Chemical Name;Ethyl methyl ketone
Synonym ;2-Butanone
Methyl ethyl ketone
2-Oxobutane
MEK
2-ブタノン
メチルエチルケトン
2-オキソブタン

Molecular Weight ; 72.11
Melting Point ; - 87 ℃ [Aldrich]
- 86 ℃ [Merck]
Boiling Point ; 79.6 ℃ [CHCD,Merck]
80 ℃ [Aldrich]
Flashing Point ; - 1 ℃ [CHCD]
- 3 ℃ [Aldrich]
- 6 ℃ (c.c.) [Merck]
Molecular Formula; C_4H_8O

Chemical Structure

$CH_3COC_2H_5$

CAS No. ; 78-93-3
MITI No. ; (2)-542
ML No. ; —
Specified Chemical Substances; —

Source of Substance; Tokyo Kasei Kogyo Co.,Ltd.
Lot No. ; GD01
Purity ; 99.0 %

Vehicle ; Distilled H_2O

Mutagenicity in Bacterial Test ; **Negative**

IARC Evaluation ; not yet cited

Conc. μg/plate	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2*uvrA*		TA98		TA1537	
	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+
H_2O	(117)	(137)	(11)	(13)	(26)	(39)	(13)	(21)	(5)	(9)
	113	121	14	18	39	34	9	20	6	5
	129	123	13	13	24	32	14	29	8	9
0.0763	(121)	(122)	(14)	(16)	(32)	(33)	(12)	(25)	(7)	(7)
	123	136	20	14	37	34	13	11	6	6
	142	133	16	11	34	31	10	22	6	5
0.305	(133)	(135)	(18)	(13)	(36)	(33)	(12)	(17)	(6)	(6)
	104	121	14	20	25	46	16	22	7	5
	104	119	14	14	25	33	18	28	7	6
1.22	(104)	(120)	(14)	(17)	(25)	(40)	(17)	(25)	(7)	(6)
	115	146	13	18	28	23	14	22	5	3
	127	136	15	14	24	30	17	16	3	6
4.88	(121)	(141)	(14)	(16)	(26)	(27)	(16)	(19)	(4)	(5)
	117	128	10	20	31	28	13	18	7	6
	128	124	7	20	30	39	18	24	6	9
19.5	(123)	(126)	(9)	(20)	(31)	(34)	(16)	(21)	(7)	(8)
	115	135	18	11	24	31	11	32	7	5
	109	129	15	10	22	40	16	22	5	7
78.1	(112)	(132)	(17)	(11)	(23)	(36)	(14)	(27)	(6)	(6)
	123	134	11	13	29	30	13	17	6	6
	128	130	14	16	32	38	21	22	6	7
313	(126)	(132)	(13)	(15)	(31)	(34)	(17)	(20)	(6)	(7)
	129	128	11	16	33	44	13	31	8	9
	133	138	10	17	29	37	15	23	5	8
1250	(131)	(133)	(11)	(17)	(31)	(41)	(14)	(27)	(7)	(9)
	119*	106	11*	13	25	37	11	21	5	10
	114*	117	13*	18	37	37	14	16	3	6
5000	(117*)	(112)	(12*)	(16)	(31)	(37)	(13)	(19)	(4)	(8)
Judgement	—	—	—	—	—	—	—	—	—	—
Specific Mutagenicity										
Positive Control	AF-2 (871)	2-AA (1059)	NaN_3 (446)	2-AA (360)	AF-2 (284)	2-AA (1192)	AF-2 (339)	2-AA (251)	9-AA (657)	2-AA (169)

Conc. μg/plate	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2*uvrA*		TA98		TA1537	
	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+	S9−	S9+
H_2O	(132)	(150)	(16)	(21)	(32)	(38)	(13)	(22)	(12)	(17)
	133	150	23	20	36	48	11	17	9	9
	117	143	14	20	28	51	10	25	14	8
78.1	(125)	(147)	(19)	(20)	(32)	(50)	(11)	(21)	(12)	(9)
	124	135	21	16	46	26	13	18	8	14
	160	112	11	14	33	36	9	23	10	11
156	(142)	(124)	(16)	(15)	(40)	(31)	(11)	(21)	(9)	(13)
	152	151	18	11	33	41	16	16	17	13
	129	146	11	24	31	40	16	15	10	21
313	(141)	(149)	(15)	(18)	(32)	(41)	(16)	(16)	(14)	(17)
	128	146	18	24	38	41	21	14	14	13
	129	133	22	17	34	34	15	22	9	11
625	(129)	(140)	(20)	(21)	(36)	(38)	(18)	(18)	(12)	(12)
	121	171	23	20	41	57	17	23	10	13
	137	146	14	26	41	43	11	16	15	13
1250	(129)	(159)	(19)	(23)	(41)	(50)	(14)	(20)	(13)	(13)
	134	127	18	22	25	39	15	21	8	13
	114	123	14	18	34	44	8	11	9	10
2500	(124)	(125)	(16)	(20)	(30)	(42)	(12)	(16)	(9)	(12)
	119*	133	17*	20	38	38	15	21	8	11
	120*	111	13*	11	31	32	11	15	17	7
5000	(120*)	(122)	(15*)	(16)	(35)	(35)	(13)	(18)	(13)	(9)
Judgement	−	−	−	−	−	−	−	−	−	−
Specific Mutagenicity										
Positive Control	AF-2 (816)	2-AA (1431)	NaN_3 (375)	2-AA (282)	AF-2 (332)	2-AA (1343)	AF-2 (464)	2-AA (361)	9-AA (735)	2-AA (273)

Experimental Data - 3

Conc. μg/plate	Number of Revertants/plate					
	Base-substitution					
	TA102		TA104		WP2*uvrA*/pKM101	
	S9−	S9+	S9−	S9+	S9−	S9+
H_2O	(226)	(334)	(290)	(379)	(40)	(89)
	256	336	267	366	41	76
	213	322	292	367	48	66
0.0763	(235)	(329)	(280)	(367)	(45)	(71)
	241	306	318	359	46	92
	255	343	341	385	40	70
0.305	(248)	(325)	(330)	(372)	(43)	(81)
	273	343	290	379	47	90
	239	373	317	358	41	92
1.22	(256)	(358)	(304)	(369)	(44)	(91)
	262	325	336	347	45	54
	236	320	280	352	57	93
4.88	(249)	(323)	(308)	(350)	(51)	(74)
	249	343	299	359	38	70
	238	338	325	368	41	89
19.5	(244)	(341)	(312)	(364)	(40)	(80)
	223	313	288	367	43	81
	239	292	292	366	32	84
78.1	(231)	(303)	(290)	(367)	(38)	(83)
	201	338	279	347	49	83
	222	325	286	352	47	59
313	(212)	(332)	(283)	(350)	(48)	(71)
	241	330	299	378	53	105
	234	353	318	361	55	99
1250	(238)	(342)	(309)	(370)	(54)	(102)
	241	317	307*	362	34	108
	222	359	282*	366	44	93
5000	(232)	(338)	(295*)	(364)	(39)	(101)
Judgement	−	−	−	−	−	−
Specific Mutagenicity						
Positive Control	BLM (684)	2-AA (2085)	PA (1641)	2-AA (1150)	AF-2 (1515)	2-AA (952)

Experimental Data - 4

Conc. μg/plate	Number of Revertants/plate					
	Base-substitution					
	TA102		TA104		WP2*uvrA*/pKM101	
	S9−	S9+	S9−	S9+	S9−	S9+
H_2O	(236)	(313)	(278)	(296)	(53)	(95)
			281			
			247			
78.1			(264)			
	225	285	269	279	51	92
	214	273	246	310	59	93
156	(220)	(279)	(258)	(295)	(55)	(93)
	230	325	263	348	46	78
	227	282	272	306	49	70
313	(229)	(304)	(268)	(327)	(48)	(74)
	246	340	282	336	52	72
	233	290	255	340	49	84
625	(240)	(315)	(269)	(338)	(51)	(78)
	220	320	234	301	48	85
	204	298	246	323	28	76
1250	(212)	(309)	(240)	(312)	(38)	(81)
	209	335	259	332	57	101
	235	322	247	359	55	111
2500	(222)	(329)	(253)	(346)	(56)	(106)
	212	300	291*	332	60	97
	214	349	279*	314	59	84
5000	(213)	(325)	(285*)	(323)	(60)	(91)
Judgement	−	−	−	−	−	−
Specific Mutagenicity						
Positive Control	BLM (726)	2-AA (1559)	PA (1603)	2-AA (1174)	AF-2 (1040)	2-AA (908)