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Reference Literature to Solubility Data between Halogenated Hydrocarbons and Water

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References are listed for the solubility and miscibility between halogenated hydrocarbons, C_1 to C_6, and water.

Halogenated hydrocarbons are used as solvents, refrigerants, propellants, insecticides, anesthetic agents, etc. There are several aspects when knowledge on the solubility is essential. The following examples illustrate the various problems when the solubilities of halogenated hydrocarbons have been measured or the available values have been applied—e.g., in case there should be a leak in the evaporator in a refrigeration unit;[69] if these liquids are used as solvents in processes involving compounds sensitive to moisture and as homogeneous or heterogeneous catalysts when their moisture content may have serious consequences;[53] understanding of aqueous solutions;[3, 60, 75] to test the theory of the heat of mixing of liquids;[91] to study the interfacial properties, absorption characteristics, heat of absorption, hydrogen bond formation, the infinitely dilute solubility characteristics, etc.,[39] formation of gas hydrate chathrates and hydrate-formers;[22] selecting the most economical hydrating agent for demineralizing sea water;[6] to use these compounds as propellants for aqueous aerosol mixtures.[69] Halogenated hydrocarbons are commonly used as refrigerants, and, therefore, a problem of hydrate formation in refrigeration systems arises. It has been proposed that cyclic formation and decomposition of gas hydrates may be a means of purification of saline water, and, probably, there is a relation between the simple gas hydrates and more complex hydrates which occur in biological systems.[103] The data on the solubility of halogenated hydrocarbons in water are important not only for engineering calculations in connection with unit operations (calculating the over-all absorption coefficients for packed absorption and stripping towers), but also in estimation of the dynamic behavior (particularly dissolution) of spills on water. The magnitude of the solubility of halogenated hydrocarbons vary and have different toxicity to aquatic biota. To correlate the biological effect of halogenated hydrocarbon spillages, a reasonably accurate knowledge of their solubilities is required.[24, 44]

The mutual solubilities are very slight between halogenated hydrocarbons and water, and, therefore, the determination requires a very careful technique. A review of the various methods is presented by Tranchant.[95] Methods for the determination of water are reported by Riddick and Bunger,[79] Marsden,[56] Weissberger and Rossiter,[101] and Sellers.[88] The discrepancy between the various values obtained by different investigators make it very difficult to select the best data among the published solubilities. Recently, Högfeldt and Fredlund[31] reported the results of different measurements and give a rule on how to choose the right determination method. There are many empirical and semiempirical tests to check the measured values;[26, 27, 28, 33, 46, 63, 77] however, these consistency checks are valid mostly for regular solutions and not for aqueous solutions which have abnormal thermodynamic properties.[19, 75, 85] The presence of monomeric and polymeric species of water in chlorinated solvents has also been reported.[37,66] In addition, Schatzberg, [83] Ödberg and Högfeldt,[66] Leinonen *et al.*,[51] and Jhon *et al.*[36] reported various correlation techniques for the solubility of water, and for the solubilities in water. These correlations provide a rational procedure for the checking of solubilities of substances with similar structure. A recent article[32] provides a consistency test for members of a homologous series without restriction regarding the property of the substances; polar, nonpolar, forming hydrogen bond or not, the linear correlation on a double logarithm paper is valid. This correlation is so general for accurate experimental data, that serious departures from linearity invite suspicion regarding accuracy.

In this compilation, the main sources of references are standard handbooks (secondary sources): "Chemical Rubber Handbook,"[29,100] "Handbook of Chemistry,"[48] etc.; multi-volume handbooks: Landolt-Bornstein,[47] "International Critical Tables"[98]; and handbooks on solubility data: Stephen and Stephen,[92] Seidell,[86,87] Linke,[52]

Table

Formula	Name	Solubility, Temp. Range °C. in H_2O	H_2O in	Ref. (page)
$CBrClF_2$	Methane, bromochlorodifluoro-	−20–0	3.9–10	22(208)
$CBrClH_2$	Methane, bromochloro-	25	...	40(774),
		20	20	65(126)
$CBrCl_3$	Methane, bromotrichloro-	...	20	65(126)
$CBrF_3$	Methane, bromotrifluoro-	25	...	42(749)
		25	21.1	100(E-28), 57(53)
$CBrH_3$	Methane, bromo-	10–32	...	24(1827), 47(1-32), 92(I-372)
		0–77	...	4(442)
		29–50	...	94(822)
		20	...	9(5), 29(1034), 40(772)
CBr_2H_2	Methane, dibromo-	0–30	0–30	92(I-371)
		0–30	...	47(3-400), 78(355), 86(II-22), 98(III-387)
		15, 30	...	23(1744), 92(I-55)
		0, 20	...	48(634)
		0	...	74(3-37)
		20	...	29(1034)
		25	25	65(126)
CBr_3F	Methane, tribromofluoro-	25	25	65(126)
CBr_3H	Bromoform	15, 30	...	23(1744), 47(3-400), 86(II-12), 92(I-55)
		15	...	74(3-26)
		20	...	65(126)
		30	...	29(812), 79(II-381)
CBr_4	Carbon tetrabromide	30	...	23(1744), 29(848), 47(3-400), 74(3-27), 86(II-1), 92(I-54)
$CClFH_2$	Methane, chlorofluoro-	10–79	...	4(442), 5(1459)
$CClF_2H$	Methane, chlorodifluoro-	10–79	...	5(1459)
		25–79	...	4(441), 69(1341)
		...	−50–30	11(62)
		25	25	100(E-28)
		25	...	42(745)
		25	0, 30	57(117)
		21	21	54(8)
		20	...	92(343)
		...	26	16(10)
		...	0	15(4)
$CClF_3$	Methane, chlorotrifluoro-	10–75	...	4(441)
		25–77	...	69(1341)
		...	−50–50	11(62)
		25	...	42(745), 57(131), 100(E-28)
$CClH_3$	Methane, chloro-	0–77	...	4(442)
		0–40	25	10(6)
		10–59	...	5(1459)
		10–30	...	47(1-32), 87(575), 92(I-372)
		15–60	...	93(488)
		20–60	...	98(III-261)
		29–50	...	94(822)
		...	−50–85	11(62)
		30	−40–50	62(1230)
		25	25	41(102), 54(8)
		20	...	18(884), 29(1034)
		16	...	48(622), 74(3-36)
		0	...	57(335)
		25	...	50(I-1206)
CCl_2FH	Methane, dichlorofluoro-	...	−50–10	11(62)
		25	25	100(E-28)
		25	...	42(745)
		30	0, 30	57(165)
		...	0	15(4)
CCl_2F_2	Methane, dichlorodifluoro-	26	...	48(522), 74(3-31)
		25–75	...	4(441), 69(1341)
		...	−50–50	11(62)
		25	25	100(E-28)
		25	...	42(745)
		25	0, 30	57(159)

Formula	Name	Solubility, Temp. Range °C in H_2O	H_2O in	Ref. (page)
		27	0, 30	34(17)
		21	21	54(8)
		20	...	103(343)
		...	26	16(10)
		...	0	15(4)
CCl_2H_2	Methane, dichloro-	0–30	...	78(355), 86(II-22), 92(I-371), 98(III-387)
		0–30	20	56(392)
		0–30	25	41(111)
		0–38	−40–52	62(1230)
		15–60	...	93(488)
		20–30	20–30	81(1788)
		20, 25	...	50(1206,1233)
		20	20	30(170), 47(3-400)
		20	0–30	91(837)
		20	...	29(1034), 48(634), 74(3-37)
		25	25	79(348)
		...	0–30	52(I-1133)
		...	25	71(2)
		...	−50–5	11(62)
CCl_3F	Methane, trichlorofluoro-	...	−50–50	11(62)
		25	25	100(E-28)
		25	...	42(745)
		25	0, 30	57(473)
		...	0	15(4)
		...	0, 30	34(17)
CCl_3H	Chloroform	...	24.5–27.8	92(I-529)
		−25–55	−25–51	92(I-370)
		0–55	−25–54	86(II-12)
		13–40	...	87(572)
		...	0–30	52(I-1134)
		−25–55	...	47(1-32)
		−25–56	−25–56	47(3-400)
		0–55	...	98(III-387)
		0–30	0–30	91(836)
		0–60	−40–60	62(1230)
		...	−10–80	11(57)
		...	−25–54	20(691)
		15–60	...	93(488)
		0–30	...	78(355)
		0–30	22	41(120)
		...	−10–80	12(57)
		15, 30	...	23(1744)
		20, 25	...	50(1206,1233)
		20	23	79(349)
		20	20	30(170)
		20	10, 20	56(136)
		20	...	25(347), 48(482), 74(3-28)
		15	...	29(854)
		25	...	49(5)
		37	...	68(10)
CCl_4	Carbon tetrachloride	0–30	...	78(355), 92(I-54)
		...	−10–80	11(57), 12(57)
		15–50	10–50	92(I-369)
		...	24–29	92(I-529)
		15–30	10–50	86(II-2)
		...	0–50	52(I-1134)
		0–30	0–50	47(3-400)
		0–30	24, 29	98(III-387)
		0–70	−30–60	62(1230)
		15–60	...	93(488)
		10–50	20	56(127)
		25	0–30	91(836)
		...	10–50	80(3568)
		20, 25	0–40	50(1206, 1244, 1233)
		...	10–70	89(1755)
		...	15–45	21(66)
		...	0–80	53(446)
		0, 20	...	48(470)
		20	20	30(170)

Formula	Name	Solubility, Temp. Range °C in H_2O	H_2O in	Ref. (page)
		15, 30	...	23(1744)
		25	24	79(351)
		25	25	41(129)
		...	25	37(77), 31(1858)
		20	...	29(848), 74(3-27)
CFH_3	Methane, fluoro-	0–77	...	4(442)
		29, 40	...	97(822)
		15	...	29(1034), 48(624)
CF_3H	Methane, trifluoro-	25–75	...	4(441), 69(1341)
		20	...	29(932), 48(576), 98(III-261)
		25	...	42(741), 100(E-28)
CF_4	Carbon tetrafluoride	7–39	...	47(1-32), 60(3441), 92(I-369)
		2–50	...	3(1793), 58(64)
		25–75	...	4(441), 69(1341)
		25	...	42(741), 75(281), 100(E-28)
CHI_3	Iodoform	25	...	29(986), 43(864), 47(3-400), 48(608), 74(3-35), 86(II-21)
CH_2I_2	Methane, diiodo-	0, 20	...	48(634)
		20	...	25(347), 29(1034), 43(863), 65(126), 74(3-37)
		30	...	23(1744), 47(3-400), 79(390), 86(II-24), 92(I-55)
CH_3I	Methane, iodo-	0–30	0–30	92(55, 372)
		0–30	...	78(355), 86(II-22), 98(III-387)
		0–77	...	4(442)
		22, 30	...	86(II-35)
		29, 40	...	94(822)
		15	...	48(628), 74(3-36)
		20	...	25(347), 29(1034), 43(862), 47(3-399), 79(385)
		22	...	17(510)
C_2BrClF_3H	Ethane, 1-bromo-1-chloro-2,2,2-trifluoro-	23	...	82(2-8)
C_2BrClH_4	Ethane, 1-bromo-2-chloro-	30	...	29(906), 47(3-401), 48(476), 74(3-33), 86(II-98), 92(I-56)
C_2BrH	Acetylene, bromo-	15	...	48(454)
C_2BrH_5	Ethane, bromo-	0–30	...	47(3-401), 78(355), 86(II-118), 92(I-383), 98(III-387)
		0–20	...	29(924)
		0, 30	...	48(562)
		0	...	74(3-33)
		18	...	17(510)
		20	...	25(347), 79(373)
		25	...	40(774)
$C_2Br_2ClH_3$	Ethane, 1,2-dibromo-chloro-	...	20	64(126)
$C_2Br_2Cl_2H_2$	Ethane, 1,2-dibromo-1,2-dichloro-	...	20	65(126)
$C_2Br_2H_2$	Ethylene, 1,1-dibromo-	25	25	65(126)
$C_2Br_2H_4$	Ethane, 1,2-dibromo-	0–75	25–75	47(3-401), 87(591)
		0–50	...	86(II-97), 92(I-381)
		0–35	25, 30	91(837)
		15, 30	...	23(1744)
		...	25, 30	52(I-1133)
		30	25	79(382)
		30	...	29(926), 48(502), 74(3-33)
		20	...	40(771)
		...	25	14(208)
$C_2Br_3H_3$	Ethane, 1,1,2-tribromo-	...	20	65(126)
C_2Br_4	Ethylene, tetrabromo-	30	30	65(126)
$C_2Br_4H_2$	Ethane, 1,1,2,2-tetrabromo-	30	...	29(908), 47(3-402), 79(384), 86(II-76), 92(I-56)
$C_2ClF_2H_3$	Ethane, 1-chloro-1,1-difluoro-	21	21	1(2), 57(177)
C_2ClF_5	Ethane, 1-chloro-1,1,2,2,2-pentafluoro-	25–75	...	4(442), 69(1341)
		25	...	42(745), 57(123), 100(E-28)
C_2ClH_3	Ethylene, chloro-	50	20	54(8)
		25	−15	41(171)
		...	25	14(407)
C_2ClH_5	Ethane, chloro-	20–40	...	47(1-32), 64(434), 87(596)
		0, 18	...	86(II-119), 92(I-56)
		0	0, 50	41(140)
		...	20	35(25)
		0	...	47(3-401), 48(562), 57(215), 62(1230), 74(3-33), 79(334)
		11	...	98(III-387)
		13	...	17(510)
		20	...	25(347), 29(924), 56(261)

Formula	Name	Solubility, Temp. Range °C in H_2O	H_2O in	Ref. (page)
$C_2Cl_2F_4$	Ethane, 1,2-dichloro-1,1-2,2-tetrafluoro-	...	−50–50	11(62)
		25	25	100(E-28)
		25	...	42(745)
		25	0, 30	57(171)
		...	0	15(4)
$C_2Cl_2H_2$	Ethylene, 1,1-dichloro-	25	25	79(366)
		20	20	41(178), 65(126)
$C_2Cl_2H_2$	Ethylene, *cis*-1,2-dichloro-	25	−40–60	62(1230)
		25	25	41(181), 79(367)
		20	...	48(410), 74(3-23)
		10	25	56(181)
$C_2Cl_2H_2$	Ethylene, *trans*-1,2-dichloro-	25	−40–60	62(1230)
		25	25	41(181), 79(367)
		20	...	48(410), 74(3-23)
		10	25	56(181)
$C_2Cl_2H_4$	Ethane, 1,1-dichloro-	0–50	0–30	47(3-401)
		0–35	0–30	91(837)
		...	0–30	52(I-1133)
		0–30	...	78(355), 92(I-381), 98(III-387)
		0–50	...	86(II-99)
		0, 30	...	48(510)
		20	20	41(149)
		20	25	79(353)
		20	...	29(906)
$C_2Cl_2H_4$	Ethane, 1,2-dichloro-	19–73	19–73	92(I-381)
		0–55	0–30	47(3-401)
		23–73	19–69	96(892)
		0–35	0–30	91(837)
		0–40	0–50	56(269)
		0–70	20	62(1230)
		...	0–30	52(I-1133)
		...	10, 25	37(77)
		0, 30	...	48(510)
		0, 20	...	29(926)
		15, 30	...	23(1744)
		20	20	8(6), 30(170), 41(151), 79(355)
		25	20	76(2)
		0	...	74(3-30)
		12	...	39(3870)
		25	...	50(I-1233)
		30	...	47(1-33), 93(488)
		...	25	88(2295)
		0–30	...	78(355), 86(II-98), 92(I-381), 98(III-387)
$C_2Cl_3F_3$	Ethane, 1,1,2-trichloro-1,2,2-trifluoro-	...	−50–50	11(62)
		25	0, 30	70(1)
		25	25	79(330), 100(E-28)
		25	...	42(745)
		...	0	15(4)
		...	25	71(2), 72(1)
C_2Cl_3H	Ethylene, trichloro-	0–70	−40–80	62(1230)
		25, 60	0–60	41(185)
		20	20	30(170), 65(126)
		25	25	56(535), 79(370), 84(396)
		20	...	7(5), 29(926), 65(126)
		25	...	48(724), 49(5), 50(1206), 74(3-41)
		...	−10–80	11(57), 12(57)
		...	−38–28	47(3-402), 86(II-67)
		...	−38–22	92(I-376)
$C_2Cl_3H_3$	Ethane, 1,1,1-trichloro-	0–50	0–30	47(3-401)
		0–35	0–30	91(837)
		0–50	...	86(II-84), 92(I-378)
		...	0–30	52(I-1133)
		20	25	79(357)
		20	20	30(170), 41(155), 65(126)
$C_2Cl_3H_3$	Ethane, 1,1,2-trichloro-	0–50	0–30	47(3-401)
		0–35	0–30	91(837)
		0–70	−9	62(1230)
		0–50	...	86(II-84), 92(I-378)

Formula	Name	Solubility, Temp. Range °C in H_2O	H_2O in	Ref. (page)
		...	0–30	52(I-1133)
		20	20	41(157), 56(533)
		20	...	48(722)
C_2Cl_4	Ethylene, tetrachloro-	0–70	−25–82	62(1230)
		...	10–90	89(1755)
		25	25	41(197), 79(372), 84(396)
		25	20	56(511)
		20	20	30(170)
		20	...	65(126), 74(3-41)
$C_2Cl_4F_2$	Ethane, 1,1,2,2-tetrachloro-1,2-difluoro-	25	20	30(170)
		25	28	79(331)
		25	...	42(745), 100(E-28)
$C_2Cl_4H_2$	Ethane, 1,1,1,2-tetrachloro-	0–50	0–30	47(3-402)
		0–35	0–30	91(837)
		0–50	...	86(II-77), 92(I-377)
		...	0–30	52(I-1133)
		20	...	48(702)
$C_2Cl_4H_2$	Ethane, 1,1,2,2-tetrachloro-	25–56	0–30	47(3-402)
		0–70	25	62(1230)
		20	0–30	91(837)
		...	0–30	52(I-1133)
		25	25	41(160), 67(1513)
		25	20	56(507)
		25, 56	...	86(II-76), 92(I-56)
		20	...	48(702), 74(3-41), 79(358)
		...	25	37(77), 73(824)
C_2Cl_5H	Ethane, pentachloro-	20–55	0–30	47(3-402)
		0–70	25	62(1230)
		20	0–30	91(837)
		...	0–30	52(I-1133)
		25	25	79(360)
		20	20	41(165), 56(424), 65(126)
		20	...	48(666), 74(3-38), 86(II-67), 92(I-55)
C_2Cl_6	Ethane, hexachloro-	22	...	41(166), 47(3-402), 48(590), 62(1230), 74(3-35), 86(II-67), 92(I-55)
C_2FH_3	Ethylene, fluoro-	80	...	42(836)
C_2FH_5	Ethane, fluoro-	14	...	29(928), 47(1-32), 48(564), 55(566), 98(III-261)
$C_2F_2H_2$	Ethylene, 1,1-difluoro-	25	...	57(185)
$C_2F_2H_2$	Ethylene, 1,2-difluoro-	20	...	98(III-261)
$C_2F_2H_4$	Ethane, 1,1-difluoro-	21	21	2(2)
		0	15	54(8)
		0, 28	...	57(181)
C_2F_4	Ethylene, tetrafluoro-	0–70	...	97(146)
		20	...	42(809)
		30	...	74(3-41)
C_2H_5I	Ethane, iodo-	0–30	...	47(3-401), 78(355), 86(II-120), 92(I-383), 98(III-387)
		20	...	25(347), 29(928), 43(864), 48(566), 74(3-33)
		23	...	17(510)
		30	...	23(1744), 79(384)
C_3BrClH_6	Propane, 1-bromo-3-chloro-	20	...	40(774)
		25	...	14(II-212)
C_3BrH_7	Propane, 1-bromo-	0–30	...	47(3-402), 78(355), 86(II-197), 92(I-390), 98(III-387)
		20, 30	...	86(II-197), 92(I-57)
		20	...	17(510), 29(1124), 48(684), 25(347), 74(3-39)
		30	...	23(1744), 79(375)
C_3BrH_7	Propane, 2-bromo-	0–30	...	47(3-402), 78(355), 86(II-197), 98(III-387)
		10–40	...	92(I-390)
		18	...	17(510), 79(377), 86(II-197), 92(I-57)
		20	...	25(347), 29(998), 48(684), 74(3-39)
$C_3Br_2H_6$	Propane, 1,2-dibromo-	25	25	14(II-214)
		20	...	29(1110), 48(504), 74(3-40)
$C_3Br_2H_6$	Propane, 1,3-dibromo-	30	...	25(347), 29(1112), 47(3-403), 48(504), 74(3-42), 86(II-174), 92(I-56)
C_3ClH_5	1-Propene, 3-chloro-	20	20	79(365)
		20	...	41(207), 48(414), 74(3-23)
C_3ClH_7	Propene, 1-chloro-2-methyl-	20	...	48(616)
C_3ClH_7	Propane, 1-chloro-	0–30	...	47(3-402), 78(355), 86(II-197), 92(I-390), 98(III-387)
		13	...	17(510), 86(II-197), 92(I-57)
		20	...	25(347), 29(1124), 47(1-33), 48(684), 74(3-39), 79(335)

Formula	Name	Solubility, Temp. Range °C in H_2O	H_2O in	Ref. (page)
C_3ClH_7	Propane, 2-chloro-	0–30	...	47(3-402), 78(355), 86(II-197), 92(I-390), 98(III-387)
		13	...	17(510), 29(998), 79(337), 86(II-197), 92(I-57)
		20	...	25(347), 48(684), 74(3-39)
$C_3Cl_2H_6$	Propane, 1,2-dichloro-	20	10–30	56(467)
		20	20	62(1230)
		25	25	14(II-211)
		20	...	29(1112), 48(512), 74(3-40)
		25	...	47(3-403), 86(II-175), 92(I-56)
$C_3Cl_2H_6$	Propane, 1,3-dichloro-	25, 30	...	47(3-403), 86(II-175), 92(I-56)
		25	...	25(347), 48(512), 74(3-42)
		30	...	29(1112)
$C_3Cl_3H_5$	Propane, 1,2,3-trichloro-	20	...	48(724)
C_3Cl_6	Propene, hexachloro-	25	25	14(II-412)
		...	10–110	89(1755)
C_3FH_5	Propene, 1-fluoro-	13	...	29(728), 98(III-261)
C_3FH_7	Propane, 1-fluoro-	20	...	98(III-261)
C_3H_7I	Propane, 1-iodo-	0–30	...	47(3-403), 78(355), 86(II-197), 92(I-390), 98(III-387)
		20, 30	...	86(II-197), 92(I-57)
		20	...	17(510), 25(347), 29(1126), 47(1-33), 48(684)
		30	...	23(1744), 79(388)
C_3H_7I	Propane, 2-iodo-	0–30	...	47(3-403), 78(355), 86(II-197), 92(I-390), 98(III-387)
		20	...	29(998), 48(684), 79(389)
C_4BrH_9	Butane, 1-bromo-	16, 30	...	47(3-403), 86(II-264), 92(I-58)
		16	...	17(510), 25(347), 48(462), 74(3-26)
		30	...	23(1744)
C_4BrH_9	Propane, 1-bromo-2-methyl-	16	...	29(990)
		18	...	17(510), 25(347), 47(3-403), 48(462), 74(3-26), 86(II-264), 92(I-59)
C_4BrH_9	Propane, 2-bromo-2-methyl-	18	...	48(462)
C_4ClH_7	2-Butene, 1-chloro-	20	...	48(488)
C_4ClH_9	Butane, 1-chloro-	20	20	79(338)
		13	...	17(510), 25(347), 29(822), 47(3-403), 48(462), 74(3-27), 86(II-264), 92(I-58)
C_4ClH_9	Butane, 2-chloro-	25	25	79(340)
C_4ClH_9	Propane, 1-chloro-2-methyl-	13	...	17(510), 25(347), 29(990), 47(3-403), 79(341), 86(II-264), 92(I-58)
C_4Cl_6	1,3-Butadiene, hexachloro-	20	...	61(809)
		...	15–90	89(1755)
C_4H_9I	Butane, 1-iodo-	18, 20	...	47(3-403)
		18	...	17(510), 25(347), 29(824), 86(II-264), 92(I-59)
C_5BrH_{11}	Butane, 1-bromo-3-methyl-	0	...	92(I-60)
		16	...	25(347), 74(3-24)
		17	...	17(510), 29(988), 47(3-403)
C_5ClH_{11}	Pentane, 1-chloro-	25	...	79(344)
C_6BrH_5	Benzene, bromo-	25, 30	...	92(I-61)
		30	25	79(378)
		...	25–35	38(2633)
		25	...	25(347)
		30	...	23(1744), 29(766), 48(3-403), 86(II-353)
		...	25	102(854)
$C_6Br_2H_4$	Benzene, 1,4-dibromo-	30	...	23(1744)
$C_6Br_3H_3$	Benzene, 2, 4, 6-tribromo-	20, 25	...	47(3-403), 86(II-321)
		20	...	92(I-61)
C_6ClH_5	Benzene, chloro-	25–30	...	92(I-61)
		30–90	...	44(2252)
		25	18–49	92(I-428)
		...	18–49	52(I-1136)
		...	−10–80	11(57)
		20	20	30(170)
		25	25	13(I-134), 67(1513)
		30	25	79(345)
		...	25–35	38(2633)
		...	25	102(864)
		12	...	39(3870)
		20	...	25(347), 48(474), 74(3-28)
		25	...	56(133), 84(436)
		30	...	23(1744), 29(766), 47(3-403), 50(1234), 86(II-353)
$C_6Cl_2H_4$	Benzene, 1,2-dichloro-	20–60	...	45(629), 47(3-404), 86(II-342), 92(I-426)
		25	25	30(170), 56(190), 79(361)

Formula	Name	Solubility, Temp. Range °C in H_2O	H_2O in	Ref. (page)
		...	25–35	38(2633)
		25	...	25(347), 29(768), 84(436), 92(I-61)
		...	25	13(I-135), 102(864)
$C_6Cl_2H_4$	Benzene, 1,3-dichloro-	20–60	...	45(629), 47(3-404), 86(II-342), 92(I-426)
		−10–80	...	12(57)
		20	...	79(363)
		25	...	25(347), 29(768)
$C_2Cl_2H_4$	Benzene, 1,4-dichloro-	20–60	...	45(629), 47(3-404), 86(II-342)
		20–30	...	92(I-426)
		0–75	...	99(38)
		35, 55	...	79(364)
		25	...	29(768), 84(436)
		30	...	92(I-61)
$C_6Cl_3H_3$	Benzene, 1,2,4-trichloro-	25	25	56(530)
		25	...	59(54), 84(436)
$C_6Cl_6H_6$	Cyclohexane, hexachloro-	15	...	48(440)
		20	...	48(442), 84(634), 90(314)
C_6FH_5	Benzene, fluoro-	25, 30	...	92(I-61)
		30	25	42(782), 79(324)
		12	...	39(3870)
		25	...	25(347)
		30	...	29(770), 47(3-403), 86(II-354)
		...	25	102(864)
C_6H_5I	Benzene, iodo-	25, 30	...	92(I-61 & 62)
		20	...	74(3-35)
		30	...	29(772), 47(3-404), 86(II-354)
		...	25–35	38(2633)
		...	25	102(864)

etc.; however, there are numerous articles in the published literature. More emphasis was placed on the solubility and miscibility data of as many C_1 to C_6 halogenated hydrocarbons as available, than the comprehensive collection of all published sources of some selected or more important compounds.

The result of this survey is presented in the following table. In the first column, the chemical formulas are listed in alphabetical order, followed by the chemical name in column 2, as used in "Chemical Abstracts." The temperatures and temperature intervals are followed by the corresponding references, giving the page number (and volume if any) in parentheses.

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