.8	133.8	152.0	164.1	180.0	204.6	230.8	258.1	-27
Ethyl α-naphthyl ketone (1-propionaphthone)	C <sub>13</sub> H <sub>12</sub> O	124.0	155.5	171.0	188.1	206.9	218.2	233.5	255.5	280.2	306.0	
Ethyl 3-nitrobenzoate	C <sub>9</sub> H <sub>9</sub> NO <sub>4</sub>	108.1	140.2	155.0	173.6	192.6	205.0	220.3	244.6	270.6	298.0	47
3-Ethylpentane	C <sub>7</sub> H <sub>16</sub>	-37.8	-17.0	-6.8	+4.7	17.5	25.7	36.9	53.8	73.0	93.5	-118.6
4-Ethylphenetole	C <sub>10</sub> H <sub>14</sub> O	48.5	75.7	89.5	103.8	119.8	129.8	143.5	163.2	185.7	208.0	
2-Ethylphenol	C <sub>8</sub> H <sub>10</sub> O	46.2	73.4	87.0	101.5	117.9	127.9	141.8	161.6	184.5	207.5	-45
3-Ethylphenol	C <sub>8</sub> H <sub>10</sub> O	60.0	86.8	100.2	114.5	130.0	139.8	152.0	171.8	193.3	214.0	-4
4-Ethylphenol	C <sub>8</sub> H <sub>10</sub> O	59.3	86.5	100.2	115.0	131.3	141.7	154.2	175.0	197.4	219.0	46.5
Ethyl phenyl ether (phenetole)	C <sub>9</sub> H <sub>10</sub> O	18.1	43.7	56.4	70.3	86.6	95.4	108.4	127.9	149.8	172.0	-30.2
Ethyl propionate	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	-28.0	-7.2	+3.4	14.3	27.2	35.1	45.2	61.7	79.8	99.1	-72.6
Ethyl propyl ether	C <sub>9</sub> H <sub>18</sub> O	-64.3	-45.0	-35.0	-24.0	-12.0	-4.0	+6.8	23.3	41.6	61.7	
Ethyl salicylate	C <sub>9</sub> H <sub>10</sub> O <sub>3</sub>	61.2	90.0	104.2	119.3	136.7	147.6	161.5	183.7	207.0	231.5	1.3
3-Ethylstyrene	C <sub>10</sub> H <sub>12</sub>	28.3	55.0	68.3	82.8	99.2	109.6	123.2	144.0	167.2	191.5	
4-Ethylstyrene	C <sub>10</sub> H <sub>12</sub>	26.0	52.7	66.3	80.8	97.3	107.6	121.5	142.0	165.0	189.0	
Ethylisothiocyanate	C <sub>4</sub> H <sub>5</sub> NS	13.2	+10.6	22.8	36.1	50.8	59.8	71.9	90.0	110.1	131.0	-5.9
2-Ethyltoluene	C <sub>9</sub> H <sub>12</sub>	9.4	34.8	47.6	61.2	76.4	86.0	99.0	119.0	141.4	165.1	
3-Ethyltoluene	C <sub>9</sub> H <sub>12</sub>	7.2	32.3	44.7	58.2	73.3	82.9	95.9	115.5	137.8	161.3	-95.5
4-Ethyltoluene	C <sub>9</sub> H <sub>12</sub>	7.6	32.7	44.9	58.5	73.6	83.2	96.3	116.1	136.4	162.0	
Ethyl trichloroacetate	C <sub>8</sub> H <sub>7</sub> Cl <sub>3</sub> O <sub>2</sub>	20.7	45.5	57.7	70.6	85.5	94.4	107.4	125.8	146.0	167.0	
Ethyltrimethylsilane	C <sub>8</sub> H <sub>18</sub> Si	-60.6	-41.4	-31.8	-21.0	-9.0	-1.2	+9.2	25.0	42.8	62.0	
Ethyltrimethyltin	C <sub>8</sub> H <sub>14</sub> Sn	-30.0	-7.6	+3.8	16.1	30.0	38.4	50.0	67.3	87.6	108.8	
Ethyl isovalerate	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	-6.1	+17.0	28.7	41.3	55.2	64.0	75.9	93.8	114.0	134.3	-99.3
2-Ethyl-1,4-xylene	C <sub>10</sub> H <sub>14</sub>	25.7	52.0	65.6	79.8	96.0	106.2	120.0	140.2	163.1	186.9	
4-Ethyl-1,3-xylene	C <sub>10</sub> H <sub>14</sub>	26.3	53.0	66.4	80.6	97.2	107.4	121.2	141.8	164.4	188.4	
5-Ethyl-1,3-xylene	C <sub>10</sub> H <sub>14</sub>	22.1	48.8	62.1	76.5	92.6	103.0	116.5	137.4	159.6	183.7	
Eugenol	C <sub>10</sub> H <sub>12</sub> O <sub>2</sub>	78.4	108.1	123.0	138.7	155.8	167.3	182.2	204.7	228.3	253.5	
iso-Eugenol	C <sub>10</sub> H <sub>12</sub> O <sub>2</sub>	86.3	117.0	132.4	149.0	167.0	178.2	194.0	217.2	242.3	267.5	-10
Eugenyl acetate	C <sub>12</sub> H <sub>14</sub> O <sub>3</sub>	101.6	132.3	148.0	164.2	183.0	194.0	209.7	232.5	257.4	282.0	295
Fencholic acid	C <sub>10</sub> H <sub>16</sub> O <sub>2</sub>	101.7	128.7	142.3	155.8	171.8	181.5	194.0	215.0	237.8	264.1	19
d-Fenchone	C <sub>10</sub> H <sub>16</sub> O	28.0	54.7	68.3	83.0	99.5	109.8	123.6	144.0	166.8	191.0	5
dl-Fenchyl alcohol	C <sub>10</sub> H <sub>18</sub> O	45.8	70.3	82.1	95.6	110.8	120.2	132.3	150.0	173.2	201.0	35
Fluorene	C <sub>13</sub> H <sub>10</sub>	129.3	146.0	164.2	185.2	197.8	214.7	240.3	268.6	295.0	313	113
Fluorobenzene	C <sub>6</sub> H <sub>5</sub> F	-43.4	-22.8	-12.4	-1.2	+11.5	19.6	30.4	47.2	65.7	84.7	-42.1
2-Fluorotoluene	C <sub>7</sub> H <sub>7</sub> F	-24.2	-2.2	+8.9	21.4	34.7	43.7	55.3	73.0	92.8	114.0	-80
3-Fluorotoluene	C <sub>7</sub> H <sub>7</sub> F	-22.4	-0.3	+11.0	23.4	37.0	45.8	57.5	75.4	95.4	116.0	-110.8
4-Fluorotoluene	C <sub>7</sub> H <sub>7</sub> F	-21.8	+0.3	11.8	24.0	37.8	46.5	58.1	76.0	96.1	117.0	
Formaldehyde	CH <sub>2</sub> O			-88.0	-79.6	-70.6	-65.0	-57.3	-46.0	-33.0	-19.5	-92
Formamide	CH <sub>3</sub> NO	70.5	96.3	109.5	122.5	137.5	147.0	157.5	175.5	193.5	210.5	
Formic acid	CH <sub>2</sub> O <sub>2</sub>	-20.0	-5.0	+2.1	10.3	24.0	32.4	43.8	61.4	80.3	100.6	8.2
trans-Fumaryl chloride	C <sub>4</sub> H <sub>2</sub> Cl <sub>2</sub> O <sub>2</sub>	+15.0	38.5	51.8	65.0	79.5	89.0	101.0	120.0	140.0	160.0	
Furfural (2-furaldehyde)	C <sub>5</sub> H <sub>4</sub> O <sub>2</sub>	18.5	42.6	54.8	67.8	82.1	91.5	103.4	121.8	141.8	161.8	
Furfuryl alcohol	C <sub>5</sub> H <sub>6</sub> O <sub>2</sub>	31.8	56.0	68.0	81.0	95.7	104.0	115.9	133.1	151.8	170.0	
Geraniol	C <sub>10</sub> H <sub>18</sub> O	69.2	96.8	110.0	125.6	141.8	151.5	165.3	185.6	207.8	230.0	
Geranyl acetate	C <sub>12</sub> H <sub>20</sub> O <sub>2</sub>	73.5	102.7	117.9	133.0	150.0	160.3	175.2	196.3	219.8	243.3	
Geranyl n-butyrate	C <sub>14</sub> H <sub>24</sub> O <sub>2</sub>	96.8	125.2	139.0	153.8	170.1	180.2	193.8	214.0	235.0	257.4	
Geranyl isobutyrate	C <sub>14</sub> H <sub>24</sub> O <sub>2</sub>	90.9	119.6	133.0	147.9	164.0	174.0	187.7	207.6	228.5	251.0	
Geranyl formate	C <sub>11</sub> H <sub>18</sub> O <sub>2</sub>	61.8	90.3	104.3	119.8	136.2	147.2	160.7	182.6	205.8	230.0	
Glutaric acid	C <sub>5</sub> H <sub>8</sub> O <sub>4</sub>	155.5	183.8	196.0	210.5	226.3	235.5	247.0	265.0	283.5	303.0	97.5
Glutaric anhydride	C <sub>5</sub> H <sub>6</sub> O <sub>3</sub>	100.8	133.3	149.5	166.0	185.5	196.2	212.5	236.5	261.0	287.0	
Glutaronitrile	C <sub>5</sub> H <sub>6</sub> N <sub>2</sub>	91.3	123.7	140.0	156.5	176.4	189.5	205.5	230.0	257.3	286.2	
Glutaryl chloride	C <sub>6</sub> H <sub>8</sub> Cl <sub>2</sub> O <sub>2</sub>	56.1	84.0	97.8	112.3	128.3	139.1	151.8	172.4	193.3	217.0	
Glycerol	C <sub>3</sub> H <sub>8</sub> O <sub>3</sub>	125.5	153.8	167.2	182.2	198.0	208.0	220.1	240.0	263.0	290.0	17.9
Glycerol dichlorohydrin (1,3-dichloro-2-propanol)	C <sub>3</sub> H <sub>6</sub> Cl <sub>2</sub> O	28.0	52.2	64.7	78.0	93.0	102.0	114.8	133.3	153.5	174.3	
Glycol diacetate	C <sub>6</sub> H <sub>10</sub> O <sub>4</sub>	38.3	64.1	77.1	90.8	106.1	115.8	128.0	147.8	168.3	190.5	-31
Glycolide (1,4-dioxane-2,6-dione)	C <sub>4</sub> H <sub>4</sub> O <sub>4</sub>	103.0	116.6	132.0	148.6	168.2	182.2	194.0	217.0	240.0	267.0	97
Guaicol (2-methoxyphenol)	C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	52.4	79.1	92.0	106.0	121.6	131.0	144.0	162.7	184.1	205.0	28.3
Heneicosane	C <sub>21</sub> H <sub>44</sub>	152.6	188.0	205.4	223.2	243.4	255.3	272.0	296.5	323.8	350.5	40.4
Heptacosane	C <sub>27</sub> H <sub>56</sub>	211.7	248.6	266.8	284.6	305.7	318.3	333.5	359.4	385.0	410.6	59.5
Heptadecane	C <sub>17</sub> H <sub>36</sub>	115.0	145.2	160.0	177.7	195.8	207.3	223.0	247.8	274.5	303.0	22.5
Heptaldehyde (enanthaldehyde)	C <sub>8</sub> H <sub>14</sub> O	12.0	32.7	43.0	54.0	66.3	74.0	84.0	102.0	125.5	155.0	-42
n-Heptane	C <sub>7</sub> H <sub>16</sub>	-34.0	-12.7	-2.1	+9.5	22.3	30.6	41.8	58.7	78.0	98.4	-90.6
Heptanoic acid (enanthic acid)	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	78.0	101.3	113.2	125.6	139.5	148.5	160.0	179.5	199.6	221.5	-10
1-Heptanol	C <sub>7</sub> H <sub>16</sub> O	42.4	64.3	74.7	85.8	99.8	108.0	119.5	136.6	155.6	175.8	34.6
Heptanoyl chloride (enanthyl chloride)	C <sub>7</sub> H <sub>13</sub> ClO	34.2	54.6	64.6	75.0	86.4	93.5	102.7	116.3	130.7	145.0	
2-Heptene	C <sub>7</sub> H <sub>14</sub>	-35.8	-14.1	-3.5	+8.3	21.5	30.0	41.3	58.6	78.1	98.5	
Heptylbenzene	C <sub>13</sub> H <sub>20</sub>	64.0	94.6	110.0	126.0	144.0	154.8	170.2	193.3	217.8	244.0	
Heptyl cyanide (enanthonitrile)	C <sub>7</sub> H <sub>13</sub> N	21.0	47.8	61.6	76.3	92.6	103.0	116.8	137.7	160.0	184.6	
Hexachlorobenzene	C <sub>6</sub> Cl <sub>6</sub>	114.4	149.3	166.4	185.7	206.0	219.0	235.5	258.5	283.5	309.4	
Hexachloroethane	C <sub>2</sub> Cl <sub>6</sub>	32.7	49.8	73.5	87.6	102.3	112.0	124.2	143.1	163.8	185.6	186.6
Hexacosane	C <sub>26</sub> H <sub>54</sub>	204.0	240.0	257.4	275.8	295.2	307.8	323.2	348.4	374.6	399.8	56.6
Hexadecane	C <sub>16</sub> H <sub>34</sub>	105.3	135.2	149.8	164.7	181.3	193.2	208.5	231.7	258.3	287.5	18.5
1-Hexadecene	C <sub>16</sub> H <sub>32</sub>	101.6	131.7	146.2	162.0	178.8	190.8	205.3	226.8	250.0	274.0	4
n-Hexadecyl alcohol (cetyl alcohol)	C <sub>16</sub> H <sub>34</sub> O	122.7	158.3	177.8	197.8	219.8	234.3	251.7	280.2	312.7	344.0	49.3

## 2-70 PHYSICAL AND CHEMICAL DATA

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
<i>n</i> -Hexadecylamine (cetylamine)	C <sub>16</sub> H <sub>35</sub> N	123.6	157.8	176.0	195.7	215.7	228.8	245.8	272.2	300.4	330.0	
Hexaethylbenzene	C <sub>18</sub> H <sub>30</sub>		134.3	150.3	168.0	187.7	199.7	216.0	241.7	268.5	298.3	130
<i>n</i> -Hexane	C <sub>6</sub> H <sub>14</sub>	-53.9	-34.5	-25.0	-14.1	-2.3	+5.4	15.8	31.6	49.6	68.7	-95.3
1-Hexanol	C <sub>6</sub> H <sub>14</sub> O	24.4	47.2	58.2	70.3	83.7	92.0	102.8	119.6	138.0	157.0	-51.6
2-Hexanol	C <sub>6</sub> H <sub>14</sub> O	14.6	34.8	45.0	55.9	67.9	76.0	87.3	103.7	121.8	139.9	
3-Hexanol	C <sub>6</sub> H <sub>14</sub> O	+2.5	25.7	36.7	49.0	62.2	70.7	81.8	98.3	117.0	135.5	
1-Hexene	C <sub>6</sub> H <sub>12</sub>	-57.5	-38.0	-28.1	-17.2	-5.0	+2.8	13.0	29.0	46.8	66.0	-98.5
<i>n</i> -Hexyl levulinate	C <sub>11</sub> H <sub>20</sub> O <sub>3</sub>	90.0	120.0	134.7	150.2	167.8	179.0	193.6	215.7	241.0	266.8	
<i>n</i> -Hexyl phenyl ketone (enanthophenone)	C <sub>13</sub> H <sub>18</sub> O	100.0	130.3	145.5	161.0	178.9	189.8	204.2	225.0	248.3	271.3	
Hydrocinnamic acid	C <sub>9</sub> H <sub>10</sub> O <sub>2</sub>	102.2	133.5	148.7	165.0	183.3	194.0	209.0	230.8	255.0	279.8	48.5
Hydrogen cyanide (hydrocyanic acid)	CHN	-71.0	-55.3	-47.7	-39.7	-30.9	-25.1	-17.8	-5.3	+10.2	25.9	-13.2
Hydroquinone	C <sub>6</sub> H <sub>6</sub> O <sub>2</sub>	132.4	153.3	163.5	174.6	192.0	203.0	216.5	238.0	262.5	286.2	170.3
4-Hydroxybenzaldehyde	C <sub>7</sub> H <sub>6</sub> O <sub>2</sub>	121.2	153.2	169.7	186.8	206.0	217.5	233.5	256.8	282.6	310.0	115.5
$\alpha$ -Hydroxyisobutyric acid	C <sub>4</sub> H <sub>8</sub> O <sub>3</sub>	73.5	98.5	110.5	123.8	138.0	146.4	157.7	175.2	193.8	212.0	79
$\alpha$ -Hydroxybutyronitrile	C <sub>5</sub> H <sub>9</sub> NO	41.0	65.8	77.8	90.7	104.8	113.9	125.0	142.0	159.8	178.8	
4-Hydroxy-3-methyl-2-butanone	C <sub>6</sub> H <sub>10</sub> O <sub>2</sub>	44.6	69.3	81.0	94.0	108.2	117.4	129.0	146.5	165.5	185.0	
4-Hydroxy-4-methyl-2-pentanone	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	22.0	46.7	58.8	72.0	86.7	96.0	108.2	126.8	147.5	167.9	-47
3-Hydroxypropionitrile	C <sub>3</sub> H <sub>5</sub> NO	58.7	87.8	102.0	117.9	134.1	144.7	157.7	178.0	200.0	221.0	
Indene	C <sub>9</sub> H <sub>8</sub>	16.4	44.3	58.5	73.9	90.7	100.8	114.7	135.6	157.8	181.6	
Iodobenzene	C <sub>6</sub> H <sub>5</sub> I	24.1	50.6	64.0	78.3	94.4	105.0	118.3	139.8	163.9	188.6	-28.5
Iodononane	C <sub>9</sub> H <sub>19</sub> I	70.0	96.2	109.0	123.0	138.1	147.7	159.8	179.0	199.3	219.5	
2-Iodotoluene	C <sub>7</sub> H <sub>7</sub> I	37.2	65.9	79.8	95.6	112.4	123.8	138.1	160.0	185.7	211.0	
$\alpha$ -Ionone	C <sub>13</sub> H <sub>20</sub> O	79.5	108.8	123.0	139.0	155.6	166.3	181.2	202.5	225.2	250.0	
Isoprene	C <sub>5</sub> H <sub>8</sub>	-79.8	-62.3	-53.3	-43.5	-32.6	-25.4	-16.0	-1.2	+15.4	32.6	-146.7
Lauraldehyde	C <sub>12</sub> H <sub>24</sub> O	77.7	108.4	123.7	140.2	157.8	168.7	184.5	207.8	231.8	257.0	44.5
Lauric acid	C <sub>12</sub> H <sub>22</sub> O <sub>2</sub>	121.0	150.6	166.0	183.6	201.4	212.7	227.5	249.8	273.8	299.2	48
Levulinolaldehyde	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	28.1	54.9	68.0	82.7	98.3	108.4	121.8	142.0	164.0	187.0	
Levulinic acid	C <sub>5</sub> H <sub>8</sub> O <sub>3</sub>	102.0	128.1	141.8	154.1	169.5	178.0	190.2	208.3	227.4	245.8	33.5
<i>d</i> -Limonene	C <sub>10</sub> H <sub>16</sub>	14.0	40.4	53.8	68.2	84.3	94.6	108.3	128.5	151.4	175.0	-96.9
Linalyl acetate	C <sub>12</sub> H <sub>20</sub> O <sub>2</sub>	55.4	82.5	96.0	111.4	127.7	138.1	151.8	173.3	196.2	220.0	
Maleic anhydride	C <sub>4</sub> H <sub>2</sub> O <sub>3</sub>	44.0	63.4	78.7	95.0	111.8	122.0	135.8	155.9	179.5	202.0	58
Menthane	C <sub>10</sub> H <sub>20</sub>	+9.7	35.7	48.3	62.7	78.3	88.6	102.1	122.7	146.0	169.5	
1-Menthol	C <sub>10</sub> H <sub>20</sub> O	56.0	83.2	96.0	110.3	126.1	136.1	149.4	168.3	190.2	212.0	42.5
Menthyl acetate	C <sub>12</sub> H <sub>22</sub> O <sub>2</sub>	57.4	85.8	100.0	115.4	132.1	143.2	156.7	178.2	202.8	227.0	
benzoate	C <sub>17</sub> H <sub>24</sub> O <sub>2</sub>	123.2	154.2	170.0	186.3	204.3	215.8	230.4	253.2	277.1	301.0	54.5
formate	C <sub>11</sub> H <sub>20</sub> O <sub>2</sub>	47.3	75.8	90.0	105.8	123.0	133.8	148.0	169.8	194.2	219.0	
Mesityl oxide	C <sub>6</sub> H <sub>10</sub> O	-8.7	+14.1	26.0	37.9	51.7	60.4	72.1	90.0	109.8	130.0	-59
Methacrylic acid	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	25.5	48.5	60.0	72.7	86.4	95.3	106.6	123.9	142.5	161.0	15
Methacrylonitrile	C <sub>4</sub> H <sub>5</sub> N	-44.5	-23.3	-12.5	-0.6	+12.8	21.5	32.8	50.0	70.3	90.3	
Methane	CH <sub>4</sub>	-205.9	-199.0	-195.5	-191.8	-187.7	-185.1	-181.4	-175.5	-168.8	-161.5	-182.5
Methanethiol	CH <sub>3</sub> S	-90.7	-75.3	-67.5	-58.8	-49.2	-43.1	-34.8	-22.1	-7.9	+6.8	-121
Methoxyacetic acid	C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	52.5	79.3	92.0	106.5	122.0	131.8	144.5	163.5	184.2	204.0	
<i>N</i> -Methylacetanilide	C <sub>8</sub> H <sub>11</sub> NO		103.8	118.6	135.1	152.2	164.2	179.8	202.3	227.4	253.0	102
Methyl acetate	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	-57.2	-38.6	-29.3	-19.1	-7.9	-0.5	+9.4	24.0	40.0	57.8	-98.7
acetylene (propyne)	C <sub>3</sub> H <sub>4</sub>	-111.0	-97.5	-90.5	-82.9	-74.3	-68.8	-61.3	-49.8	-37.2	-23.3	-102.7
acrylate	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	-43.7	-23.6	-13.5	-2.7	+9.2	17.3	28.0	43.9	61.8	80.2	
alcohol (methanol)	CH <sub>3</sub> O	-44.0	-25.3	-16.2	-6.0	+5.0	12.1	21.2	34.8	49.9	64.7	-97.8
Methylamine	CH <sub>3</sub> N	-95.8	-81.3	-73.8	-65.9	-56.9	-51.3	-43.7	-32.4	-19.7	-6.3	-93.5
<i>N</i> -Methylaniline	C <sub>7</sub> H <sub>9</sub> N	36.0	62.8	76.2	90.5	106.0	115.8	129.8	149.3	172.0	195.5	-57
Methyl anthranilate	C <sub>8</sub> H <sub>9</sub> NO <sub>2</sub>	77.6	109.0	124.2	141.5	159.7	172.0	187.8	212.4	238.5	266.5	24
benzoate	C <sub>8</sub> H <sub>7</sub> O <sub>2</sub>	39.0	64.4	77.3	91.8	107.8	117.4	130.8	151.4	174.7	199.5	-12.5
2-Methylbenzothiazole	C <sub>8</sub> H <sub>7</sub> NS	70.0	97.5	111.2	125.5	141.2	150.4	163.9	183.2	204.5	225.5	15.4
$\alpha$ -Methylbenzyl alcohol	C <sub>8</sub> H <sub>10</sub> O	49.0	75.2	88.0	102.1	117.8	127.4	140.3	159.0	180.7	204.0	
Methyl bromide	CH <sub>3</sub> Br	-96.3	-80.6	-72.8	-64.0	-54.2	-48.0	-39.4	-26.5	-11.9	+3.6	-93
2-Methyl-1-butene	C <sub>5</sub> H <sub>10</sub>	-89.1	-72.8	-64.3	-54.8	-44.1	-37.3	-28.0	-13.8	+2.5	20.2	-135
2-Methyl-2-butene	C <sub>5</sub> H <sub>10</sub>	-75.4	-57.0	-47.9	-37.9	-26.7	-19.4	-9.9	+4.9	21.6	38.5	-133
Methyl isobutyl carbinol (2-methyl-4-pentanol)	C <sub>6</sub> H <sub>14</sub> O	-0.3	+22.1	33.3	45.4	58.2	67.0	78.0	94.9	113.5	131.7	
<i>n</i> -butyl ketone (2-hexanone)	C <sub>6</sub> H <sub>12</sub> O	+7.7	28.8	38.8	50.0	62.0	69.8	79.8	94.3	111.0	127.5	-56.9
isobutyl ketone (4-methyl-2-pentanone)	C <sub>6</sub> H <sub>12</sub> O	-1.4	+19.7	30.0	40.8	52.8	60.4	70.4	85.6	102.0	119.0	-84.7
<i>n</i> -butyrate	C <sub>8</sub> H <sub>10</sub> O <sub>2</sub>	-26.8	-5.5	+5.0	16.7	29.6	37.4	48.0	64.3	83.1	102.3	
isobutyrate	C <sub>8</sub> H <sub>10</sub> O <sub>2</sub>	-34.1	-13.0	-2.9	+8.4	21.0	28.9	39.6	55.7	73.6	92.6	-84.7
caprate	C <sub>11</sub> H <sub>22</sub> O <sub>2</sub>	63.7	93.5	108.0	123.0	139.0	148.6	161.5	181.6	202.9	224.0	-18
caproate	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	+5.0	30.0	42.0	55.4	70.0	79.7	91.4	109.8	129.8	150	
caprylate	C <sub>9</sub> H <sub>18</sub> O <sub>2</sub>	34.2	61.7	74.9	89.0	105.3	115.3	128.0	148.1	170.0	193.0	-40
chloride	CH <sub>2</sub> Cl		-99.5	-92.4	-84.8	-76.0	-63.0	-51.2	-38.0	-24.0	-9.7	-97.7
chloroacetate	C <sub>3</sub> H <sub>5</sub> ClO <sub>2</sub>	-2.9	19.0	30.0	41.5	54.5	63.0	73.5	90.5	109.5	130.3	-31.9
cinnamate	C <sub>10</sub> H <sub>10</sub> O <sub>2</sub>	77.4	108.1	123.0	140.0	157.9	170.0	185.8	209.6	235.0	263.0	33.4
$\alpha$ -Methylcinnamic acid	C <sub>10</sub> H <sub>10</sub> O <sub>2</sub>	125.7	155.0	169.8	185.2	201.8	212.0	224.8	245.0	266.8	288.0	
Methylcyclohexane	C <sub>6</sub> H <sub>14</sub>	-35.9	-14.0	-3.2	+8.7	22.0	30.5	42.1	59.6	79.6	100.9	-126.4
Methylcyclopentane	C <sub>6</sub> H <sub>12</sub>	-53.7	-33.8	-23.7	-12.8	-0.6	+7.2	17.9	34.0	52.3	71.8	-142.4
Methylcyclopropane	C <sub>4</sub> H <sub>8</sub>	-96.0	-80.6	-72.8	-64.0	-54.2	-48.0	-39.3	-26.0	-11.3	+4.5	
Methyl <i>n</i> -decyl ketone ( <i>n</i> -dodecan-2-one)	C <sub>12</sub> H <sub>24</sub> O	77.1	106.0	120.4	136.0	152.4	163.8	177.5	199.0	222.5	246.5	
dichloroacetate	C <sub>3</sub> H <sub>4</sub> Cl <sub>2</sub> O <sub>2</sub>	3.2	26.7	38.1	50.7	64.7	73.6	85.4	103.2	122.6	143.0	
<i>N</i> -Methyldiphenylamine	C <sub>13</sub> H <sub>13</sub> N	103.5	134.0	149.7	165.8	184.0	195.4	210.1	232.8	257.0	282.0	-7.6

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm\* (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
Methyl <i>n</i> -dodecyl ketone (2-tetradecanone)	C <sub>14</sub> H <sub>28</sub> O	99.3	130.0	145.5	161.3	179.8	191.4	206.0	228.2	253.3	278.0	
Methylene bromide (dibromomethane)	CH <sub>2</sub> Br <sub>2</sub>	-35.1	-13.2	-2.4	+9.7	23.3	31.6	42.3	58.5	79.0	98.6	-52.8
chloride (dichloromethane)	CH <sub>2</sub> Cl <sub>2</sub>	-70.0	-52.1	-43.3	-33.4	-22.3	-15.7	-6.3	+8.0	24.1	40.7	-96.7
Methyl ethyl ketone (2-butanone)	C <sub>4</sub> H <sub>8</sub> O	-48.3	-28.0	-17.7	-6.5	+6.0	14.0	25.0	41.6	60.0	79.6	-85.9
2-Methyl-3-ethylpentane	C <sub>8</sub> H <sub>18</sub>	-24.0	-1.8	+9.5	21.7	35.2	43.9	55.7	73.6	94.0	115.6	-114.5
3-Methyl-3-ethylpentane	C <sub>8</sub> H <sub>18</sub>	-23.9	-1.4	+9.9	22.3	36.2	45.0	57.1	75.3	96.2	118.3	-90
Methyl fluoride	CH <sub>3</sub> F	-147.3	-137.0	-131.6	-125.9	-119.1	-115.0	-109.0	-99.9	-89.5	-78.2	
formate	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub>	-74.2	-57.0	-48.6	-39.2	-28.7	-21.9	-12.9	+0.8	16.0	32.0	-99.8
α-Methylglutaric anhydride	C <sub>6</sub> H <sub>8</sub> O <sub>3</sub>	93.8	125.4	141.8	157.7	177.5	189.9	205.0	229.1	255.5	282.5	
Methyl glycolate	C <sub>5</sub> H <sub>8</sub> O <sub>3</sub>	+9.6	33.7	45.3	58.1	72.3	81.8	93.7	111.8	131.7	151.5	
2-Methylheptadecane	C <sub>15</sub> H <sub>32</sub>	119.8	152.0	168.7	186.0	204.8	216.3	231.5	254.5	279.8	306.5	
2-Methylheptane	C <sub>8</sub> H <sub>18</sub>	-21.0	+1.3	12.3	24.4	37.9	46.6	58.3	76.0	96.2	117.6	-109.5
3-Methylheptane	C <sub>8</sub> H <sub>18</sub>	-19.8	+2.6	13.3	25.4	38.9	47.6	59.4	77.1	97.4	118.9	-120.8
4-Methylheptane	C <sub>8</sub> H <sub>18</sub>	-20.4	+1.5	12.4	24.5	38.0	46.6	58.3	76.1	96.3	117.7	-121.1
2-Methyl-2-heptene	C <sub>8</sub> H <sub>16</sub>	-16.1	+6.7	17.8	30.4	44.0	52.8	64.6	82.3	102.2	122.5	
6-Methyl-3-hepten-2-ol	C <sub>8</sub> H <sub>16</sub> O	41.6	65.0	76.7	89.3	102.7	111.5	122.6	139.5	156.6	175.5	
6-Methyl-5-hepten-2-ol	C <sub>8</sub> H <sub>16</sub> O	41.9	66.0	77.8	90.4	104.0	112.8	123.8	140.0	156.6	174.3	
2-Methylhexane	C <sub>7</sub> H <sub>16</sub>	-40.4	-19.5	-9.1	+2.3	14.9	23.0	34.1	50.8	69.8	90.0	-118.2
3-Methylhexane	C <sub>7</sub> H <sub>16</sub>	-39.0	-18.1	-7.8	+3.6	16.4	24.5	35.6	52.4	71.6	91.9	
Methyl iodide	CH <sub>3</sub> I	-60.9	-55.0	-45.8	-35.6	-24.2	-16.9	-7.0	+8.0	25.3	42.4	-64.4
laurate	C <sub>12</sub> H <sub>24</sub> O <sub>2</sub>	87.8	117.9	133.2	149.0	166.0	176.8	190.8				5
levulinate	C <sub>6</sub> H <sub>10</sub> O <sub>3</sub>	39.8	66.4	79.7	93.7	109.5	119.3	133.0	153.4	175.8	197.7	
methacrylate	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	-30.5	-10.0	+1.0	11.0	25.5	34.5	47.0	63.0	82.0	101.0	
myristate	C <sub>14</sub> H <sub>28</sub> O <sub>2</sub>	115.0	145.7	160.8	177.8	195.8	207.5	222.6	245.3	269.8	295.8	18.5
α-naphthyl ketone (1-acetonaphthone)	C <sub>12</sub> H <sub>10</sub> O	115.6	146.3	161.5	178.4	196.8	208.6	223.8	246.7	270.5	295.5	
β-naphthyl ketone (2-acetonaphthone)	C <sub>12</sub> H <sub>10</sub> O	120.2	152.3	168.5	185.7	203.8	214.7	229.8	251.6	275.8	301.0	55.5
<i>n</i> -nonyl ketone (undecan-2-one)	C <sub>11</sub> H <sub>22</sub> O	68.2	95.5	108.9	123.1	139.0	148.6	161.0	181.2	202.3	224.0	15
palmitate	C <sub>17</sub> H <sub>34</sub> O <sub>2</sub>	134.3	166.8	184.3	202.0							30
<i>n</i> -pentadecyl ketone (2-heptadecanone)	C <sub>17</sub> H <sub>34</sub> O	129.6	161.6	178.0	196.4	214.3	226.7	242.0	265.8	291.7	319.5	
2-Methylpentane	C <sub>6</sub> H <sub>14</sub>	-60.9	-41.7	-32.1	-21.4	-9.7	-1.9	+8.1	24.1	41.6	60.3	-154
3-Methylpentane	C <sub>6</sub> H <sub>14</sub>	-59.0	-39.8	-30.1	-19.4	-7.3	+0.1	10.5	26.5	44.2	63.3	-118
2-Methyl-1-pentanol	C <sub>6</sub> H <sub>14</sub> O	15.4	38.0	49.6	61.6	74.7	83.4	94.2	111.3	129.8	147.9	
2-Methyl-2-pentanol	C <sub>6</sub> H <sub>14</sub> O	-4.5	+16.8	27.6	38.8	51.3	58.8	69.2	85.0	102.6	121.2	-103
Methyl <i>n</i> -pentyl ketone (2-heptanone)	C <sub>7</sub> H <sub>14</sub> O	19.3	43.6	55.5	67.7	81.2	89.8	100.0	116.1	133.2	150.2	
phenyl ether (anisole)	C <sub>7</sub> H <sub>8</sub> O	+5.4	30.0	42.2	55.8	70.7	80.1	93.0	112.3	133.8	155.5	-37.3
2-Methylpropene	C <sub>4</sub> H <sub>8</sub>	-105.1	-96.5	-81.9	-73.4	-63.8	-57.7	-49.3	-36.7	-22.2	-6.9	-140.3
Methyl propionate	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	-42.0	-21.5	-11.8	-1.0	+11.0	18.7	29.0	44.2	61.8	79.8	-87.5
4-Methylpropionophenone	C <sub>10</sub> H <sub>12</sub> O	59.6	89.3	103.8	120.2	138.0	149.3	164.2	187.4	212.7	238.5	
2-Methylpropionyl bromide	C <sub>4</sub> H <sub>7</sub> BrO	13.5	38.4	50.6	64.1	79.4	88.8	101.6	120.5	141.7	163.0	
Methyl propyl ether	C <sub>5</sub> H <sub>10</sub> O	-72.2	-54.3	-45.4	-35.4	-24.3	-17.4	-8.1	+6.0	22.5	39.1	
<i>n</i> -propyl ketone (2-pentanone)	C <sub>5</sub> H <sub>10</sub> O	-12.0	+8.0	17.9	28.5	39.8	47.3	56.8	71.0	86.8	103.3	-77.8
isopropyl ketone (3-Methyl-2-butanone)	C <sub>5</sub> H <sub>10</sub> O	-19.9	-1.0	+8.3	18.3	29.6	36.2	45.5	59.0	73.8	88.9	-92
2-Methylquinoline	C <sub>10</sub> H <sub>9</sub> N	75.3	104.0	119.0	134.0	150.8	161.7	176.2	197.8	211.7	246.5	-1
Methyl salicylate	C <sub>8</sub> H <sub>8</sub> O <sub>3</sub>	54.0	81.6	95.3	110.0	126.2	136.7	150.0	172.6	197.5	223.2	-8.3
α-Methyl styrene	C <sub>8</sub> H <sub>10</sub>	7.4	34.0	47.1	61.8	77.8	88.3	102.2	121.8	143.0	165.4	-23.2
4-Methyl styrene	C <sub>8</sub> H <sub>10</sub>	16.0	42.0	55.1	69.2	85.0	95.0	108.6	128.7	151.2	175.0	
Methyl <i>n</i> -tetradecyl ketone (2-hexadecanone)	C <sub>16</sub> H <sub>32</sub> O	109.8	151.5	167.3	184.6	203.7	215.0	230.5	254.4	279.8	307.0	
thiocyanate	C <sub>2</sub> H <sub>3</sub> NS	-14.0	+9.8	21.6	34.5	49.0	58.1	70.4	89.8	110.8	132.9	-51
isothiocyanate	C <sub>2</sub> H <sub>3</sub> NS	-34.7	-8.3	+5.4	20.4	38.2	47.5	59.3	77.5	97.8	119.0	35.5
undecyl ketone (2-tridecanone)	C <sub>13</sub> H <sub>26</sub> O	86.8	117.0	131.8	147.8	165.7	176.6	191.5	214.0	238.3	262.5	28.5
isovalerate	C <sub>6</sub> H <sub>12</sub> O <sub>2</sub>	-19.2	+2.9	14.0	26.4	39.8	48.2	59.8	77.3	96.7	116.7	
Monovinylacetylene (butenyne)	C <sub>4</sub> H <sub>4</sub>	-93.2	-77.7	-70.0	-61.3	-51.7	-45.3	-37.1	-24.1	-10.1	+5.3	
Myrcene	C <sub>10</sub> H <sub>16</sub>	14.5	40.0	53.2	67.0	82.6	92.6	106.0	126.0	148.3	171.5	
Myristaldehyde	C <sub>14</sub> H <sub>26</sub> O	99.0	132.0	148.3	166.2	186.0	198.3	214.5	240.4	267.9	297.8	23.5
Myristic acid (tetradecanoic acid)	C <sub>14</sub> H <sub>28</sub> O <sub>2</sub>	142.0	174.1	190.8	207.6	223.5	237.2	250.5	272.3	294.6	318.0	57.5
Naphthalene	C <sub>10</sub> H <sub>8</sub>	52.6	74.2	85.8	101.7	119.3	130.2	145.5	167.7	193.2	217.9	80.2
1-Naphthoic acid	C <sub>11</sub> H <sub>8</sub> O <sub>2</sub>	156.0	184.0	196.8	211.2	225.0	234.5	245.8	263.5	281.4	300.0	160.5
2-Naphthoic acid	C <sub>11</sub> H <sub>8</sub> O <sub>2</sub>	160.8	189.7	202.8	216.9	231.5	241.3	252.7	270.3	289.5	308.5	184
1-Naphthol	C <sub>10</sub> H <sub>8</sub> O	94.0	125.5	142.0	158.0	177.8	190.0	206.0	229.6	255.8	282.5	96
2-Naphthol	C <sub>10</sub> H <sub>8</sub> O	128.6	145.5	161.8	181.7	193.7	209.8	234.0	260.6	288.0	322.5	122.5
1-Naphthylamine	C <sub>10</sub> H <sub>9</sub> N	104.3	137.7	153.8	171.6	191.5	203.8	220.0	244.9	272.2	300.8	50
2-Naphthylamine	C <sub>10</sub> H <sub>9</sub> N	108.0	141.6	157.6	175.8	195.7	208.1	224.3	249.7	277.4	306.1	111.5
Nicotine	C <sub>10</sub> H <sub>14</sub> N <sub>2</sub>	61.8	91.8	107.2	123.7	142.1	154.7	169.5	193.8	219.8	247.3	
2-Nitroaniline	C <sub>6</sub> H <sub>6</sub> N <sub>2</sub> O <sub>2</sub>	104.0	135.7	150.4	167.7	186.0	197.8	213.0	236.3	260.0	284.5	71.5
3-Nitroaniline	C <sub>6</sub> H <sub>6</sub> N <sub>2</sub> O <sub>2</sub>	119.3	151.5	167.8	185.5	204.2	216.5	232.1	255.3	280.2	305.7	114
4-Nitroaniline	C <sub>6</sub> H <sub>6</sub> N <sub>2</sub> O <sub>2</sub>	142.4	177.6	194.4	213.2	234.2	245.9	261.8	284.5	310.2	336.0	146.5
2-Nitrobenzaldehyde	C <sub>7</sub> H <sub>5</sub> NO <sub>3</sub>	85.8	117.7	133.4	150.0	168.8	180.7	196.2	220.0	246.8	273.5	40.9
3-Nitrobenzaldehyde	C <sub>7</sub> H <sub>5</sub> NO <sub>3</sub>	96.2	127.4	142.8	159.0	177.7	189.5	204.3	227.4	252.1	278.3	58
Nitrobenzene	C <sub>6</sub> H <sub>5</sub> NO <sub>2</sub>	44.4	71.6	84.9	99.3	115.4	125.8	139.9	161.2	185.8	210.6	+5.7
Nitroethane	C <sub>2</sub> H <sub>5</sub> NO <sub>2</sub>	-21.0	+1.5	12.5	24.8	38.0	46.5	57.8	74.8	94.0	114.0	-90
Nitroglycerin	C <sub>3</sub> H <sub>5</sub> N <sub>3</sub> O <sub>9</sub>	127	167	188	210	235	251					11
Nitromethane	CH <sub>3</sub> NO <sub>2</sub>	-29.0	-7.9	+2.8	14.1	27.5	35.5	46.6	63.5	82.0	101.2	-29
2-Nitrophenol	C <sub>6</sub> H <sub>5</sub> NO <sub>3</sub>	49.3	76.8	90.4	105.8	122.1	132.6	146.4	167.6	191.0	214.5	45
2-Nitrophenyl acetate	C <sub>8</sub> H <sub>7</sub> NO <sub>4</sub>	100.0	128.0	142.0	155.8	172.8	181.7	194.1	213.0	233.5	253.0	

## 2-72 PHYSICAL AND CHEMICAL DATA

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
1-Nitropropane	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub>	-9.6	+13.5	25.3	37.9	51.8	60.5	72.3	90.2	110.6	131.6	-108
2-Nitropropane	C <sub>3</sub> H <sub>7</sub> NO <sub>2</sub>	-18.8	+4.1	15.8	28.2	41.8	50.3	62.0	80.0	99.8	120.3	-93
2-Nitrotoluene	C <sub>7</sub> H <sub>7</sub> NO <sub>2</sub>	50.0	79.1	93.8	109.6	126.3	137.6	151.5	173.7	197.7	222.3	-4.1
3-Nitrotoluene	C <sub>7</sub> H <sub>7</sub> NO <sub>2</sub>	50.2	81.0	96.0	112.8	130.7	142.5	156.9	180.3	206.8	231.9	15.5
4-Nitrotoluene	C <sub>7</sub> H <sub>7</sub> NO <sub>2</sub>	53.7	85.0	100.5	117.7	136.0	147.9	163.0	186.7	212.5	238.3	51.9
4-Nitro-1,3-xylene (4-nitro- <i>m</i> -xylene)	C <sub>8</sub> H <sub>9</sub> NO <sub>2</sub>	65.6	95.0	109.8	125.8	143.3	153.8	168.5	191.7	217.5	244.0	+2
Nonacosane	C <sub>29</sub> H <sub>60</sub>	234.2	269.8	286.4	303.6	323.2	334.8	350.0	373.2	397.2	421.8	63.8
Nonadecane	C <sub>19</sub> H <sub>40</sub>	133.2	166.3	183.5	200.8	220.0	232.8	248.0	271.8	299.8	330.0	32
<i>n</i> -Nonane	C <sub>9</sub> H <sub>20</sub>	+1.4	25.8	38.0	51.2	66.0	75.5	88.1	107.5	128.2	150.8	-53.7
1-Nonanol	C <sub>9</sub> H <sub>20</sub> O	59.5	86.1	99.7	113.8	129.0	139.0	151.3	170.5	192.1	213.5	-5
2-Nonanone	C <sub>9</sub> H <sub>18</sub> O	32.1	59.0	72.3	87.2	103.4	113.8	127.4	148.2	171.2	195.0	-19
Octacosane	C <sub>28</sub> H <sub>58</sub>	226.5	260.3	277.4	295.4	314.2	326.8	341.8	364.8	388.9	412.5	61.6
Octadecane	C <sub>18</sub> H <sub>38</sub>	119.6	152.1	169.6	187.5	207.4	219.7	236.0	260.6	288.0	317.0	28
<i>n</i> -Octane	C <sub>8</sub> H <sub>18</sub>	-14.0	+8.3	19.2	31.5	45.1	53.8	65.7	83.6	104.0	125.6	-56.8
<i>n</i> -Octanol (1-octanol)	C <sub>8</sub> H <sub>18</sub> O	54.0	76.5	88.3	101.0	115.2	123.8	135.2	152.0	173.8	195.2	-15.4
2-Octanone	C <sub>8</sub> H <sub>16</sub> O	23.6	48.4	60.9	74.3	89.8	99.0	111.7	130.4	151.0	172.9	-16
<i>n</i> -Octyl acrylate iodide (1-Iodooctane)	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub> C <sub>8</sub> H <sub>17</sub> I	58.5 45.8	87.7 74.8	102.0 90.0	117.8 105.9	135.6 123.8	145.6 135.4	159.1 150.0	180.2 173.3	204.0 199.3	227.0 225.5	-45.9
Oleic acid	C <sub>18</sub> H <sub>34</sub> O <sub>2</sub>	176.5	208.5	223.0	240.0	257.2	269.8	286.0	309.8	334.7	360.0	14
Palmitaldehyde	C <sub>16</sub> H <sub>32</sub> O	121.6	154.6	171.8	190.0	210.0	222.6	239.5	264.1	292.3	321.0	34
Palmitic acid	C <sub>16</sub> H <sub>32</sub> O <sub>2</sub>	153.6	188.1	205.8	223.8	244.4	256.0	271.5	298.7	326.0	353.8	64.0
Palmitonitrile	C <sub>16</sub> H <sub>31</sub> N	134.3	168.3	185.8	204.2	223.8	236.6	251.5	277.1	304.5	332.0	31
Pelargonic acid	C <sub>9</sub> H <sub>18</sub> O <sub>2</sub>	108.2	126.0	137.4	149.8	163.7	172.3	184.4	203.1	227.5	253.5	12.5
Pentachlorobenzene	C <sub>5</sub> HCl <sub>5</sub>	98.6	129.7	144.3	160.0	178.5	190.1	205.5	227.0	251.6	276.0	85.5
Pentachloroethane	C <sub>2</sub> HCl <sub>5</sub>	+1.0	27.2	39.8	53.9	69.9	80.0	93.5	114.0	137.2	160.5	-22
Pentachloroethylbenzene	C <sub>6</sub> H <sub>2</sub> Cl <sub>5</sub>	96.2	130.0	148.0	166.0	186.2	199.0	216.0	241.8	269.3	299.0	
Pentachlorophenol	C <sub>6</sub> HCl <sub>5</sub> O				192.2	211.2	223.4	239.6	261.8	285.0	309.3	188.5
Pentacosane	C <sub>25</sub> H <sub>52</sub>	194.2	230.0	248.2	266.1	285.6	298.4	314.0	339.0	365.4	390.3	53.3
Pentadecane	C <sub>15</sub> H <sub>32</sub>	91.6	121.0	135.4	150.2	167.7	178.4	194.0	216.1	242.8	270.5	10
1,3-Pentadiene	C <sub>5</sub> H <sub>8</sub>	-71.8	-53.8	-45.0	-34.8	-23.4	-16.5	-6.7	+8.0	24.7	42.1	
1,4-Pentadiene	C <sub>5</sub> H <sub>8</sub>	-83.5	-66.2	-57.1	-47.7	-37.0	-30.0	-20.6	-6.7	+8.3	26.1	
Pentaethylbenzene	C <sub>16</sub> H <sub>26</sub>	86.0	120.0	135.8	152.4	171.9	184.2	200.0	224.1	250.2	277.0	
Pentaethylchlorobenzene	C <sub>16</sub> H <sub>25</sub> Cl	90.0	123.8	140.7	158.1	178.2	191.0	208.0	230.3	257.2	285.0	
<i>n</i> -Pentane	C <sub>5</sub> H <sub>12</sub>	-76.6	-62.5	-50.1	-40.2	-29.2	-22.2	-12.6	+1.9	18.5	36.1	-129.7
iso-Pentane (2-methylbutane)	C <sub>5</sub> H <sub>12</sub>	-82.9	-65.8	-57.0	-47.3	-36.5	-29.6	-20.2	-5.9	+10.5	27.8	-159.7
neo-Pentane (2,2-dimethylpropane)	C <sub>5</sub> H <sub>12</sub>	-102.0	-85.4	-76.7	-67.2	-56.1	-49.0	-39.1	-23.7	-7.1	+9.5	-16.6
2,3,4-Pentanetriol	C <sub>5</sub> H <sub>12</sub> O <sub>3</sub>	155.0	189.3	204.5	220.5	239.6	249.8	263.5	284.5	307.0	327.2	
1-Pentene	C <sub>5</sub> H <sub>10</sub>	-80.4	-63.3	-54.5	-46.0	-34.1	-27.1	-17.7	-3.4	+12.8	30.1	
$\alpha$ -Phellandrene	C <sub>10</sub> H <sub>16</sub>	20.0	45.7	58.0	72.1	87.8	97.6	110.6	130.6	152.0	175.0	
Phenanthrene	C <sub>14</sub> H <sub>10</sub>	118.2	154.3	173.0	193.7	215.8	229.9	249.0	277.1	308.0	340.2	99.5
Phenethyl alcohol (phenyl cellosolve)	C <sub>8</sub> H <sub>10</sub> O <sub>2</sub>	58.2	85.9	100.0	114.8	130.5	141.2	154.0	175.0	197.5	219.5	
2-Phenetidine	C <sub>8</sub> H <sub>11</sub> NO	67.0	94.7	108.6	123.7	139.9	149.8	163.5	184.0	207.0	228.0	
Phenol	C <sub>6</sub> H <sub>6</sub> O	40.1	62.5	73.8	86.0	100.1	108.4	121.4	139.0	160.0	181.9	40.6
2-Phenoxyethanol	C <sub>8</sub> H <sub>10</sub> O <sub>2</sub>	78.0	106.6	121.2	136.0	152.2	163.2	176.5	197.6	221.0	245.3	11.6
2-Phenoxyethyl acetate	C <sub>10</sub> H <sub>12</sub> O <sub>3</sub>	82.6	113.5	128.0	144.5	162.3	174.0	189.2	211.3	235.0	259.7	-6.7
Phenyl acetate	C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	38.2	64.8	78.0	92.3	108.1	118.1	131.6	151.2	173.5	195.9	
Phenylacetic acid	C <sub>8</sub> H <sub>8</sub> O <sub>2</sub>	97.0	127.0	141.3	156.0	173.6	184.5	198.2	219.5	243.0	265.5	76.5
Phenylacetone nitrile	C <sub>8</sub> H <sub>7</sub> N	60.0	89.0	103.5	119.4	136.3	147.7	161.8	184.2	208.5	233.5	-23.8
Phenylacetyl chloride	C <sub>8</sub> H <sub>7</sub> ClO	48.0	75.3	89.0	103.6	119.8	129.8	143.5	163.8	186.0	210.0	
Phenyl benzoate	C <sub>13</sub> H <sub>10</sub> O <sub>2</sub>	106.8	141.5	157.8	177.0	197.6	210.8	227.8	254.0	283.5	314.0	70.5
4-Phenyl-3-buten-2-one	C <sub>10</sub> H <sub>10</sub> O	81.7	112.2	127.4	143.8	161.3	172.6	187.8	211.0	235.4	261.0	41.5
Phenyl isocyanate	C <sub>7</sub> H <sub>5</sub> NO	10.6	36.0	48.5	62.5	77.7	87.7	100.6	120.8	142.7	165.6	
isocyanide	C <sub>7</sub> H <sub>5</sub> N	12.0	37.0	49.7	63.4	78.3	88.0	101.0	120.8	142.3	165.0	
Phenylcyclohexane	C <sub>12</sub> H <sub>16</sub>	67.5	96.5	111.3	126.4	144.0	154.2	169.3	191.3	214.6	240.0	+7.5
Phenyl dichlorophosphate	C <sub>6</sub> H <sub>5</sub> Cl <sub>2</sub> O <sub>2</sub> P	66.7	95.9	110.0	125.9	143.4	153.6	168.0	189.8	213.0	239.5	
<i>m</i> -Phenylenediamine (1,3-phenylenediamine)	C <sub>6</sub> H <sub>8</sub> N <sub>2</sub>	99.8	131.2	147.0	163.8	182.5	194.0	209.9	233.0	259.0	285.5	62.8
Phenylglyoxal	C <sub>8</sub> H <sub>6</sub> O <sub>2</sub>		75.0	87.8	100.7	115.2	124.2	136.2	153.8	173.5	193.5	73
Phenylhydrazine	C <sub>10</sub> H <sub>8</sub> N <sub>2</sub>	71.8	101.6	115.8	131.5	148.2	158.7	173.5	195.4	218.2	243.5	19.5
<i>N</i> -Phenyliminodiethanol	C <sub>10</sub> H <sub>15</sub> NO <sub>2</sub>	145.0	179.2	195.8	213.4	233.0	245.3	260.6	284.5	311.3	337.8	
1-Phenyl-1,3-pentanedione	C <sub>11</sub> H <sub>15</sub> O <sub>2</sub>	98.0	128.5	144.0	159.9	178.0	189.8	204.5	226.7	251.2	276.5	
2-Phenylphenol	C <sub>12</sub> H <sub>10</sub> O	100.0	131.6	146.2	163.3	180.3	192.2	205.9	227.9	251.8	275.0	56.5
4-Phenylphenol	C <sub>12</sub> H <sub>10</sub> O			176.2	193.8	213.0	225.3	240.9	263.2	285.5	308.0	164.5
3-Phenyl-1-propanol	C <sub>9</sub> H <sub>12</sub> O	74.7	102.4	116.0	131.2	147.4	156.8	170.3	191.2	212.8	235.0	
Phenyl isothiocyanate	C <sub>7</sub> H <sub>5</sub> NS	47.2	75.6	89.8	115.5	122.5	133.3	147.7	169.6	194.0	218.5	-21.0
Phorone	C <sub>7</sub> H <sub>14</sub> O	42.0	68.3	81.5	95.6	111.3	121.4	134.0	153.5	175.3	197.2	28
iso-Phorone	C <sub>8</sub> H <sub>14</sub> O	38.0	66.7	81.2	96.8	114.5	125.6	140.6	163.3	188.7	215.2	
Phosgene (carbonyl chloride)	CCl <sub>2</sub> O	-92.9	-77.0	-69.3	-60.3	-50.3	-44.0	-35.6	-22.3	-7.6	+8.3	-104
Phthalic anhydride	C <sub>8</sub> H <sub>4</sub> O <sub>3</sub>	96.5	121.3	134.0	151.7	172.0	185.3	202.3	228.0	256.8	284.5	130.8
Phthalide	C <sub>8</sub> H <sub>6</sub> O <sub>2</sub>	95.5	127.7	144.0	161.3	181.0	193.5	210.0	234.5	261.8	290.0	73
Phthaloyl chloride	C <sub>8</sub> H <sub>4</sub> Cl <sub>2</sub> O <sub>2</sub>	86.3	118.3	134.2	151.0	170.0	182.2	197.8	222.0	248.3	275.8	88.5
2-Picoline	C <sub>8</sub> H <sub>7</sub> N	-11.1	+12.6	24.4	37.4	51.2	59.9	71.4	89.0	108.4	128.8	-70
Pimelic acid	C <sub>7</sub> H <sub>12</sub> O <sub>4</sub>	163.4	196.2	212.0	229.3	247.0	258.2	272.0	294.5	318.5	342.1	103
$\alpha$ -Pinene	C <sub>10</sub> H <sub>16</sub>	-1.0	+24.6	37.3	51.4	66.8	76.8	90.1	110.2	132.3	155.0	-55
$\beta$ -Pinene	C <sub>10</sub> H <sub>16</sub>	+4.2	30.0	42.3	58.1	71.5	81.2	94.0	114.1	136.1	158.3	

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
Piperidine	C <sub>5</sub> H <sub>11</sub> N		-7.0	+3.9	15.8	29.2	37.7	49.0	66.2	85.7	106.0	-9
Piperonal	C <sub>8</sub> H <sub>8</sub> O <sub>3</sub>	87.0	117.4	132.0	148.0	165.7	177.0	214.3	238.5	263.0		37
Propane	C <sub>3</sub> H <sub>8</sub>	-128.9	-115.4	-108.5	-100.9	-92.4	-87.0	-79.6	-68.4	-55.6	-42.1	-187.1
Propenylbenzene	C <sub>9</sub> H <sub>10</sub>	17.5	43.8	57.0	71.5	87.7	97.8	111.7	132.0	154.7	179.0	-30.1
Propionamide	C <sub>5</sub> H <sub>7</sub> NO	65.0	91.0	105.0	119.0	134.8	144.3	156.0	174.2	194.0	213.0	79
Propionic acid	C <sub>3</sub> H <sub>6</sub> O <sub>2</sub>	4.6	28.0	39.7	52.0	65.8	74.1	85.8	102.5	122.0	141.1	-22
anhydride	C <sub>6</sub> H <sub>10</sub> O <sub>3</sub>	20.6	45.3	57.7	70.4	85.6	94.5	107.2	127.8	146.0	167.0	-45
Propionitrile	C <sub>3</sub> H <sub>5</sub> N	-35.0	-13.6	-3.0	+8.8	22.0	30.1	41.4	58.2	77.7	97.1	-91.9
Propiophenone	C <sub>9</sub> H <sub>10</sub> O	50.0	77.9	92.2	107.6	124.3	135.0	149.3	170.2	194.2	218.0	21
<i>n</i> -Propyl acetate	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	-26.7	-5.4	+5.0	16.0	28.8	37.0	47.8	64.0	82.0	101.8	-92.5
iso-Propyl acetate	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	-38.3	-17.4	-7.2	+4.2	17.0	25.1	35.7	51.7	69.8	89.0	
<i>n</i> -Propyl alcohol (1-propanol)	C <sub>3</sub> H <sub>8</sub> O	-15.0	+5.0	14.7	25.3	36.4	43.5	52.8	66.8	82.0	97.8	-127
iso-Propyl alcohol (2-propanol)	C <sub>3</sub> H <sub>8</sub> O	-26.1	-7.0	+2.4	12.7	23.8	30.5	39.5	53.0	67.8	82.5	-85.8
<i>n</i> -Propylamine	C <sub>3</sub> H <sub>9</sub> N	-64.4	-46.3	-37.2	-27.1	-16.0	-9.0	+0.5	15.0	31.5	48.5	-83
Propylbenzene	C <sub>9</sub> H <sub>12</sub>	6.3	31.3	43.4	56.8	71.6	81.1	94.0	113.5	135.7	159.2	-99.5
Propyl benzoate	C <sub>10</sub> H <sub>12</sub> O <sub>2</sub>	54.6	83.8	98.0	114.3	131.8	143.3	157.4	180.1	205.2	231.0	-51.6
<i>n</i> -Propyl bromide (1-bromopropane)	C <sub>3</sub> H <sub>7</sub> Br	-53.0	-33.4	-23.3	-12.4	-0.3	+7.5	18.0	34.0	52.0	71.0	-109.9
iso-Propyl bromide (2-bromopropane)	C <sub>3</sub> H <sub>7</sub> Br	-61.8	-42.5	-32.8	-22.0	-10.1	-2.5	+8.0	23.8	41.5	60.0	-89.0
<i>n</i> -Propyl <i>n</i> -butyrate	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	-1.6	+22.1	34.0	47.0	61.5	70.3	82.6	101.0	121.7	142.7	-95.2
isobutyrate	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	-6.2	+16.8	28.3	40.6	54.3	63.0	73.9	91.8	112.0	133.9	
iso-Propyl isobutyrate	C <sub>7</sub> H <sub>14</sub> O <sub>2</sub>	-16.3	+5.8	17.0	29.0	42.4	51.4	62.3	80.2	100.0	120.5	
Propyl carbamate	C <sub>4</sub> H <sub>9</sub> NO <sub>2</sub>	52.4	77.6	90.0	103.2	117.7	126.5	138.3	155.8	175.8	195.0	
<i>n</i> -Propyl chloride (1-chloropropane)	C <sub>3</sub> H <sub>7</sub> Cl	-68.3	-50.0	-41.0	-31.0	-19.5	-12.1	-2.5	+12.2	29.4	46.4	-122.8
iso-Propyl chloride (2-chloropropane)	C <sub>3</sub> H <sub>7</sub> Cl	-78.8	-61.1	-52.0	-42.0	-31.0	-23.5	-13.7	+1.3	18.1	36.5	-117
iso-Propyl chloroacetate	C <sub>6</sub> H <sub>9</sub> ClO <sub>2</sub>	+3.8	28.1	40.2	53.9	68.7	78.0	90.3	108.8	128.0	148.6	
Propyl chloroglyoxylate	C <sub>5</sub> H <sub>7</sub> ClO <sub>3</sub>	9.7	32.3	43.5	55.6	68.8	77.2	88.0	104.7	123.0	150.0	
Propylene	C <sub>3</sub> H <sub>6</sub>	-131.9	-120.7	-112.1	-104.7	-96.5	-91.3	-84.1	-73.3	-60.9	-47.7	-185
Propylene glycol (1,2-Propanediol)	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	45.5	70.8	83.2	96.4	111.2	119.9	132.0	149.7	168.1	188.2	
Propylene oxide	C <sub>3</sub> H <sub>6</sub> O	-75.0	-57.8	-49.0	-39.3	-28.4	-21.3	-12.0	+2.1	17.8	34.5	-112.1
<i>n</i> -Propyl formate	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	-43.0	-22.7	-12.6	-1.7	+10.8	18.8	29.5	45.3	62.6	81.3	-92.9
iso-Propyl formate	C <sub>4</sub> H <sub>8</sub> O <sub>2</sub>	-52.0	-32.7	-22.7	-12.1	-0.2	+7.5	17.8	33.6	50.5	68.3	
4,4'-iso-Propylidenebisphenol	C <sub>15</sub> H <sub>16</sub> O <sub>2</sub>	193.0	224.2	240.8	255.5	273.0	282.9	297.0	317.5	339.0	360.5	
<i>n</i> -Propyl iodide (1-iodopropane)	C <sub>3</sub> H <sub>7</sub> I	-36.0	-13.5	-2.4	+10.0	23.6	32.1	43.8	61.8	81.8	102.5	-98.8
iso-Propyl iodide (2-iodopropane)	C <sub>3</sub> H <sub>7</sub> I	-43.3	-22.1	-11.7	0.0	+13.2	21.6	32.8	50.0	69.5	89.5	-90
<i>n</i> -Propyl levulinate	C <sub>8</sub> H <sub>14</sub> O <sub>3</sub>	59.7	86.3	99.9	114.0	130.1	140.6	154.0	175.6	198.0	221.2	
iso-Propyl levulinate	C <sub>8</sub> H <sub>14</sub> O <sub>3</sub>	48.0	74.5	88.0	102.4	118.1	127.8	141.8	161.6	185.2	208.2	
Propyl mercaptan (1-propanethiol)	C <sub>3</sub> H <sub>8</sub> S	-56.0	-36.3	-26.3	-15.4	-3.2	+4.6	15.3	31.5	49.2	67.4	-112
2-iso-Propyl-naphthalene	C <sub>13</sub> H <sub>14</sub>	76.0	107.9	123.4	140.3	159.0	171.4	187.6	211.8	238.5	266.0	
iso-Propyl β-naphthyl ketone (2-isobutyronaphthone)	C <sub>14</sub> H <sub>14</sub> O	133.2	165.4	181.0	197.7	215.6	227.0	242.3	264.0	288.2	313.0	
2-iso-Propylphenol	C <sub>9</sub> H <sub>12</sub> O	56.6	83.8	97.0	111.7	127.5	137.7	150.3	170.1	192.6	214.5	15.5
3-iso-Propylphenol	C <sub>9</sub> H <sub>12</sub> O	62.0	90.3	104.1	119.8	136.2	146.6	160.2	182.0	205.0	228.0	26
4-iso-Propylphenol	C <sub>9</sub> H <sub>12</sub> O	67.0	94.7	108.0	123.4	139.8	149.7	163.3	184.0	206.1	228.2	61
Propyl propionate	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	-14.2	+8.0	19.4	31.6	45.0	53.8	65.2	82.7	102.0	122.4	-76
4-iso-Propylstyrene	C <sub>11</sub> H <sub>14</sub>	34.7	62.3	76.0	91.2	108.0	118.4	132.8	153.9	178.0	202.5	
Propyl isovalerate	C <sub>8</sub> H <sub>16</sub> O <sub>2</sub>	+8.0	32.8	45.1	58.0	72.8	82.3	95.0	113.9	135.0	155.9	
Pulegone	C <sub>10</sub> H <sub>16</sub> O	58.3	82.5	94.0	106.8	121.7	130.2	143.1	162.5	189.8	221.0	
Pyridine	C <sub>5</sub> H <sub>5</sub> N	-18.9	+2.5	13.2	24.8	38.0	46.8	57.8	75.0	95.6	115.4	-42
Pyrocatechol	C <sub>6</sub> H <sub>6</sub> O <sub>2</sub>		104.0	118.3	134.0	150.6	161.7	176.0	197.7	221.5	245.5	105
Pyrocatechol diacetate (1,2-phenylene diacetate)	C <sub>10</sub> H <sub>10</sub> O <sub>4</sub>	98.0	129.8	145.7	161.8	179.8	191.6	206.5	228.7	253.3	278.0	
Pyrogallol	C <sub>6</sub> H <sub>6</sub> O <sub>3</sub>		151.7	167.7	185.3	204.2	216.3	232.0	255.3	281.5	309.0	133
Pyrotartaric anhydride	C <sub>5</sub> H <sub>6</sub> O <sub>3</sub>	69.7	99.7	114.2	130.0	147.8	158.6	173.8	196.1	221.0	247.4	
Pyruvic acid	C <sub>3</sub> H <sub>4</sub> O <sub>3</sub>	21.4	45.8	57.9	70.8	85.3	94.1	106.5	124.7	144.7	165.0	13.6
Quinoline	C <sub>9</sub> H <sub>7</sub> N	59.7	89.6	103.8	119.8	136.7	148.1	163.2	186.2	212.3	237.7	-15
iso-Quinoline	C <sub>9</sub> H <sub>7</sub> N	63.5	92.7	107.8	123.7	141.6	152.0	167.6	190.0	214.5	240.5	24.6
Resorcinol	C <sub>6</sub> H <sub>6</sub> O <sub>2</sub>	108.4	138.0	152.1	168.0	185.3	195.8	209.8	230.8	253.4	276.5	110.7
Safrole	C <sub>10</sub> H <sub>10</sub> O <sub>2</sub>	63.8	93.0	107.6	123.0	140.1	150.3	165.1	186.2	210.0	233.0	11.2
Salicylaldehyde	C <sub>7</sub> H <sub>6</sub> O <sub>2</sub>	33.0	60.1	73.8	88.7	105.2	115.7	129.4	150.0	173.7	196.5	-7
Salicylic acid	C <sub>7</sub> H <sub>6</sub> O <sub>3</sub>	113.7	136.0	146.2	156.8	172.2	182.0	193.4	210.0	230.5	256.0	159
Sebacic acid	C <sub>10</sub> H <sub>18</sub> O <sub>4</sub>	183.0	215.7	232.0	250.0	268.2	279.8	294.5	313.2	332.8	352.3	134.5
Selenophene	C <sub>4</sub> H <sub>4</sub> Se	-39.0	-16.0	-4.0	+9.1	24.1	33.8	47.0	66.7	89.8	114.3	
Skatole	C <sub>9</sub> H <sub>8</sub> N	95.0	124.2	139.6	154.3	171.9	183.6	197.4	218.8	242.5	266.2	95
Stearaldehyde	C <sub>18</sub> H <sub>36</sub> O	140.0	174.6	192.1	210.6	230.8	244.2	260.0	285.0	313.8	342.5	63.5
Stearic acid	C <sub>18</sub> H <sub>36</sub> O <sub>2</sub>	173.7	209.0	225.0	243.4	263.3	275.5	291.0	316.5	343.0	370.0	69.3
Stearyl alcohol (1-octadecanol)	C <sub>18</sub> H <sub>36</sub> O	150.3	185.6	202.0	220.0	240.4	252.7	269.4	293.5	320.3	349.5	58.5
Styrene	C <sub>8</sub> H <sub>8</sub>	-7.0	+18.0	30.8	44.6	59.8	69.5	82.0	101.3	122.5	145.2	-30.6
Styrene dibromide [(1,2-dibromoethyl) benzene]	C <sub>8</sub> H <sub>8</sub> Br <sub>2</sub>	86.0	115.6	129.8	145.2	161.8	172.2	186.3	207.8	230.0	254.0	
Suberic acid	C <sub>8</sub> H <sub>14</sub> O <sub>4</sub>	172.8	205.5	219.5	238.2	254.6	265.4	279.8	300.5	322.8	345.5	142
Succinic anhydride	C <sub>4</sub> H <sub>6</sub> O <sub>3</sub>	92.0	115.0	128.2	145.3	163.0	174.0	189.0	212.0	237.0	261.0	119.6
Succinimide	C <sub>4</sub> H <sub>7</sub> NO <sub>2</sub>	115.0	143.2	157.0	174.0	192.0	203.0	217.4	240.0	263.5	287.5	125.5
Succinyl chloride	C <sub>4</sub> H <sub>4</sub> Cl <sub>2</sub> O <sub>2</sub>	39.0	65.0	78.0	91.8	107.5	117.2	130.0	149.3	170.0	192.5	17
α-Terpineol	C <sub>10</sub> H <sub>18</sub> O	52.8	80.4	94.3	109.8	126.0	136.3	150.1	171.2	194.3	217.5	35
Terpinolene	C <sub>10</sub> H <sub>16</sub>	32.3	58.0	70.6	84.8	100.0	109.8	122.7	142.0	163.5	185.0	

## 2-74 PHYSICAL AND CHEMICAL DATA

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Continued)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
1,1,1,2-Tetrabromoethane	C <sub>2</sub> H <sub>2</sub> Br <sub>4</sub>	58.0	83.3	95.7	108.5	123.2	132.0	144.0	161.5	181.0	200.0	
1,1,2,2-Tetrabromoethane	C <sub>2</sub> H <sub>2</sub> Br <sub>4</sub>	65.0	95.5	110.0	126.0	144.0	155.1	170.0	192.5	217.5	243.5	
Tetraisobutylene	C <sub>10</sub> H <sub>16</sub>	63.8	93.7	108.5	124.5	142.2	152.6	167.5	190.0	214.6	240.0	
Tetracosane	C <sub>24</sub> H <sub>50</sub>	183.8	219.6	237.6	255.3	276.3	288.4	305.2	330.5	358.0	386.4	51.1
1,2,3,4-Tetrachlorobenzene	C <sub>6</sub> H <sub>2</sub> Cl <sub>4</sub>	68.5	99.6	114.7	131.2	149.2	160.0	175.7	198.0	225.5	254.0	46.5
1,2,3,5-Tetrachlorobenzene	C <sub>6</sub> H <sub>2</sub> Cl <sub>4</sub>	58.2	89.0	104.1	121.6	140.0	152.0	168.0	193.7	220.0	246.0	54.5
1,2,4,5-Tetrachlorobenzene	C <sub>6</sub> H <sub>2</sub> Cl <sub>4</sub>					146.0	157.7	173.5	196.0	220.5	245.0	139
1,1,2,2-Tetrachloro-1,2-difluoroethane	C <sub>2</sub> Cl <sub>2</sub> F <sub>2</sub>	-37.5	-16.0	-5.0	+6.7	19.8	28.1	38.6	55.0	73.1	92.0	26.5
1,1,1,2-Tetrachloroethane	C <sub>2</sub> H <sub>2</sub> Cl <sub>4</sub>	-16.3	+7.4	19.3	32.1	46.7	56.0	68.0	87.2	108.2	130.5	-68.7
1,1,2,2-Tetrachloroethane	C <sub>2</sub> H <sub>2</sub> Cl <sub>4</sub>	-3.8	+20.7	33.0	46.2	60.8	70.0	83.2	102.2	124.0	145.9	-36
1,2,3,5-Tetrachloro-4-ethylbenzene	C <sub>8</sub> H <sub>6</sub> Cl <sub>4</sub>	77.0	110.0	126.0	143.7	162.1	175.0	191.6	215.3	243.0	270.0	
Tetrachloroethylene	C <sub>2</sub> Cl <sub>4</sub>	-20.6	+2.4	13.8	26.3	40.1	49.2	61.3	79.8	100.0	120.8	-19.0
2,3,4,6-Tetrachlorophenol	C <sub>6</sub> H <sub>2</sub> Cl <sub>4</sub> O	100.0	130.3	145.3	161.0	179.1	190.0	205.2	227.2	250.4	275.0	69.5
3,4,5,6-Tetrachloro-1,2-xylene	C <sub>8</sub> H <sub>6</sub> Cl <sub>4</sub>	94.4	125.0	140.3	156.0	174.2	185.8	200.5	223.0	248.3	273.5	
Tetradecane	C <sub>14</sub> H <sub>30</sub>	76.4	106.0	120.7	135.6	152.7	164.0	178.5	201.8	226.8	252.5	5.5
Tetradecylamine	C <sub>14</sub> H <sub>31</sub> N	102.6	135.8	152.0	170.0	189.0	200.2	215.7	239.8	264.6	291.2	
Tetradecyltrimethylsilane	C <sub>17</sub> H <sub>38</sub> Si	120.0	150.7	166.2	183.5	201.5	213.3	227.8	250.0	275.0	300.0	
Tetraethoxysilane	C <sub>8</sub> H <sub>20</sub> O <sub>4</sub> Si	16.0	40.3	52.6	65.8	81.1	90.7	103.6	123.5	146.2	168.5	
1,2,3,4-Tetraethylbenzene	C <sub>10</sub> H <sub>16</sub>	65.7	96.2	111.6	127.7	145.8	156.7	172.4	196.0	221.4	248.0	11.6
Tetraethylene glycol	C <sub>8</sub> H <sub>18</sub> O <sub>5</sub>	153.9	183.7	197.1	212.3	228.0	237.8	250.0	268.4	288.0	307.8	
Tetraethylene glycol chlorohydrin	C <sub>8</sub> H <sub>17</sub> ClO <sub>4</sub>	110.1	141.8	156.1	172.6	190.0	200.5	214.7	236.5	258.2	281.5	
Tetraethyllead	C <sub>8</sub> H <sub>20</sub> Pb	38.4	63.6	74.8	88.0	102.4	111.7	123.8	142.0	161.8	183.0	-136
Tetraethylsilane	C <sub>8</sub> H <sub>20</sub> Si	-1.0	+23.9	36.3	50.0	65.3	74.8	88.0	108.0	130.2	153.0	
Tetralin	C <sub>10</sub> H <sub>12</sub>	38.0	65.3	79.0	93.8	110.4	121.3	135.3	157.2	181.8	207.2	-31.0
1,2,3,4-Tetramethylbenzene	C <sub>10</sub> H <sub>14</sub>	42.6	68.7	81.8	95.8	111.5	121.8	135.7	155.7	180.0	204.4	-6.2
1,2,3,5-Tetramethylbenzene	C <sub>10</sub> H <sub>14</sub>	40.6	65.8	77.8	91.0	105.8	115.4	128.3	149.9	173.7	197.9	-24.0
1,2,4,5-Tetramethylbenzene	C <sub>10</sub> H <sub>14</sub>	45.0	65.0	74.6	88.0	104.2	114.8	128.1	149.5	172.1	195.9	79.5
2,2,3,3-Tetramethylbutane	C <sub>8</sub> H <sub>18</sub>	-17.4	+3.2	13.5	24.6	36.8	44.5	54.8	70.2	87.4	106.3	-102.2
Tetramethylene dibromide (1,4-dibromobutane)	C <sub>4</sub> H <sub>8</sub> Br <sub>2</sub>	32.0	58.8	72.4	87.6	104.0	115.1	128.7	149.8	173.8	197.5	-20
Tetramethyllead	C <sub>4</sub> H <sub>12</sub> Pb	-29.0	-6.8	+4.4	16.6	30.3	39.2	50.8	68.8	89.0	110.0	-27.5
Tetramethyltin	C <sub>4</sub> H <sub>12</sub> Sn	-51.3	-31.0	-20.6	-9.3	+3.5	11.7	22.8	39.8	58.5	78.0	
Tetrapropylene glycol monoisopropyl ether	C <sub>15</sub> H <sub>32</sub> O <sub>5</sub>	116.6	147.8	163.0	179.8	197.7	209.0	223.3	245.0	268.3	292.7	
Thioacetic acid (mercaptoacetic acid)	C <sub>2</sub> H <sub>4</sub> O <sub>2</sub> S	60.0	87.7	101.5	115.8	131.8	142.0	154.0				-16.5
Thiodiglycol (2,2'-thiodiethanol)	C <sub>4</sub> H <sub>10</sub> O <sub>2</sub> S	42.0	96.0	128.0	165.0	210.0	240.5	285				
Thiophene	C <sub>4</sub> H <sub>4</sub> S	-40.7	-20.8	-10.9	0.0	+12.5	20.1	30.5	46.5	64.7	84.4	-38.3
Thiophenol (benzenethiol)	C <sub>6</sub> H <sub>6</sub> S	18.6	43.7	56.0	69.7	84.2	93.9	106.6	125.8	146.7	168.0	
α-Thujone	C <sub>10</sub> H <sub>16</sub> O	38.3	65.7	79.3	93.7	110.0	120.2	134.0	154.2	177.8	201.0	
Thymol	C <sub>10</sub> H <sub>14</sub> O	64.3	92.8	107.4	122.6	139.8	149.8	164.1	185.5	209.2	231.8	51.5
Tiglaldehyde	C <sub>8</sub> H <sub>8</sub> O	-25.0	-1.6	+10.0	23.2	37.0	45.8	57.7	75.4	95.5	116.4	
Tiglic acid	C <sub>9</sub> H <sub>8</sub> O <sub>2</sub>	52.0	77.8	90.2	103.8	119.0	127.8	140.5	158.0	179.2	198.5	64.5
Tiglonitrile	C <sub>8</sub> H <sub>7</sub> N	-25.5	-2.4	+9.2	22.1	36.7	46.0	58.2	77.8	99.7	122.0	
Toluene	C <sub>7</sub> H <sub>8</sub>	-26.7	-4.4	+6.4	18.4	31.8	40.3	51.9	69.5	89.5	110.6	-95.0
Toluene-2,4-diamine	C <sub>8</sub> H <sub>10</sub> N <sub>2</sub>	106.5	137.2	151.7	167.9	185.7	196.2	211.5	232.8	256.0	280.9	99
2-Toluic nitrile (2-tolunitrile)	C <sub>8</sub> H <sub>7</sub> N	36.7	64.0	77.9	93.0	110.0	120.8	135.0	156.0	180.0	205.2	-13
4-Toluic nitrile (4-tolunitrile)	C <sub>8</sub> H <sub>7</sub> N	42.5	71.3	85.8	101.7	109.5	130.0	145.2	167.3	193.0	217.6	29.5
2-Toluidine	C <sub>7</sub> H <sub>9</sub> N	44.0	69.3	81.4	95.1	110.0	119.8	133.0	153.0	176.2	199.7	-16.3
3-Toluidine	C <sub>7</sub> H <sub>9</sub> N	41.0	68.0	82.0	96.7	113.5	123.8	136.7	157.6	180.6	203.3	-31.5
4-Toluidine	C <sub>7</sub> H <sub>9</sub> N	42.0	68.2	81.8	95.8	111.5	121.5	133.7	154.0	176.9	200.4	44.5
2-Tolyl isocyanide	C <sub>8</sub> H <sub>7</sub> N	25.2	51.0	64.0	78.2	94.0	104.0	117.7	137.8	159.9	183.5	
4-Tolylhydrazine	C <sub>7</sub> H <sub>10</sub> N <sub>2</sub>	82.4	110.0	123.8	138.6	154.1	165.0	178.0	198.0	219.5	242.0	65.5
Tribromoacetaldehyde	C <sub>2</sub> HBr <sub>3</sub> O	18.5	45.0	58.0	72.1	87.8	97.5	110.2	130.0	151.6	174.0	
1,1,2-Tribromobutane	C <sub>4</sub> H <sub>7</sub> Br <sub>3</sub>	45.0	73.5	87.8	103.2	120.2	131.6	146.0	167.8	192.0	216.2	
1,2,2-Tribromobutane	C <sub>4</sub> H <sub>7</sub> Br <sub>3</sub>	41.0	69.0	83.2	98.6	116.0	127.0	141.8	163.5	188.0	213.8	
2,2,3-Tribromobutane	C <sub>4</sub> H <sub>7</sub> Br <sub>3</sub>	38.2	66.0	79.8	94.6	111.8	122.2	136.3	157.8	182.2	206.5	
1,1,2-Tribromoethane	C <sub>2</sub> H <sub>3</sub> Br <sub>3</sub>	32.6	58.0	70.6	84.2	100.0	110.0	123.5	143.5	165.4	188.4	-26
1,2,3-Tribromopropane	C <sub>3</sub> H <sub>5</sub> Br <sub>3</sub>	47.5	75.8	90.0	105.8	122.8	134.0	148.0	170.0	195.0	220.0	16.5
Triisobutylamine	C <sub>12</sub> H <sub>27</sub> N	32.3	57.4	69.8	83.0	97.8	107.3	119.7	138.0	157.8	179.0	-22
Triisobutylene	C <sub>12</sub> H <sub>24</sub>	18.0	44.0	56.5	70.0	86.7	96.7	110.0	130.2	153.0	179.0	
2,4,6-Tritertbutylphenol	C <sub>18</sub> H <sub>30</sub> O	95.2	126.1	142.0	158.0	177.4	188.0	203.0	226.2	250.6	276.3	
Trichloroacetic acid	C <sub>2</sub> HCl <sub>3</sub> O <sub>2</sub>	51.0	76.0	88.2	101.8	116.3	125.9	137.8	155.4	175.2	195.6	57
Trichloroacetic anhydride	C <sub>3</sub> Cl <sub>6</sub> O <sub>3</sub>	56.2	85.3	99.6	114.3	131.2	141.8	155.2	176.2	199.8	223.0	
Trichloroacetyl bromide	C <sub>2</sub> BrCl <sub>2</sub> O	-7.4	+16.7	29.3	42.1	57.2	66.7	79.5	98.4	120.2	143.0	
2,4,6-Trichloroaniline	C <sub>6</sub> H <sub>3</sub> Cl <sub>3</sub> N	134.0	157.8	170.0	182.6	195.8	204.5	214.6	229.8	246.4	262.0	78
1,2,3-Trichlorobenzene	C <sub>6</sub> H <sub>3</sub> Cl <sub>3</sub>	40.0	70.0	85.6	101.8	119.8	131.5	146.0	168.2	193.5	218.5	52.5
1,2,4-Trichlorobenzene	C <sub>6</sub> H <sub>3</sub> Cl <sub>3</sub>	38.4	67.3	81.7	97.2	114.8	125.7	140.0	162.0	187.7	213.0	17
1,3,5-Trichlorobenzene	C <sub>6</sub> H <sub>3</sub> Cl <sub>3</sub>			63.8	78.0	93.7	110.8	121.8	136.0	157.7	183.0	63.5
1,2,3-Trichlorobutane	C <sub>4</sub> H <sub>7</sub> Cl <sub>3</sub>	+0.5	27.2	40.0	55.0	71.5	82.0	96.2	118.0	143.0	169.0	
1,1,1-Trichloroethane	C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub>	-52.0	-32.0	-21.9	-10.8	+1.6	9.5	20.0	36.2	54.6	74.1	-30.6
1,1,2-Trichloroethane	C <sub>2</sub> H <sub>3</sub> Cl <sub>3</sub>	-24.0	-2.0	+8.3	21.6	35.2	44.0	55.7	73.3	93.0	113.9	-36.7
Trichloroethylene	C <sub>2</sub> HCl <sub>3</sub>	-43.8	-22.8	-12.4	-1.0	+11.9	20.0	31.4	48.0	67.0	86.7	-73
Trichlorofluoromethane	CCl <sub>3</sub> F	-84.3	-67.6	-59.0	-49.7	-39.0	-32.3	-23.0	-9.1	+6.8	23.7	
2,4,5-Trichlorophenol	C <sub>6</sub> H <sub>3</sub> Cl <sub>3</sub> O	72.0	102.1	117.3	134.0	151.5	162.5	178.0	201.5	226.5	251.8	62
2,4,6-Trichlorophenol	C <sub>6</sub> H <sub>3</sub> Cl <sub>3</sub> O	76.5	105.9	120.2	135.8	152.2	163.5	177.8	199.0	222.5	246.0	68.5

TABLE 2-8 Vapor Pressures of Organic Compounds, up to 1 atm (Concluded)

Compound		Pressure, mm Hg										Melting point, °C
		1	5	10	20	40	60	100	200	400	760	
Name	Formula	Temperature, °C										
Tri-2-chlorophenylthiophosphate	C <sub>18</sub> H <sub>12</sub> Cl <sub>3</sub> O <sub>3</sub> PS	188.2	217.2	231.2	246.7	261.7	271.5	283.8	302.8	322.0	341.3	
1,1,1-Trichloropropane	C <sub>3</sub> H <sub>2</sub> Cl <sub>3</sub>	-28.8	-7.0	+4.2	16.2	29.9	38.3	50.0	67.7	87.5	108.2	-77.7
1,2,3-Trichloropropane	C <sub>3</sub> H <sub>2</sub> Cl <sub>3</sub>	+9.0	33.7	46.0	59.3	74.0	83.6	96.1	115.6	137.0	158.0	-14.7
1,1,2-Trichloro-1,2,2-trifluoroethane	C <sub>2</sub> Cl <sub>3</sub> F <sub>3</sub>	-68.0	-49.4	-40.3	-30.0	-18.5	-11.2	-1.7	+13.5	30.2	47.6	-35
Tricosane	C <sub>29</sub> H <sub>58</sub>	170.0	206.3	223.0	242.0	261.3	273.8	289.8	313.5	339.8	366.5	47.7
Tridecane	C <sub>13</sub> H <sub>28</sub>	59.4	98.3	104.0	120.2	137.7	148.2	162.5	185.0	209.4	234.0	-6.2
Tridecanoic acid	C <sub>13</sub> H <sub>26</sub> O <sub>2</sub>	137.8	166.3	181.0	195.8	212.4	222.0	236.0	255.2	276.5	299.0	41
Triethoxymethylsilane	C <sub>7</sub> H <sub>18</sub> O <sub>3</sub> Si	-1.5	+22.8	34.6	47.2	61.7	70.4	82.7	101.0	121.8	143.5	
Triethoxyphenylsilane	C <sub>12</sub> H <sub>20</sub> O <sub>3</sub> Si	71.0	98.8	112.6	127.2	143.5	153.2	167.5	188.0	210.5	233.5	
1,2,4-Triethylbenzene	C <sub>12</sub> H <sub>18</sub>	46.0	74.2	88.5	104.0	121.7	132.2	146.8	168.3	193.7	218.0	
1,3,4-Triethylbenzene	C <sub>12</sub> H <sub>18</sub>	47.9	76.0	90.2	105.8	122.6	133.4	147.7	168.3	193.2	217.5	
Triethylborane	C <sub>6</sub> H <sub>15</sub> B			-148.0	-140.6	-131.4	-125.2	-116.0	-101.0	-81.0	-56.2	
Triethyl camphoronate citrate	C <sub>15</sub> H <sub>26</sub> O <sub>6</sub> C <sub>15</sub> H <sub>20</sub> O <sub>7</sub>		107.0	150.2	166.0	183.6	201.8	213.5	228.6	250.8	276.0	135
Triethyleneglycol	C <sub>6</sub> H <sub>14</sub> O <sub>4</sub>	114.0	144.0	158.1	174.0	191.3	201.5	214.6	235.2	256.6	278.3	
Triethylheptylsilane	C <sub>13</sub> H <sub>30</sub> Si	70.0	99.8	114.6	130.3	148.0	158.2	174.0	196.0	221.0	247.0	
Triethyloctylsilane	C <sub>14</sub> H <sub>32</sub> Si	73.7	104.8	120.6	137.7	155.7	168.0	184.3	208.0	235.0	262.0	
Triethyl orthoformate phosphate	C <sub>3</sub> H <sub>16</sub> O <sub>3</sub> C <sub>6</sub> H <sub>15</sub> O <sub>4</sub> P	+5.5	29.2	40.5	53.4	67.5	76.0	88.0	106.0	125.7	146.0	
Triethylthallium	C <sub>6</sub> H <sub>15</sub> Tl	+9.3	37.6	51.7	67.7	85.4	95.7	112.1	136.0	163.5	192.1	-63.0
Trifluorophenylsilane	C <sub>6</sub> H <sub>5</sub> F <sub>3</sub> Si	-31.0	-9.7	+0.8	12.3	25.4	33.2	44.2	60.1	78.7	98.3	
Trimethyl phosphite	C <sub>12</sub> H <sub>21</sub> PO <sub>4</sub>	93.7	131.0	149.8	169.8	192.0	207.0	225.7	255.0	288.5	324.0	
2,3,5-Trimethylacetophenone	C <sub>11</sub> H <sub>14</sub> O	79.0	108.0	122.3	137.5	154.2	165.7	179.7	201.3	224.3	247.5	
Trimethylamine	C <sub>3</sub> H <sub>9</sub> N	-97.1	-81.7	-73.8	-65.0	-55.2	-48.8	-40.3	-27.0	-12.5	+2.9	-117.1
2,4,5-Trimethylaniline	C <sub>8</sub> H <sub>13</sub> N	68.4	95.9	109.0	123.7	139.8	149.5	162.0	182.3	203.7	234.5	67
1,2,3-Trimethylbenzene	C <sub>9</sub> H <sub>12</sub>	16.8	42.9	55.9	69.9	85.4	95.3	108.8	129.0	152.0	176.1	-25.5
1,2,4-Trimethylbenzene	C <sub>9</sub> H <sub>12</sub>	13.6	38.3	50.7	64.5	79.8	89.5	102.8	122.7	145.4	169.2	-44.1
1,3,5-Trimethylbenzene	C <sub>9</sub> H <sub>12</sub>	9.6	34.7	47.4	61.0	76.1	85.8	98.9	118.6	141.0	164.7	-44.8
2,2,3-Trimethylbutane	C <sub>7</sub> H <sub>16</sub>			-18.8	-7.5	+5.2	13.3	24.4	41.2	60.4	80.9	-25.0
Trimethyl citrate	C <sub>8</sub> H <sub>14</sub> O <sub>7</sub>	106.2	146.2	160.4	177.2	194.2	205.5	219.6	241.3	264.2	287.0	78.5
Trimethyleneglycol (1,3-propanediol)	C <sub>3</sub> H <sub>8</sub> O <sub>2</sub>	59.4	87.2	100.6	115.5	131.0	141.1	153.4	172.8	193.8	214.2	
1,2,4-Trimethyl-5-ethylbenzene	C <sub>11</sub> H <sub>16</sub>	43.7	71.2	84.6	99.7	106.0	126.3	140.3	160.3	184.5	208.1	
1,3,5-Trimethyl-2-ethylbenzene	C <sub>11</sub> H <sub>16</sub>	38.8	67.0	80.5	96.0	113.2	123.8	137.9	158.4	183.5	208.0	
2,2,3-Trimethylpentane	C <sub>8</sub> H <sub>18</sub>	-29.0	-7.1	+3.9	16.0	29.5	38.1	49.9	67.8	88.2	109.8	-112.3
2,2,4-Trimethylpentane	C <sub>8</sub> H <sub>18</sub>	-36.5	-15.0	-4.3	+7.5	20.7	29.1	40.7	58.1	78.0	99.2	-107.3
2,3,3-Trimethylpentane	C <sub>8</sub> H <sub>18</sub>	-25.8	-3.9	+6.9	19.2	33.0	41.8	53.8	72.0	92.7	114.8	-101.5
2,3,4-Trimethylpentane	C <sub>8</sub> H <sub>18</sub>	-26.3	-4.1	+7.1	19.3	32.9	41.6	53.4	71.3	91.8	113.5	-109.2
2,2,4-Trimethyl-3-pentanone	C <sub>8</sub> H <sub>16</sub> O	14.7	36.0	46.4	57.6	69.8	77.3	87.6	102.2	118.4	135.0	
Trimethyl phosphate	C <sub>6</sub> H <sub>9</sub> O <sub>4</sub> P	26.0	53.7	67.8	83.0	100.0	110.0	124.0	145.0	167.8	192.7	
2,4,5-Trimethylstyrene	C <sub>11</sub> H <sub>14</sub>	48.1	77.0	91.6	107.1	124.2	135.5	149.8	171.8	196.1	221.2	
2,4,6-Trimethylstyrene	C <sub>11</sub> H <sub>14</sub>	37.5	65.7	79.7	94.8	111.8	122.3	136.8	157.8	182.3	207.0	
Trimethylsuccinic anhydride	C <sub>7</sub> H <sub>10</sub> O <sub>3</sub>	53.5	82.6	97.4	113.8	131.0	142.2	156.5	179.8	205.5	231.0	
Triphenylmethane	C <sub>18</sub> H <sub>16</sub>	169.7	188.4	197.0	206.8	215.5	221.2	228.4	239.7	249.8	259.2	93.4
Triphenylphosphate	C <sub>18</sub> H <sub>15</sub> O <sub>4</sub> P	193.5	230.4	249.8	269.7	290.3	305.2	322.5	349.8	379.2	413.5	49.4
Tripropyleneglycol	C <sub>9</sub> H <sub>20</sub> O <sub>4</sub>	96.0	125.7	140.5	155.8	173.7	184.6	199.0	220.2	244.3	267.2	
Tripropyleneglycol monobutyl ether	C <sub>13</sub> H <sub>28</sub> O <sub>4</sub>	101.5	131.6	147.0	161.8	179.8	190.2	204.4	224.4	247.0	269.5	
Tripropyleneglycol monoisopropyl ether	C <sub>12</sub> H <sub>26</sub> O <sub>4</sub>	82.4	112.4	127.3	143.7	161.4	173.2	187.8	209.7	232.8	256.6	
Tritolyl phosphate	C <sub>21</sub> H <sub>21</sub> O <sub>4</sub> P	154.6	184.2	198.0	213.2	229.7	239.8	252.2	271.8	292.7	313.0	
Undecane	C <sub>11</sub> H <sub>24</sub>	32.7	59.7	73.9	85.6	104.4	115.2	128.1	149.3	171.9	195.8	-25.6
Undecanoic acid	C <sub>11</sub> H <sub>22</sub> O <sub>2</sub>	101.4	133.1	149.0	166.0	185.6	197.2	212.5	237.8	262.8	290.0	29.5
10-Undecenoic acid	C <sub>11</sub> H <sub>20</sub> O <sub>2</sub>	114.0	142.8	156.3	172.0	188.7	199.5	213.5	232.8	254.0	275.0	24.5
Undecan-2-ol	C <sub>11</sub> H <sub>24</sub> O	71.1	99.0	112.8	127.5	143.7	153.7	167.2	187.7	209.8	232.0	
n-Valeric acid	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	42.2	67.7	79.8	93.1	107.8	116.6	128.3	146.0	165.0	184.4	-34.5
iso-Valeric acid	C <sub>5</sub> H <sub>10</sub> O <sub>2</sub>	34.5	59.6	71.3	84.0	98.0	107.3	118.9	136.2	155.2	175.1	-37.6
γ-Valerolactone	C <sub>5</sub> H <sub>8</sub> O <sub>2</sub>	37.5	65.8	79.8	95.2	101.9	122.4	136.5	157.7	182.3	207.5	
Valeronitrile	C <sub>5</sub> H <sub>9</sub> N	-6.0	+18.1	30.0	43.3	57.8	66.9	78.6	97.7	118.7	140.8	
Vanillin	C <sub>8</sub> H <sub>8</sub> O <sub>3</sub>	107.0	138.4	154.0	170.5	188.7	199.8	214.5	237.3	260.0	285.0	81.5
Vinyl acetate	C <sub>4</sub> H <sub>6</sub> O <sub>2</sub>	-48.0	-28.0	-18.0	-7.0	+5.3	13.0	23.3	38.4	55.5	72.5	
2-Vinylanisole	C <sub>8</sub> H <sub>10</sub> O	41.9	68.0	81.0	94.7	110.0	119.8	132.3	151.0	172.1	194.0	
3-Vinylanisole	C <sub>8</sub> H <sub>10</sub> O	43.4	69.9	83.0	97.2	112.5	122.3	135.3	154.0	175.8	197.5	
4-Vinylanisole	C <sub>8</sub> H <sub>10</sub> O	45.2	72.0	85.7	100.0	116.0	126.1	139.7	159.0	182.0	204.5	
Vinyl chloride (1-chloroethylene)	C <sub>2</sub> H <sub>3</sub> Cl	-105.6	-90.8	-83.7	-75.7	-66.8	-61.1	-53.2	-41.3	-28.0	-13.8	-153.7
cyanide (acrylonitrile)	C <sub>3</sub> H <sub>3</sub> N	-51.0	-30.7	-20.3	-9.0	+3.8	11.8	22.8	38.7	58.3	78.5	-82
fluoride (1-fluoroethylene)	C <sub>2</sub> H <sub>3</sub> F	-149.3	-138.0	-132.2	-125.4	-118.0	-113.0	-106.2	-95.4	-84.0	-72.2	-160.5
Vinylidene chloride (1,1-dichloroethene)	C <sub>2</sub> H <sub>2</sub> Cl <sub>2</sub>	-77.2	-60.0	-51.2	-41.7	-31.1	-24.0	-15.0	+14.8	31.7		-122.5
4-Vinylphenetole	C <sub>10</sub> H <sub>12</sub> O	64.0	91.7	105.6	120.3	136.3	146.4	159.8	180.0	202.8	225.0	
2-Xenyl dichlorophosphate	C <sub>12</sub> H <sub>9</sub> Cl <sub>2</sub> PO	138.2	171.1	187.0	205.0	223.8	236.0	251.5	275.3	301.5	328.5	
2,4-Xyaldehyde	C <sub>8</sub> H <sub>10</sub> O	59.0	85.9	99.0	114.0	129.7	139.8	152.2	172.3	194.1	215.5	75
2-Xylene (2-xylylene)	C <sub>8</sub> H <sub>10</sub>	-3.8	+20.2	32.1	45.1	59.5	68.8	81.3	100.2	121.7	144.4	-25.2
3-Xylene (3-xylylene)	C <sub>8</sub> H <sub>10</sub>	-6.9	+16.8	28.3	41.1	55.3	64.4	76.8	95.5	116.7	139.1	-47.9
4-Xylene (4-xylylene)	C <sub>8</sub> H <sub>10</sub>	-8.1	+15.5	27.3	40.1	54.4	63.5	75.9	94.6	115.9	138.3	+13.3
2,4-Xylidine	C <sub>8</sub> H <sub>11</sub> N	52.6	79.8	93.0	107.6	123.8	133.7	146.8	166.4	188.3	211.5	
2,6-Xylidine	C <sub>8</sub> H <sub>11</sub> N	44.0	72.6	87.0	102.7	120.2	131.5	146.0	168.0	193.7	217.9	