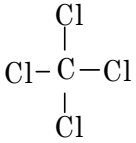
Carbon tetrachloride(四塩化炭素)

Chemical Name ; Carbon tetrachloride
Synoym ; Tetrachloromethane
Perchloromethane

Molecular Weight ; 153.82
Melting Point ; -23 ℃[Merck]
Boiling Point ; 76.74℃[CHCD]
Flashing Point ; −
Molecular Formular; CCl_4

Chemical Structure;



CAS No. ; 56-23-5
METI No. ; (2)-38
MHLW No. ; 2-(13)-47
Specified Chemical Substances; −

Source of Substance; Wako Pure Chemical Industries, Ltd.
Lot No. ; KSG7670
Purity ; 99.90%

Vehicle ; Air
ExposureCondition ; 37℃, 24hr
Culture Condition ; 37℃, 24hr

Mutagenicity in Bacterial Test; Positive

IARC Evaluation ; Group 2B

Conc. %	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2*uvrA*/pKM101		TA98		TA1537	
	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+
Air	(113)	(120)	(14)	(13)	(67)	(95)	(15)	(33)	(11)	(13)
0 .005	119 124 (122)	117 120 (119)	24 21 (23)	15 17 (16)	77 69 (73)	83 91 (87)	13 23 (18)	37 29 (33)	16 16 (16)	17 14 (16)
0 .01	119 120 (120)	115 129 (122)	18 14 (16)	16 9 (13)	54 72 (63)	87 77 (82)	16 20 (18)	32 26 (29)	11 11 (11)	10 10 (10)
0 .05	112 133 (123)	150 129 (140)	21 24 (23)	20 20 (20)	87 77 (82)	94 96 (95)	28 16 (22)	22 32 (27)	15 6 (11)	10 9 (10)
0 .1	121 141 (131)	123 142 (133)	26 13 (20)	18 14 (16)	90 79 (85)	108 116 (112)	22 23 (23)	37 22 (30)	6 10 (8)	13 3 (8)
0 .5	134 131 (133)	122 156 (139)	21 15 (18)	17 23 (20)	104 122 (113)	160 167 (164)	28 31 (30)	25 25 (25)	8 13 (11)	11 9 (10)
1	119 114 (117)	121 131 (126)	10 28 (19)	17 10 (14)	84 100 (92)	113 122 (118)	21 21 (21)	31 38 (35)	7 16 (12)	11 8 (10)
5	96 * 97 * (97 *)	76 * 68 * (72 *)	15 * 24 * (20 *)	10 * 7 * (9 *)	0 * 81 * (41 *)	59 * 46 * (53 *)	34 * 30 * (32 *)	30 * 36 * (33 *)	9 * 3 * (6 *)	5 * 1 * (3 *)
Judgement	−	−	−	−	−	−	+	−	−	−
Specific Mutagenicity #							0.5%			
Positive Control	AF-2 (499)	2-AA (1370)	NaN_3 (473)	2-AA (271)	AF-2 (562)	2-AA (1162)	AF-2 (621)	2-AA (397)	9-AA (350)	2-AA (229)

* Growth inhibition was observed.
# The concentration which was two times of the negative control value was shown.

Conc. %	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2*uvrA*/pKM101		TA98		TA1537	
	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+
Air	(105)	(100)	(10)	(9)	(65)	(77)	(11)	(22)	(10)	(9)
	90	94	6	11	69	76	11	11	3	16
	87	101	8	9	74	100	16	23	3	8
0 .05	(89)	(98)	(7)	(10)	(72)	(88)	(14)	(17)	(3)	(12)
	102	89	7	10	71	84	11	29	8	9
	79	87	9	10	77	78	13	23	10	6
0 .1	(91)	(88)	(8)	(10)	(74)	(81)	(12)	(26)	(9)	(8)
	90	121	13	16	76	114	15	21	5	7
	109	94	6	8	68	120	17	26	5	11
0 .2	(100)	(108)	(10)	(12)	(72)	(117)	(16)	(24)	(5)	(9)
	109	101	21	14	107	135	10	28	9	13
	128	119	14	16	105	130	22	28	8	14
0 .5	(119)	(110)	(18)	(15)	(106)	(133)	(16)	(28)	(9)	(14)
	113	136	17	16	137	184	26	31	10	8
	136	119	15	10	131	176	21	24	10	15
1	(125)	(128)	(16)	(13)	(134)	(180)	(24)	(28)	(10)	(12)
	136	113	15	9	139	205	32	36	7	11
	122	119	14	15	156	229	36	32	3	11
2	(129)	(116)	(15)	(12)	(148)	(217)	(34)	(34)	(5)	(11)
	68 *	69 *	18 *	3 *	91 *	111 *	31 *	24 *	3 *	2 *
	67 *	57 *	8 *	10 *	112 *	100 *	17 *	28 *	13 *	2 *
5	(68 *)	(63 *)	(13 *)	(7 *)	(102 *)	(106 *)	(24 *)	(26 *)	(8 *)	(2 *)
Judgement	−	−	−	−	+	+	+	−	−	−
Specific Mutagenicity #					1%	1%	1%			
Positive Control	AF-2 (464)	2-AA (1286)	NaN_3 (397)	2-AA (302)	AF-2 (496)	2-AA (1297)	AF-2 (590)	2-AA (440)	9-AA (442)	2-AA (233)

Conc. %	Number of Revertants/plate	
	Base-substitution	
	WP2*uvrA*/pKM101	
	S9−	S9+
Air	(66)	(78)
	89	91
	81	78
0 05	(85)	(85)
	77	94
	81	78
0 .1	(79)	(86)
	96	100
	76	104
0 .2	(86)	(102)
	98	123
	117	137
0 .5	(108)	(130)
	135	187
	146	187
1	(141)	(187)
	197	214
	184	194
2	(191)	(204)
	101 *	242 *
	144 *	78 *
5	(123 *)	(160 *)
Judgement	+	+
Specific Mutagenicity #	1%	1%
Positive Control	AF-2 (479)	2-AA (1139)

* Growth inhibition was observed.

\# The concentration which was two times of the negative control value was shown