Methylhydrazine (メチルヒドラジン)

Chemical Name: Methylhydrazine
Synonym Monomethylhydrazine (MMH)
Molecular weight: 46.07
Melting point: -52.4℃
Boiling point: 87℃
Flashing point: 21℃
Chemical Structure

CH_3NHNH_2

CAS No : 60-34-4
MITI No : (2)-2385
Source of Substance:Tokyo Kasei Kogyo Co.Ltd
Lot.No.: AX01
Purity: 98 %
Vehicle: H_2O

Mutagenicity
in Bacterial Test : Positive

IARC Evaluation: not yet cited

Experimental Data

Number of Revertants/plate

Con. μg/plate	Base-substitution						Frame-shift			
	TA100		TA1535		WP2uvrA		TA98		TA1537	
	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+	S9-	S9+
H_2O	(157)	(172)	(8)	(12)	(28)	(31)	(26)	(25)	(7)	(8)
	165	191	5	9	28	54	28	23	12	5
	126	164	9	17	25	39	23	30	7	10
9.77	(146)	(178)	(7)	(13)	(27)	(47)	(26)	(27)	(10)	(8)
	154	171	7	8	27	38	29	22	9	9
	140	166	7	10	31	42	30	25	14	13
19.5	(147)	(169)	(7)	(9)	(29)	(40)	(30)	(24)	(12)	(11)
	164	164	7	14	36	47	24	27	10*	10
	176	164	5	16	32	34	16	23	7*	8
39.1	(170)	(164)	(6)	(15)	(34)	(41)	(20)	(25)	(9*)	(9)
	153	163	12	15	32	35	24	27	6*	7
	150	171	8	16	43	45	17	22	5*	7
78.1	(152)	(167)	(10)	(16)	(38)	(40)	(21)	(25)	(6*)	(7)
	166	187	6*	15	55	42	6*	25	0*	5
	169	187	8*	18	45	51	8*	27	0*	12
156	(168)	(187)	(7*)	(17)	(50)	(47)	(7*)	(26)	(0*)	(9)
	198*	176	8*	13	57	53	0*	24	0*	7
	246*	175	3*	12	51	66	0*	29	0*	7
313	(222*)	(176)	(6*)	(13)	(54)	(60)	(0*)	(27)	(0*)	(7)
	0*	177	0*	21	42*	72	0*	23	0*	7
	0*	186	0*	23	51*	60	0*	24	0*	7
625	(0*)	(182)	(0*)	(22)	(47*)	(66)	(0*)	(24)	(0*)	(7)
	0*	178	0*	27	0*	44	0*	20	0*	8
	0*	121	0*	16	0*	49	0*	18	0*	6
1250	(0*)	(150)	(0*)	(22)	(0*)	(47)	(0*)	(19)	(0*)	(7)
	0*	53	0*	29	0*	28*	0*	13	0*	2
	0*	199	0*	21	0*	47*	0*	7	0*	1
2500	(0*)	(126)	(0*)	(25)	(0*)	(38*)	(0*)	(10)	(0*)	(2)
	0*	0*	0*	0*	0*	29*	0*	0*	0*	0*
	0*	0*	0*	0*	0*	20*	0*	0*	0*	0*
5000	(0*)	(0*)	(0*)	(0*)	(0*)	(25*)	(0*)	(0*)	(0*)	(0*)
Judgement	−	−	−	+	−	+	−	−	−	−
Specific Mutagenicity				5.20		56.0				
Positive Control	AF2	2AA	NaN_3	2AA	AF2	2AA 20	AF2	2AA	9AA	2AA
	(680)	(834)	(182)	(202)	(225)	(796)	(357)	(419)	(343)	(202)

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	(153)	(151)	(9)	(10)	(27)	(31)	(24)	(23)	(7)	(9)
							20		8	
							28		10	
1.22							(24)		(9)	
			8				18		6	
			6				23		6	
2.44			(7)				(21)		(6)	
	156		9				23		7	
	176		7				21		9	
4.88	(166)		(8)				(22)		(8)	
	162		10		32		24		8	
	172		10		25		21		9	
9.77	(167)		(10)		(29)		(23)		(9)	
	163		12		27		27		12	
	168		6		31		21		10	
19.5	(166)		(9)		(29)		(24)		(11)	
	178		10		28		24*		9*	
	162		7		38		25*		9*	
39.1	(170)		(9)		(33)		(25*)		(9*)	
	180		12		27		8*		14*	
	181		12		36		9*		8*	
78.1	(181)		(12)		(32)		(9*)		(11*)	
	242		17		55		0*		0*	
	239		22		38		0*		0*	
156	(241)		(20)		(47)		(0*)		(0*)	
	0*		0*		62					
	0*		0*		42					
313	(0*)		(0*)		(52)					

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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+
625	0* 0* (0*)	180 187 (184)		31 34 (33)	37* 38* (38*)	58 62 (60)		24 22 (23)		5 6 (6)
1250		128 181 (155)		55 42 (49)		34 31 (33)		15 12 (14)		5 3 (4)
2500		0* 0* (0*)		0* 0* (0*)		5* 13* (9*)		0* 0* (0*)		0* 0* (0*)
5000										
Judgement	−	−	+	+	−	−	−	−	−	−
Specific Mutagenicity			70.5	18.4						
Positive Control	AF2 (703)	2AA (786)	NaN_3 (308)	2AA (273)	AF2 (275)	2AA 20 (864)	AF2 (404)	2AA (371)	9AA (399)	2AA (181)

Con. μg/plate	Experimental Data: Number of Revertants/plate: Base-substitution					
	TA100		TA1535		WP2uvrA	
	S9-	S9+	S9-	S9+	S9-	S9+
H_2O	(181)	(182)	(9)	(10)	(26)	(31)
	197		7		29	
	190		7		30	
20	(194)		(7)		(30)	
	195		10		39	
	161		8		28	
40	(178)		(9)		(34)	
	164		5		36	
	188		12		30	
60	(176)		(9)		(33)	
	198		7		29	
	195		7		28	
80	(197)		(7)		(29)	
	187	195	9	8	34	28
	183	186	12	13	27	39
100	(185)	(191)	(11)	(11)	(31)	(34)
	239		20			
	194		17			
150	(217)		(19)			
	225	178	16	12	39	45
	249	155	29	12	37	61
200	(237)	(167)	(23)	(12)	(38)	(53)
	347*		0*			
	381*		0*			
250	(364*)		(0*)			
	279*		0*			
	210*		0*			
300	(245*)		(0*)			
	0*		0*			
	0*		0*			
350	(0*)		(0*)			

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Con. μg/plate	Experimental Data: Number of Revertants/plate: Base-substitution					
	TA100		TA1535		WP2uvrA	
	S9-	S9+	S9-	S9+	S9-	S9+
		191		14	43	51
		185		10	36	38
400		(188)		(12)	(40)	(45)
		192		13	62	54
		194		12	53	60
600		(193)		(13)	(58)	(57)
		268		20	60	67
		212		12	58	67
800		(240)		(16)	(59)	(67)
		238		57	0*	73
		272		23	0*	59
1000		(255)		(40)	(0*)	(66)
		207		111		80
		238		99		57
1500		(223)		(105)		(69)
		239		94		74
		247		58		65
2000		(243)		(76)		(70)
		185*		83		62
		192*		101		64
2500		(189*)		(92)		(63)
		0*		0*		0*
		0*		0*		0*
5000		(0*)		(0*)		(0*)
Judgement	+	−	+	+	+	+
Specific Mutagenicity	732		70.0	63.3	53.3	45.0
Positive Control	AF2 (441)	2AA (762)	NaN_3 (1492)	2AA (1069)	AF2 (482)	2AA 20 (505)