1,1-Dimethylhydrazine (1,1-ジメチルヒドラジン)

Chemical Name: 1,1-Dimethylhydrazine
Synonym N,N-Dimethylhydrazine
Molecular weight: 60.10
Melting point: -58~-57℃
Boiling point: 62~64℃ (753mmHg)
Flashing point: 1 ℃
Chemical Structure

$(CH_3)_2N-NH_2$

CAS No : 57-14-7
MITI No: (2)-200
Source of Substance:Tokyo Kasei Kogyo Co.Ltd
Lot.No.: AP01
Purity: 95 %
Vehicle: H_2O

Mutagenicity
in Bacterial Test : Positive

IARC Evaluation : G 2B

Experimental Data

Con. μg/plate	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2uvrA		TA98		TA1537	
	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+
H_2O	(164)	(179)	(9)	(11)	(32)	(33)	(21)	(20)	(8)	(12)
	157	190	9	8	16	32	23	16	7	6
	184	178	10	15	36	28	15	18	8	14
0.0763	(171)	(184)	(10)	(12)	(26)	(30)	(19)	(17)	(8)	(10)
	194	177	13	10	23	33	30	25	13	10
	184	172	7	10	33	26	18	25	5	7
0.305	(189)	(175)	(10)	(10)	(28)	(30)	(24)	(25)	(9)	(9)
	191	181	11	8	33	31	16	22	9	9
	181	200	5	10	31	30	17	13	13	11
1.22	(186)	(191)	(8)	(9)	(32)	(31)	(17)	(18)	(11)	(10)
	186	180	8	15	29	34	18	22	9	8
	183	158	15	15	36	33	25	25	13	10
4.88	(185)	(169)	(12)	(15)	(33)	(34)	(22)	(24)	(11)	(9)
	197	176	14	7	30	33	34	29	8	10
	159	177	22	13	31	37	20	17	10	6
19.5	(178)	(177)	(18)	(10)	(31)	(35)	(27)	(23)	(9)	(8)
	190	180	6	14	29	32	21	22	9	9
	198	177	15	11	22	40	20	20	7	11
78.1	(194)	(179)	(11)	(13)	(26)	(36)	(21)	(21)	(8)	(10)
	173	198	6	16	36	40	22	23	11	5
	167	200	20	13	29	26	15	22	14	9
313	(170)	(199)	(13)	(15)	(33)	(33)	(19)	(23)	(13)	(7)
	172	201	20	14	30	26	16	23	11	11
	191	187	15	17	43	26	14	14	15	18
1250	(182)	(194)	(18)	(16)	(37)	(26)	(15)	(19)	(13)	(15)
	0*	177	0*	13	59	37	0*	25	0*	5
	0*	266	0*	9	57	34	0*	24	0*	8
5000	(0*)	(222)	(0*)	(11)	(58)	(36)	(0*)	(25)	(0*)	(7)
Judgement	−	−	−	−	−	−	−	−	−	−
Specific mutagenicity Positive Control	AF2 (1151)	2AA (755)	NaN_3 (378)	2AA (181)	AF2 (204)	2AA (1062)	AF2 (471)	2AA (405)	9AA (204)	2AA (193)

Experimental Data

Con. μg/plate	Number of Revertants/plate									
	Base-substitution						Frame-shift			
	TA100		TA1535		WP2uvrA		TA98		TA1537	
	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+
H_2O	(147)	(148)	(11)	(12)	(23)	(23)	(13)	(18)	(9)	(8)
	166	154	13	16	20	22	21	10	8	1
	140	121	13	5	20	17	13	10	2	9
78.1	(153)	(138)	(13)	(11)	(20)	(20)	(17)	(10)	(5)	(5)
	166	149	14	18	17	29	15	23	9	3
	164	184	8	9	20	13	13	27	5	7
156	(165)	(167)	(11)	(14)	(19)	(21)	(14)	(25)	(7)	(5)
	187	166	12	10	17	23	18	23	9	3
	184	166	17	7	18	29	12	17	8	2
313	(186)	(166)	(15)	(9)	(18)	(26)	(15)	(20)	(9)	(3)
	199	175	16	9	42	29	9	10	3	8
	202	162	13	3	12	31	22	23	7	1
625	(201)	(169)	(15)	(6)	(27)	(30)	(16)	(17)	(5)	(5)
	148	161	14	13	15	36	17	10	5	5
	175	151	29	17	32	13	17	18	15	8
1250	(162)	(156)	(22)	(15)	(24)	(25)	(17)	(14)	(10)	(7)
	81	160	0*	12	31	16	20	22	8	16
	82	183	23*	9	28	12	22	10	12	5
2500	(82)	(172)	(12*)	(11)	(30)	(14)	(21)	(16)	(10)	(11)
	0*	213	0*	27	29	23	0*	15	0*	5
	0*	112	0*	12	25	30	0*	17	0*	5
5000	(0*)	(163)	(0*)	(20)	(27)	(27)	(0*)	(16)	(0*)	(5)
Judgement	—	—	—	—	—	—	—	—	—	—
Specific mutagenicity										
Positive Control	AF2	2AA	NaN_3	2AA	AF2	2AA	AF2	2AA	9AA	2AA
	(906)	(864)	(253)	(306)	(174)	(804)	(360)	(307)	(225)	(245)

Experimental Data

Con. μg/plate	Number of Revertants/plate					
	Base-substitution					
	TA102		TA104		WPuvrA/pKM101	
	S9-	S9+	S9-	S9+	S9-	S9+
H_2O	(236)	(267)	(187)	(248)	(79)	(109)
	243	273	201	250	73	141
	236	280	197	257	72	92
0.0763	(240)	(277)	(199)	(254)	(73)	(117)
	223	257	183	244	75	121
	192	254	181	245	72	110
0.305	(208)	(256)	(182)	(245)	(74)	(116)
	245	260	205	251	68	143
	228	228	173	246	91	143
1.22	(237)	(244)	(189)	(249)	(80)	(143)
	245	252	191	232	89	141
	199	271	187	225	76	117
4.88	(222)	(262)	(189)	(229)	(83)	(129)
	223	269	197	238	72	99
	238	277	177	232	72	157
19.5	(231)	(273)	(187)	(235)	(72)	(128)
	227	279	201	203	99	145
	234	267	213	242	110	132
78.1	(231)	(273)	(207)	(223)	(105)	(139)
	242	252	216	206	117	127
	277	276	224	267	90	134
313	(260)	(264)	(220)	(237)	(104)	(131)
	230	303	299	227	181	169
	243	340	297	219	193	147
1250	(237)	(322)	(298)	(223)	(187)	(158)
	175	340	302	244	164	231
	154	304	-	205	190	239
5000	(165)	(322)	(302)	(225)	(177)	(235)
Judgement	−	−	−	−	+	+
Specific mutagenicity					86.4	25.2
Positive Control	BLM	2AA	PA	2AA	AF2	2AA
	(522)	(1050)	(885)	(850)	(1234)	(597)

Experimental Data

Con. μg/plate	Number of Revertants/plate					
	Base-substitution					
	TA102		TA104		WPuvrA/pKM101	
	S9-	S9+	S9-	S9+	S9-	S9+
H_2O	(265)	(310)	(310)	(307)	(113)	(156)
	274	277	324	333	143	163
	298	327	313	346	145	206
156	(286)	(302)	(319)	(340)	(144)	(158)
	333	320	399	328	175	205
	341	309	339	368	172	186
313	(337)	(315)	(369)	(348)	(174)	(196)
	349	350	364	375	184	230
	351	313	434	361	239	231
625	(350)	(332)	(399)	(368)	(212)	(231)
	397	354	430	336	350	245
	348	378	491	357	362	261
1250	(373)	(366)	(461)	(347)	(356)	(253)
	334	391	569	364	341	279
	385	368	503	400	317	255
2500	(360)	(380)	(536)	(382)	(329)	(267)
	268	429	364	387	400	398
	344	417	694	363	368	306
5000	(306)	(423)	(529)	(375)	(384)	(352)
Judgement	−	−	−	−	+	+
Specific mutagenicity					194	39.2
Positive Control	BLM	2AA	PA	2AA	AF2	2AA
	(787)	(1466)	(2883)	(1487)	(2582)	(771)