

Experiment Number: 629110

Test Type: Genetic Toxicology - Bacterial
Mutagenicity

G06: Ames Summary Data

Test Compound: 1,4-Naphthalenediamine

CAS Number: 2243-61-0

Date Report Requested: 09/10/2018

Time Report Requested: 17:09:41

NTP Study Number:

629110

Study Result:

Negative

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Strain: TA100

Dose (ug/Plate)	Without S9	Without S9	Without S9	With 10% Rat S9	With 10% Rat S9
Vehicle Control ¹	128 ± 5.6	85 ± 7.1	89 ± 2.1	189 ± 8.7	118 ± 11.8
0.3		84 ± 8.7			
0.33			81 ± 5.0		
1.0		71 ± 2.1	71 ± 3.8		
3.3	134 ± 10.5	69 ± 4.8	76 ± 7.2		
10.0	126 ± 9.0	44 ± 3.2	66 ± 14.1		
33.0	Toxic	40 ± 1.5	51 ± 3.8	242 ± 14.0	111 ± 7.2
100.0	Toxic			243 ± 18.0	128 ± 4.7
333.0	3 ± 1.5 ^P			Toxic	134 ± 1.5 ^P
1000.0				122 ± 23.9 ^P	138 ± 3.0 ^P
3333.0				57 ± 19.7 ^P	16 ± 3.0 ^P
Trial Summary	Negative	Negative	Negative	Equivocal	Negative
Positive Control ²				1172 ± 31.9	2032 ± 70.4
Positive Control ³	1153 ± 65.3	401 ± 6.4	339 ± 19.3		

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Strain: TA100

Dose (ug/Plate)	With 10% Rat S9	With 10% Hamster S9	With 10% Hamster S9	With 10% Hamster S9
Vehicle Control ¹	151 ± 14.0	181 ± 4.1	116 ± 11.2	135 ± 7.9
0.3				
0.33				
1.0				
3.3				
10.0				
33.0	184 ± 9.6	191 ± 25.0	138 ± 9.5	172 ± 7.2
100.0	150 ± 11.5	220 ± 29.2	123 ± 14.4	126 ± 14.8
333.0	160 ± 10.1 ^P	Toxic	140 ± 3.4 ^P	138 ± 29.5 ^P
1000.0	137 ± 11.2 ^P	Toxic	140 ± 9.0 ^P	141 ± 19.9 ^P
3333.0	48 ± 11.5 ^P	45 ± 4.8 ^P	13 ± 1.2 ^P	26 ± 6.2 ^P
Trial Summary	Negative	Negative	Negative	Negative
Positive Control ²	2690 ± 53.0	1898 ± 89.1	1767 ± 197.2	1906 ± 122.7
Positive Control ³				

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Strain: TA1535

Dose (ug/Plate)	Without S9	Without S9	Without S9	With 10% Rat S9	With 10% Rat S9
Vehicle Control ¹	22 ± 1.5	7 ± 1.2	4 ± 0.6	31 ± 2.7	9 ± 1.2
0.1		5 ± 0.6	3 ± 0.9		
0.3		6 ± 0.0			
0.33			4 ± 1.3		
1.0		3 ± 0.9	6 ± 1.7		
3.3	19 ± 0.7	2 ± 0.3	3 ± 1.5		12 ± 0.3
10.0	Toxic	1 ± 0.0	8 ± 2.5		7 ± 1.5
33.0	0 ± 0.0 ^P			22 ± 4.4	6 ± 1.0
100.0	0 ± 0.0 ^P			18 ± 1.5	4 ± 0.7
333.0	0 ± 0.0 ^P			0 ± 0.3 ^P	3 ± 0.3 ^P
1000.0				0 ± 0.3 ^P	
3333.0				0 ± 0.0 ^P	
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control ²				67 ± 7.2	
Positive Control ⁴					112 ± 8.9
Positive Control ³	1384 ± 95.0	386 ± 63.4	204 ± 28.3		

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Strain: TA1535

Dose (ug/Plate)	With 10% Rat S9	With 10% Hamster S9	With 10% Hamster S9	With 10% Hamster S9
Vehicle Control ¹	4 ± 0.6	29 ± 1.2	12 ± 2.7	8 ± 1.3
0.1				
0.3				
0.33				
1.0				
3.3	3 ± 0.9		6 ± 0.7	9 ± 2.2
10.0	3 ± 1.5		6 ± 0.9	6 ± 1.5
33.0	5 ± 1.2	25 ± 2.0	6 ± 0.3	6 ± 1.7
100.0	3 ± 0.9	18 ± 1.0	3 ± 0.9	2 ± 0.3
333.0	0 ± 0.0 ^P	6 ± 3.8 ^P	1 ± 0.0 ^P	Toxic
1000.0		0 ± 0.0 ^P		
3333.0		0 ± 0.0 ^P		
Trial Summary	Negative	Negative	Negative	Negative
Positive Control ²		128 ± 3.3		
Positive Control ⁴	107 ± 13.2		57 ± 6.5	156 ± 23.3
Positive Control ³				

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Strain: TA1537

Dose (ug/Plate)	Without S9	Without S9	Without S9	With 10% Rat S9	With 10% Rat S9
Vehicle Control ¹	6 ± 1.0	2 ± 1.5	7 ± 1.2	17 ± 3.2	7 ± 0.9
0.03		1 ± 0.6			
0.033			8 ± 3.2		
0.1		3 ± 0.3	10 ± 0.3		
0.3		4 ± 1.5			
0.33			7 ± 0.9		
1.0		3 ± 1.0	5 ± 1.5		6 ± 3.0
3.3	5 ± 1.5	2 ± 0.3	8 ± 0.7		6 ± 1.9
10.0	0 ± 0.0				9 ± 1.5
33.0	0 ± 0.0 ^P			21 ± 5.3	6 ± 1.5
100.0	0 ± 0.0 ^P			Toxic	4 ± 1.5
333.0	0 ± 0.0 ^P			1 ± 0.7 ^P	
1000.0				0 ± 0.0 ^P	
3333.0				0 ± 0.0 ^P	
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control ²				87 ± 17.6	
Positive Control ⁴					116 ± 40.6
Positive Control ⁵	230 ± 123.5	164 ± 4.9	254 ± 36.1		

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Strain: TA1537

Dose (ug/Plate)	With 10% Rat S9	With 10% Hamster S9	With 10% Hamster S9	With 10% Hamster S9
Vehicle Control ¹	18 ± 2.5	28 ± 0.6	6 ± 2.5	16 ± 0.9
0.03				
0.033				
0.1				
0.3				
0.33				
1.0	18 ± 1.5		7 ± 2.1	19 ± 1.8
3.3	21 ± 1.3		9 ± 2.5	10 ± 1.2
10.0	23 ± 2.1		9 ± 0.9	12 ± 1.2
33.0	13 ± 3.1	19 ± 1.3	5 ± 2.2	17 ± 3.6
100.0	17 ± 0.7	Toxic	4 ± 1.5	14 ± 2.2
333.0		0 ± 0.0 ^p		
1000.0		0 ± 0.0 ^p		
3333.0		0 ± 0.0 ^p		
Trial Summary	Negative	Negative	Negative	Negative
Positive Control ²		97 ± 10.1		
Positive Control ⁴	178 ± 17.5		73 ± 8.0	299 ± 20.2
Positive Control ⁵				

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Strain: TA98

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 10% Rat S9	With 10% Hamster S9
Vehicle Control ¹	28 ± 3.0	15 ± 1.3	38 ± 1.8	21 ± 2.3	35 ± 2.3
3.3	23 ± 1.9	16 ± 2.6			
10.0	22 ± 2.3	15 ± 3.8			
33.0	27 ± 0.3	10 ± 2.6	35 ± 0.9	26 ± 4.9	39 ± 0.9
100.0	21 ± 3.4	2 ± 1.7	35 ± 3.2	31 ± 3.0	32 ± 2.6
333.0	Toxic	7 ± 0.7 ^P	26 ± 2.5 ^P	31 ± 4.7 ^P	27 ± 1.2 ^P
1000.0			33 ± 3.9 ^P	23 ± 3.9 ^P	27 ± 3.5 ^P
3333.0			31 ± 0.9 ^P	8 ± 0.9 ^P	31 ± 0.7 ^P
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control ²			812 ± 76.2	1245 ± 34.0	1885 ± 34.5
Positive Control ⁶	202 ± 11.8	211 ± 23.6			

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Strain: TA98

Dose (ug/Plate)	With 10% Hamster S9
Vehicle Control ¹	25 ± 1.9
3.3	
10.0	
33.0	26 ± 2.6
100.0	25 ± 1.5
333.0	28 ± 2.5 ^p
1000.0	17 ± 0.9 ^p
3333.0	5 ± 1.5 ^p
Trial Summary	Negative
Positive Control ²	1429 ± 139.9
Positive Control ⁶	

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LEGEND

Values given as Mean or Mean \pm Standard Error Mean

The number of samples = 3, unless samples marked toxic or contaminated were excluded from mean and SEM calculations

CAS Number = Chemical Abstracts Service registry number

1: Vehicle Control: 95% Ethanol

2: 1.0 ug/Plate 2-Aminoanthracene

3: 3.3 ug/Plate Sodium Azide

4: 2.0 ug/Plate 2-Aminoanthracene

5: 33.0 ug/Plate 9-Aminoacridine

6: 3.3 ug/Plate 4-Nitro-O-Phenylenediamine

p: Precipitate

**** END OF REPORT ****