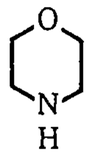
Morpholine (モルホリン)

Chemical Name: Morpholine
Synonium: Tetrahydro-2H-1,4-oxazine
Dietyleneimide Oxide
Molecular weight: 87.12
Melting point: -7 ~ -5℃
Boiling point: 128.9℃
Flashing point: 35℃
Chemical Structure



CAS No : 110-91-8
MITI No: (5)-859
ML No: 8-(7)-425
Source of Substance: Tokyo Kasei Kogyo Co., Ltd.
Lot.No.: FBY01
Purity: 98 %
Vehicle: H_2O

Mutagenicity
in Bacterial Test: Negative

IARC Evaluation: G 3

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	(123)	(122)	(9)	(12)	(24)	(25)	(16)	(20)	(7)	(11)
	123	139	9	14	21	25	13	21	8	7
	141	164	7	10	25	17	14	33	9	6
20	(132)	(152)	(8)	(12)	(23)	(21)	(14)	(27)	(9)	(7)
	141	135	9	14	17	24	15	21	6	11
	138	121	11	10	22	28	11	13	7	6
39	(140)	(128)	(10)	(12)	(20)	(26)	(13)	(17)	(7)	(9)
	135	121	7	11	24	20	18	28	8	8
	142	129	7	7	24	29	18	22	13	9
78	(139)	(130)	(7)	(9)	(24)	(25)	(18)	(25)	(11)	(9)
	134	130	6	5	20	29	10	16	6	8
	130	129	8	9	28	28	20	13	9	16
156	(132)	(130)	(7)	(7)	(24)	(29)	(15)	(15)	(8)	(12)
	130	131	8	11	18	18	13	21	7	5
	129	127	7	10	21	38	14	23	8	6
313	(130)	(129)	(8)	(11)	(20)	(28)	(14)	(22)	(8)	(6)
	121	138	8	3	25	28	18	18	7	10
	136	134	7	7	23	33	15	13	10	7
625	(129)	(136)	(8)	(5)	(24)	(31)	(17)	(16)	(9)	(9)
	127	128	10	10	26	20	16	16	7	7
	150	120	9	6	25	34	18	14	7	13
1250	(139)	(124)	(10)	(8)	(26)	(27)	(17)	(15)	(7)	(10)
	139	98	6	11	38	29	24	20	8	6
	156	129	5	9	23	28	16	14	10	9
2500	(148)	(114)	(6)	(10)	(31)	(29)	(20)	(17)	(9)	(8)
	92*	156*	9*	15*	14*	24*	9*	13*	10*	14*
	77*	153*	5*	7*	9*	22*	20*	22*	10*	11*
5000	(85*)	(155*)	(7*)	(11*)	(12*)	(23*)	(15*)	(18*)	(10*)	(13*)
Judgement	—	—	—	—	—	—	—	—	—	—
Specific Mutagenicity										
Positive Control	AF2 (647)	2AA (1067)	NaN_3 (256)	2AA (233)	AF2 (188)	2AA 20 (1380)	AF2 (384)	2AA (476)	9AA (828)	2AA (154)

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	(182)	(159)	(14)	(16)	(26)	(29)	(27)	(34)	(9)	(8)
	131	157	16	15	22	28	31	37	5	7
	144	143	11	16	18	20	30	31	5	9
78	(138)	(150)	(14)	(16)	(20)	(24)	(31)	(34)	(5)	(8)
	171	146	15	9	17	24	24	34	2	9
	162	164	18	18	20	31	38	43	5	3
156	(167)	(155)	(17)	(14)	(19)	(28)	(31)	(39)	(4)	(6)
	167	163	17	18	16	33	21	34	7	7
	177	165	13	8	18	22	24	36	3	7
313	(172)	(164)	(15)	(13)	(17)	(28)	(23)	(35)	(5)	(7)
	153	171	14	13	18	29	32	33	2	3
	172	162	17	17	13	24	44	31	2	5
625	(163)	(167)	(16)	(15)	(16)	(27)	(38)	(32)	(2)	(4)
	156	148	11	18	21	33	36	37	5	3
	150	167	22	10	29	16	29	32	5	6
1250	(153)	(158)	(17)	(14)	(25)	(25)	(33)	(35)	(5)	(5)
	174	159	15	7	32	36	23	30	10	3
	163	150	14	14	26	24	30	33	6	6
2500	(169)	(155)	(15)	(11)	(29)	(30)	(27)	(32)	(8)	(5)
	102*	160*	6*	11*	20	22	16*	34*	5*	7*
	92*	180*	5*	16	21	22	22*	38*	13*	7*
5000	(97*)	(170*)	(6*)	(14*)	(21)	(22)	(19*)	(36*)	(9*)	(7*)
Judgement	—	—	—	—	—	—	—	—	—	—
Specific Mutagenicity										
Positive Control	AF2 (800)	2AA (987)	NaN_3 (286)	2AA (192)	AF2 (220)	2AA 20 (1270)	AF2 (449)	2AA (400)	9AA (806)	2AA (221)