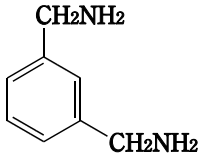
Chemical Name; *m*-Xylenediamine
Synonym ; *m*-Xylylenediamine
1,3-Bis(aminomethyl)benzene
1,3-Benzenedimethanamine
α,α'-Diamino-*m*-xylene
m-ｷｼﾘﾚﾝｼﾞｱﾐﾝ
1,3-ﾋﾞｽ(ｱﾐﾉﾒﾁﾙ)ﾍﾞﾝｾﾞﾝ
1,3-ﾍﾞﾝｾﾞﾝｼﾞﾒﾀﾅﾐﾝ
α,α'-ｼﾞｱﾐﾉ-*m*-ｷｼﾚﾝ

Molecular Weight ; 136.20
Melting Point ; — ℃
Boiling Point ; 245 - 248 ℃ [CHCD]
265 ℃(745mmHg) [Aldrich]
Flashing Point ; > 110 ℃ [Aldrich]
Molecular Formula; $C_8H_{12}N_2$

Chemical Structure



CAS No. ; 1477-55-0
MITI No. ; (3)-308 , (3)-2888
ML No. ; —
Specified Chemical Substances; —

Source of Substance; Tokyo Kasei Kogyo Co.,Ltd.
Lot No. ; GC01
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	(128)	(143)	(9)	(11)	(23)	(24)	(19)	(29)	(14)	(19)
	136	135	14	8	24	15	20	26	8	18
	145	129	15	10	26	21	21	32	11	18
0.0763	(141)	(132)	(15)	(9)	(25)	(18)	(21)	(29)	(10)	(18)
	142	142	10	9	13	25	13	28	20	10
	152	123	16	13	20	20	25	17	13	20
0.305	(147)	(133)	(13)	(11)	(17)	(23)	(19)	(23)	(17)	(15)
	157	130	18	20	29	38	18	24	17	20
	122	151	13	9	23	18	15	26	10	10
1.22	(140)	(141)	(16)	(15)	(26)	(28)	(17)	(25)	(14)	(15)
	126	142	18	16	20	28	17	38	13	14
	116	122	7	13	25	17	17	25	17	16
4.88	(121)	(132)	(13)	(15)	(23)	(23)	(17)	(32)	(15)	(15)
	122	148	14	11	25	26	18	22	11	13
	138	160	14	10	24	26	18	28	10	16
19.5	(130)	(154)	(14)	(11)	(25)	(26)	(18)	(25)	(11)	(15)
	128	155	14	7	23	18	24	28	18	8
	138	139	16	9	14	23	18	29	8	17
78.1	(133)	(147)	(15)	(8)	(19)	(21)	(21)	(29)	(13)	(13)
	119	148	15	15	23	32	25	21	11	17
	139	137	7	16	24	29	21	22	14	15
313	(129)	(143)	(11)	(16)	(24)	(31)	(23)	(22)	(13)	(16)
	170*	165	11*	18	17*	22	10*	29	13*	11
	180*	136	9*	22	29*	15	15*	24	7*	11
1250	(175*)	(151)	(10*)	(20)	(23*)	(19)	(13*)	(27)	(10*)	(11)
	0*	0*	0*	0*	0*	3*	0*	0*	0*	0*
	0*	0*	0*	0*	0*	5*	0*	0*	0*	0*
5000	(0*)	(0*)	(0*)	(0*)	(0*)	(4*)	(0*)	(0*)	(0*)	(0*)
Judgement	—	—	—	—	—	—	—	—	—	—
Specific Mutagenicity										
Positive Control	AF-2 (779)	2-AA (1005)	NaN_3 (429)	2-AA (210)	AF-2 (144)	2-AA (999)	AF-2 (508)	2-AA (254)	9-AA (510)	2-AA (157)

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	(158)	(164)	(15)	(16)	(33)	(33)	(18)	(27)	(15)	(20)
	146		14		31		20		13	
	184		21		41		20		14	
19.5	(165)		(18)		(36)		(20)		(14)	
	184	198	7	14	34	25	20	29	14	22
	211	223	15	17	28	41	20	25	10	14
39.1	(198)	(211)	(11)	(16)	(31)	(33)	(20)	(27)	(12)	(18)
	204	185	15	20	34	30	17	29	13	17
	156	172	15	16	23	37	17	20	13	13
78.1	(180)	(179)	(15)	(18)	(29)	(34)	(17)	(25)	(13)	(15)
	198	204	17	18	32	44	15	29	18	18
	191	176	14	11	30	29	26	25	25	15
156	(195)	(190)	(16)	(15)	(31)	(37)	(21)	(27)	(22)	(17)
	183	170	21	16	36	40	10	30	20	14
	187	195	21	15	21	41	26	26	14	18
313	(185)	(183)	(21)	(16)	(29)	(41)	(18)	(28)	(17)	(16)
	198	209	18	28	30	40	20	16	16	18
	169	211	10	28	25	46	21	17	14	9
625	(184)	(210)	(14)	(28)	(28)	(43)	(21)	(17)	(15)	(14)
	202*	178*	16*	13*	38*	44*	9*	22*	7*	15*
	228*	187*	9*	20*	40*	41*	21*	20*	18*	13*
1250	(215*)	(183*)	(13*)	(17*)	(39*)	(43*)	(15*)	(21*)	(13*)	(14*)
	0*	0*	0*	0*	0*	36*	0*	0*	0*	0*
	0*	0*	0*	0*	0*	37*	0*	0*	0*	0*
2500	(0*)	(0*)	(0*)	(0*)	(0*)	(37*)	(0*)	(0*)	(0*)	(0*)
		0*		0*		0*		0*		0*
		0*		0*		0*		0*		0*
5000		(0*)		(0*)		(0*)		(0*)		(0*)
Judgement	−	−	−	−	−	−	−	−	−	−
Specific Mutagenicity										
Positive Control	AF-2 (766)	2-AA (988)	NaN_3 (449)	2-AA (245)	AF-2 (204)	2-AA (946)	AF-2 (582)	2-AA (273)	9-AA (422)	2-AA (161)

Experimental Data - 3

Conc. μg/plate	Number of Revertants/plate Base-substitution TA1535 S9−	S9＋
H_2O	(11)	(16)
	20	17
	8	16
156	(14)	(17)
	15	11
	9	20
313	(12)	(16)
	8	17
	13	7
400	(11)	(12)
	7	17
	8	16
500	(8)	(17)
	14*	8
	1*	7
625	(8*)	(8)
	9*	16
	3*	11
800	(6*)	(14)
	9*	13
	9*	6
1000	(9*)	(10)
	0*	7*
	0*	10*
1250	(0*)	(9*)
	0*	0*
	0*	0*
2500	(0*)	(0*)
Judgement	−	−
Specific Mutagenicity		
Positive Control	NaN_3 (365)	2-AA (238)

Experimental Data - 4

Conc. μg/plate	Number of Revertants/plate Base-substitution TA102 S9−	TA102 S9＋	TA104 S9−	TA104 S9＋	WP2*uvrA*/pKM101 S9−	WP2*uvrA*/pKM101 S9＋
H_2O	(258)	(334)	(428)	(459)	(75)	(119)
	242	338	379	482	68	121
	243	362	382	492	78	117
0.0763	(243)	(350)	(381)	(487)	(73)	(119)
	234	399	411	475	86	135
	268	365	404	473	81	139
0.305	(251)	(382)	(408)	(474)	(84)	(137)
	232	331	387	508	87	156
	212	316	399	433	78	134
1.22	(222)	(324)	(393)	(471)	(83)	(145)
	225	335	356	434	69	123
	198	332	330	405	70	117
4.88	(212)	(334)	(343)	(420)	(70)	(120)
	293	374	406	517	61	144
	298	359	427	504	74	138
19.5	(296)	(367)	(417)	(511)	(68)	(141)
	226	373	376	497	81	151
	240	354	393	528	83	124
78.1	(233)	(364)	(385)	(513)	(82)	(138)
	245	376	395	516	86	135
	255	367	417	478	68	102
313	(250)	(372)	(406)	(497)	(77)	(119)
	228*	361*	707*	828*	63*	99*
	230*	323*	643*	832*	87*	101*
1250	(229*)	(342*)	(675*)	(830*)	(75*)	(100*)
	0*	0*	0*	0*	0*	0*
	0*	0*	0*	0*	0*	0*
5000	(0*)	(0*)	(0*)	(0*)	(0*)	(0*)
Judgement	−	−	−	−	−	−
Specific Mutagenicity						
Positive Control	BLM (747)	2-AA (1547)	PA (1105)	2-AA (1028)	AF-2 (1462)	2-AA (945)

Experimental Data - 5

Conc. μg/plate	Number of Revertants/plate					
	Base-substitution					
	TA102		TA104		WP2*uvrA*/pKM101	
	S9－	S9＋	S9－	S9＋	S9－	S9＋
H_2O	(285)	(346)	(338)	(433)	(51)	(60)
	286	365	387	465	43	76
	336	404	342	427	62	70
19.5	(311)	(385)	(365)	(446)	(53)	(73)
	276	379	346	441	44	82
	305	347	360	459	41	71
39.1	(291)	(363)	(353)	(450)	(43)	(77)
	281	355	314	399	46	57
	280	314	342	389	49	57
78.1	(281)	(335)	(328)	(394)	(48)	(57)
	284	387	299	449	56	82
	287	376	366	454	44	78
156	(286)	(382)	(333)	(452)	(50)	(80)
	288	378	343	480	54	77
	285	348	362	427	47	91
313	(287)	(363)	(353)	(454)	(51)	(84)
	261	361	364	434	31	76
	234	329	405	425	26	76
625	(248)	(345)	(385)	(430)	(29)	(76)
	151*	276*	416*	627*	38*	72*
	221*	297*	463*	593*	37*	60*
1250	(186*)	(287*)	(440*)	(610*)	(38*)	(66*)
	0*	455*	0*	452*	0*	72*
	0*	430*	0*	468*	0*	64*
2500	(0*)	(443*)	(0*)	(460*)	(0*)	(68*)
Judgement	－	－	－	－	－	－
Specific Mutagenicity						
Positive Control	BLM (702)	2-AA (1286)	PA (915)	2-AA (895)	AF-2 (710)	2-AA (532)