

Experiment Number: 973122

Test Type: **Genetic Toxicology - Bacterial
Mutagenicity**

G06: Ames Summary Data

Test Compound: 1,4-Naphthalenediamine

CAS Number: 2243-61-0

Date Report Requested: 09/18/2018

Time Report Requested: 02:35:10

NTP Study Number:

973122

Study Result:

Positive

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Strain: TA100

Dose (ug/Plate)	Without S9	Without S9	Without S9	With 5% Rat S9	With 5% Rat S9
Vehicle Control ¹	128 ± 5.0	173 ± 4.7	107 ± 4.2	159 ± 3.2	163 ± 5.8
0.3	130 ± 8.0	168 ± 5.8			
0.6					
1.0	128 ± 9.3	165 ± 7.5			
3.0	138 ± 6.4	181 ± 6.5	104 ± 11.0	222 ± 6.6	
5.0			123 ± 0.7		
6.0		210 ± 9.5		225 ± 7.0	207 ± 7.0
7.0			197 ± 8.4		
9.0			307 ± 7.9		
10.0	238 ± 15.9	377 ± 26.1		205 ± 6.4	249 ± 7.3
11.0			158 ± 90.1 ^s		
16.0	108 ± 37.2 ^s			204 ± 13.9	257 ± 6.4
33.0				211 ± 1.2	239 ± 15.8
66.0				220 ± 14.6	220 ± 7.8
100.0					
Trial Summary	Equivocal	Positive	Positive	Equivocal	Weakly Positive
Positive Control ²					
Positive Control ³				907 ± 76.7	774 ± 74.5
Positive Control ⁴					
Positive Control ⁵	1082 ± 40.9	1024 ± 10.4	1633 ± 28.5		

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Dose (ug/Plate)	With 5% Rat S9	With 10% Rat S9	With 10% Rat S9	With 10% Rat S9	With 30% Rat S9
Vehicle Control ¹	168 ± 5.0	158 ± 10.1	164 ± 7.0	169 ± 5.4	174 ± 4.1
0.3					
0.6	192 ± 8.2			190 ± 5.2	
1.0	181 ± 4.0			185 ± 9.6	154 ± 16.6
3.0	188 ± 6.6	215 ± 6.0		198 ± 10.7	150 ± 10.8
5.0					
6.0	266 ± 5.5	240 ± 11.8	248 ± 7.5	237 ± 5.8	
7.0					
9.0					
10.0	269 ± 10.8	219 ± 28.1	242 ± 19.9	206 ± 6.9	212 ± 18.1
11.0					
16.0		223 ± 26.0	209 ± 15.3		
33.0		185 ± 12.3	171 ± 2.4		172 ± 13.1
66.0		233 ± 10.2	171 ± 12.5		160 ± 22.5
100.0					
Trial Summary	Weakly Positive	Equivocal	Equivocal	Equivocal	Negative
Positive Control ²					
Positive Control ³	630 ± 50.7	425 ± 22.5	542 ± 73.7	355 ± 11.0	
Positive Control ⁴					620 ± 25.2
Positive Control ⁵					

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Strain: TA100

Dose (ug/Plate)	With 30% Rat S9	With 30% Rat S9	With 30% Rat S9	With 5% Hamster S9	With 10% Hamster S9
Vehicle Control ¹	184 ± 21.3	169 ± 5.5	178 ± 5.8	178 ± 6.1	176 ± 3.3
0.3					
0.6			197 ± 12.3		
1.0			198 ± 6.3		
3.0	212 ± 13.9		189 ± 10.5	192 ± 9.9	185 ± 26.4
5.0					
6.0	183 ± 19.5	250 ± 2.8	204 ± 9.9	232 ± 9.3	213 ± 15.6
7.0					
9.0					
10.0	207 ± 34.3	278 ± 1.8	241 ± 10.3	277 ± 4.8	274 ± 24.2
11.0					
16.0	233 ± 15.6	313 ± 27.9		271 ± 8.7	408 ± 13.7
33.0	286 ± 4.5	281 ± 26.8		204 ± 7.0	512 ± 61.7
66.0	213 ± 10.3	180 ± 10.3		162 ± 11.8	210 ± 32.5
100.0					
Trial Summary	Equivocal	Weakly Positive	Equivocal	Weakly Positive	Positive
Positive Control ²				1897 ± 105.6	1296 ± 58.0
Positive Control ³					
Positive Control ⁴	576 ± 43.1	666 ± 19.8	606 ± 17.8		
Positive Control ⁵					

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Strain: TA100

Dose (ug/Plate)	With 30% Hamster S9	With 30% Hamster S9	With 30% Hamster S9
Vehicle Control ¹	126 ± 9.3	173 ± 3.8	164 ± 9.1
0.3			
0.6			
1.0	139 ± 6.0		
3.0	137 ± 10.7	183 ± 2.6	
5.0			
6.0		191 ± 15.9	187 ± 5.3
7.0			
9.0			
10.0	187 ± 2.1	197 ± 8.4	233 ± 6.7
11.0			
16.0		243 ± 8.7	249 ± 14.3
33.0	381 ± 27.8	335 ± 14.7	428 ± 15.8
66.0		685 ± 4.6	516 ± 34.1
100.0	207 ± 9.3		
Trial Summary	Positive	Positive	Positive
Positive Control ²			
Positive Control ³	900 ± 12.7	993 ± 48.5	971 ± 94.0
Positive Control ⁴			
Positive Control ⁵			

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Strain: TA98

Dose (ug/Plate)	Without S9	With 5% Rat S9	With 5% Rat S9	With 10% Rat S9	With 10% Rat S9
Vehicle Control ¹	19 ± 2.9	33 ± 4.9	45 ± 2.1	42 ± 1.5	52 ± 0.6
0.3	18 ± 0.0				
0.6			34 ± 2.8		39 ± 1.5
1.0	16 ± 1.8		41 ± 5.0		41 ± 5.3
3.0	18 ± 1.5	39 ± 3.1	56 ± 3.2	47 ± 2.3	44 ± 3.5
6.0		49 ± 3.0	63 ± 3.5	41 ± 0.6	55 ± 3.6
10.0	21 ± 2.3	51 ± 5.7	51 ± 6.4	47 ± 3.3	61 ± 2.1
16.0	16 ± 2.3 ^s	44 ± 3.0		60 ± 7.5	
33.0		26 ± 5.3		39 ± 3.1	
66.0		26 ± 1.2		41 ± 4.4	
100.0					
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control ²					
Positive Control ³		699 ± 31.2	358 ± 47.1	289 ± 13.3	152 ± 7.6
Positive Control ⁶	316 ± 14.3				

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Strain: TA98

Dose (ug/Plate)	With 30% Rat S9	With 30% Rat S9	With 30% Rat S9	With 5% Hamster S9	With 5% Hamster S9
Vehicle Control ¹	33 ± 7.5	41 ± 4.9	36 ± 1.5	44 ± 2.5	39 ± 5.9
0.3					
0.6			39 ± 1.5		
1.0	36 ± 4.3		38 ± 3.8		
3.0	39 ± 3.1	63 ± 6.7	40 ± 1.5		35 ± 6.6
6.0		55 ± 6.1	49 ± 3.2	51 ± 1.0	24 ± 2.2
10.0	55 ± 12.0	56 ± 1.0	53 ± 0.9	50 ± 4.7	52 ± 16.6
16.0		41 ± 3.8		47 ± 4.3	31 ± 3.4
33.0	53 ± 15.3	96 ± 29.7		43 ± 0.7	30 ± 3.2
66.0	42 ± 4.9	45 ± 15.2		36 ± 1.5	
100.0					
Trial Summary	Negative	Equivocal	Negative	Negative	Negative
Positive Control ²				1477 ± 78.8	
Positive Control ³	102 ± 7.6	163 ± 9.9	136 ± 3.2		1316 ± 110.0
Positive Control ⁶					

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Strain: TA98

Dose (ug/Plate)	With 10% Hamster S9	With 30% Hamster S9	With 30% Hamster S9	With 30% Hamster S9
Vehicle Control ¹	36 ± 1.7	29 ± 4.0	51 ± 1.2	29 ± 4.7
0.3				
0.6				
1.0		32 ± 0.7		
3.0	39 ± 5.9	36 ± 2.3		
6.0	53 ± 3.4		60 ± 7.4	33 ± 3.0
10.0	70 ± 9.6	41 ± 7.7	54 ± 5.2	35 ± 3.5
16.0	98 ± 17.2		77 ± 3.8	57 ± 10.5
33.0	52 ± 12.1	206 ± 9.0	144 ± 3.2	141 ± 7.1
66.0			243 ± 12.9	271 ± 43.0
100.0		52 ± 6.7		
Trial Summary	Positive	Equivocal	Positive	Positive
Positive Control ²				
Positive Control ³	943 ± 52.9	525 ± 45.2	748 ± 14.9	542 ± 38.6
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: Dimethyl Sulfoxide

2: 0.5 ug/Plate 2-Aminoanthracene

3: 1.0 ug/Plate 2-Aminoanthracene

4: 2.5 ug/Plate 2-Aminoanthracene

5: 5.0 ug/Plate Sodium Azide

6: 2.5 ug/Plate 4-Nitro-O-Phenylenediamine

s: Slight Toxicity

**** END OF REPORT ****