

Experiment Number: 498230

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

G06: Ames Summary Data

Test Compound: **Nickel subsulfide**

CAS Number: **12035-72-2**

Date Report Requested: **09/12/2018**

Time Report Requested: **04:51:16**

NTP Study Number:

498230

Study Result:

Equivocal

Experiment Number: 498230

G06: Ames Summary Data

Date Report Requested: 09/12/2018

Test Type: **Genetic Toxicology - Bacterial Mutagenicity**Test Compound: **Nickel subsulfide**

Time Report Requested: 04:51:16

Strain: TA100

Dose (ug/Plate)	Without S9	Without S9	Without S9	With 5% Rat S9	With 5% Rat S9
Vehicle Control ¹	131 ± 3.2	111 ± 2.8	143 ± 17.3	104 ± 3.8	119 ± 11.1
100.0	110 ± 7.5	111 ± 12.5		125 ± 16.5	
333.0	132 ± 11.6	131 ± 8.6	132 ± 9.5	132 ± 4.7	131 ± 9.3
1000.0	127 ± 6.1	145 ± 8.8	162 ± 3.5	133 ± 2.1	153 ± 8.2
1666.0					157 ± 2.7
3333.0	98 ± 5.5 ^p	156 ± 9.0 ^p	184 ± 11.7	141 ± 8.9 ^p	151 ± 13.0 ^p
6666.0			199 ± 4.4		137 ± 7.2 ^p
10000.0	126 ± 6.9 ^p	183 ± 9.1 ^p	178 ± 5.8	125 ± 5.8 ^p	
Trial Summary	Negative	Weakly Positive	Equivocal	Negative	Equivocal
Positive Control ²					
Positive Control ³				909 ± 16.2	1011 ± 25.0
Positive Control ⁴	429 ± 7.8	390 ± 20.3	295 ± 7.5		
Positive Control ⁵					

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Strain: TA100

Dose (ug/Plate)	With 5% Rat S9	With 10% Rat S9	With 10% Rat S9	With 10% Rat S9	With 10% Rat S9
Vehicle Control ¹	154 ± 5.8	124 ± 11.0	140 ± 15.4	122 ± 14.4	132 ± 9.3
100.0	138 ± 2.4	110 ± 6.8	136 ± 2.6	130 ± 12.8	
333.0	144 ± 5.7	129 ± 4.3	139 ± 4.8	149 ± 1.5	143 ± 4.7
1000.0	156 ± 2.8	134 ± 9.8	152 ± 6.1	163 ± 8.2	151 ± 6.6
1666.0					
3333.0	152 ± 5.2 ^p	145 ± 2.1 ^p	154 ± 5.3 ^p	162 ± 7.2 ^p	185 ± 3.4
6666.0					187 ± 10.0
10000.0	145 ± 8.4 ^p	147 ± 8.5 ^p	146 ± 12.1 ^p	187 ± 11.4 ^p	188 ± 7.3
Trial Summary	Negative	Negative	Negative	Weakly Positive	Weakly Positive
Positive Control ²					
Positive Control ³	940 ± 11.2	556 ± 32.4	589 ± 41.9	441 ± 9.8	585 ± 32.7
Positive Control ⁴					
Positive Control ⁵					

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Test Compound: Nickel subsulfide

CAS Number: 12035-72-2

Date Report Requested: 09/12/2018

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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 5% Hamster S9
Vehicle Control ¹	140 ± 9.9	141 ± 9.1	133 ± 13.9	100 ± 5.7	109 ± 15.4
100.0	131 ± 19.6	131 ± 11.1	112 ± 6.7	105 ± 17.0	
333.0	161 ± 4.6	141 ± 12.3	140 ± 16.0	110 ± 2.7	120 ± 13.4
1000.0	202 ± 19.0	152 ± 4.9	122 ± 3.8	122 ± 14.0	138 ± 7.3
1666.0					152 ± 6.0
3333.0	196 ± 9.0 ^p	159 ± 3.7 ^p	146 ± 8.4 ^p	155 ± 7.9 ^p	136 ± 4.4 ^p
6666.0					129 ± 5.5 ^p
10000.0	180 ± 6.1 ^p	164 ± 20.4 ^p	168 ± 9.2 ^p	147 ± 5.2 ^p	
Trial Summary	Equivocal	Negative	Negative	Equivocal	Equivocal
Positive Control ²				922 ± 44.3	
Positive Control ³		521 ± 41.2			897 ± 57.6
Positive Control ⁴					
Positive Control ⁵	244 ± 6.7		626 ± 17.3		

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Strain: TA100

Dose (ug/Plate)	With 5% Hamster S9	With 10% Hamster S9	With 10% Hamster S9	With 10% Hamster S9	With 30% Hamster S9
Vehicle Control ¹	145 ± 13.9	102 ± 7.2	147 ± 6.4	137 ± 13.1	124 ± 4.7
100.0	111 ± 11.2	128 ± 8.6	129 ± 8.2	134 ± 9.3	125 ± 5.3
333.0	120 ± 10.7	121 ± 2.7	130 ± 3.5	147 ± 3.1	137 ± 5.8
1000.0	128 ± 6.1	129 ± 6.9	136 ± 7.3	160 ± 4.6	164 ± 7.2
1666.0					
3333.0	131 ± 10.0 ^p	140 ± 3.5 ^p	126 ± 13.7 ^p	171 ± 5.8 ^p	142 ± 2.3 ^p
6666.0					
10000.0	133 ± 2.0 ^p	144 ± 1.9 ^p	146 ± 1.5 ^p	154 ± 7.5 ^p	160 ± 10.6 ^p
Trial Summary	Negative	Equivocal	Negative	Negative	Equivocal
Positive Control ²	1270 ± 30.1	577 ± 10.9	760 ± 22.6	764 ± 17.2	
Positive Control ³					462 ± 31.2
Positive Control ⁴					
Positive Control ⁵					

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Strain: TA100

Dose (ug/Plate)	With 30% Hamster S9	With 30% Hamster S9
Vehicle Control ¹	127 ± 12.8	126 ± 15.3
100.0	130 ± 3.9	146 ± 5.1
333.0	132 ± 2.5	141 ± 3.2
1000.0	146 ± 7.9	129 ± 21.5
1666.0		
3333.0	147 ± 10.2 ^p	141 ± 11.9 ^p
6666.0		
10000.0	131 ± 6.7 ^p	151 ± 4.4 ^p
Trial Summary	Negative	Negative
Positive Control ²		
Positive Control ³	457 ± 22.2	703 ± 13.1
Positive Control ⁴		
Positive Control ⁵		

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Strain: TA1535

Dose (ug/Plate)	Without S9	With 5% Rat S9	With 10% Rat S9	With 30% Rat S9	With 5% Hamster S9
Vehicle Control ¹	21 ± 1.2	13 ± 1.9	14 ± 2.5	14 ± 0.3	8 ± 1.9
100.0	16 ± 0.6	11 ± 1.3	9 ± 0.6	21 ± 3.7	8 ± 1.2
333.0	16 ± 2.0	7 ± 0.3	9 ± 2.2	11 ± 1.9	7 ± 0.7
1000.0	17 ± 0.9	10 ± 1.5	11 ± 3.2	15 ± 0.7	6 ± 0.3
3333.0	14 ± 2.5	12 ± 2.5 ^p	10 ± 0.6 ^p	14 ± 1.8 ^p	8 ± 0.9 ^p
10000.0	7 ± 1.9	9 ± 2.6 ^p	7 ± 1.2 ^p	14 ± 1.5 ^p	9 ± 1.9 ^p
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control ³					131 ± 4.8
Positive Control ⁴	719 ± 54.9				
Positive Control ⁵		181 ± 18.8	163 ± 7.8		
Positive Control ⁶				144 ± 3.5	

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Test Compound: Nickel subsulfide
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Strain: TA1535

Dose (ug/Plate)	With 10% Hamster S9	With 30% Hamster S9
Vehicle Control ¹	9 ± 1.8	9 ± 2.0
100.0	10 ± 0.6	6 ± 1.2
333.0	10 ± 0.9	7 ± 1.5
1000.0	11 ± 1.5	11 ± 1.5
3333.0	8 ± 0.3 ^p	10 ± 0.9 ^p
10000.0	11 ± 1.8 ^p	14 ± 2.0 ^p
Trial Summary	Negative	Negative
Positive Control ³	119 ± 4.8	
Positive Control ⁴		
Positive Control ⁵		296 ± 10.5
Positive Control ⁶		

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Date Report Requested: 09/12/2018

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Strain: TA97

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control ¹	153 ± 7.1	158 ± 6.6	164 ± 6.4	188 ± 6.1	147 ± 6.0
100.0	150 ± 5.8	163 ± 8.7	169 ± 4.4	182 ± 15.1	153 ± 9.5
333.0	169 ± 11.1	161 ± 5.5	171 ± 7.8	159 ± 17.9	153 ± 7.8
1000.0	173 ± 5.5	171 ± 2.3	153 ± 7.5	188 ± 12.1	158 ± 2.0
3333.0	176 ± 3.3 ^P	182 ± 9.1 ^P	174 ± 0.9 ^P	165 ± 19.1 ^P	165 ± 13.8 ^P
10000.0	162 ± 5.0 ^P	174 ± 6.0 ^P	176 ± 5.3 ^P	172 ± 9.2 ^P	157 ± 10.7 ^P
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control ²					541 ± 23.7
Positive Control ³			324 ± 10.1		
Positive Control ⁵				343 ± 13.5	
Positive Control ⁷	497 ± 34.3	374 ± 4.7			

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G06: Ames Summary Data
Test Compound: Nickel subsulfide
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Strain: TA97

Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control ¹	152 ± 4.5
100.0	145 ± 10.2
333.0	164 ± 8.4
1000.0	154 ± 9.0
3333.0	164 ± 8.7 ^P
10000.0	149 ± 15.6 ^P
Trial Summary	Negative
Positive Control ²	
Positive Control ³	554 ± 16.8
Positive Control ⁵	
Positive Control ⁷	

Experiment Number: 498230

Test Type: Genetic Toxicology - Bacterial
Mutagenicity

G06: Ames Summary Data

Test Compound: Nickel subsulfide

CAS Number: 12035-72-2

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Strain: TA98

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control ¹	24 ± 3.5	16 ± 1.5	31 ± 1.3	32 ± 0.6	24 ± 2.6
100.0	22 ± 3.9	15 ± 0.3	26 ± 1.2	30 ± 1.8	22 ± 1.0
333.0	22 ± 1.5	28 ± 1.8	25 ± 3.5	31 ± 2.9	20 ± 0.9
1000.0	20 ± 1.7	29 ± 4.4	30 ± 1.2	21 ± 2.1	23 ± 2.6
3333.0	15 ± 1.8 ^P	20 ± 2.3 ^P	23 ± 1.8 ^P	27 ± 0.7 ^P	29 ± 1.9 ^P
10000.0	8 ± 3.5 ^X	15 ± 0.7 ^P	24 ± 2.7 ^P	23 ± 4.7 ^P	27 ± 3.5 ^P
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control ²					614 ± 29.2
Positive Control ³			286 ± 10.7	104 ± 5.9	
Positive Control ⁸	372 ± 12.5	521 ± 13.1			

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Test Compound: Nickel subsulfide
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Strain: TA98

Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control ¹	40 ± 1.5
100.0	28 ± 2.7
333.0	32 ± 3.3
1000.0	42 ± 7.9
3333.0	32 ± 3.1 ^P
10000.0	27 ± 4.5 ^P
Trial Summary	Negative
Positive Control ²	
Positive Control ³	495 ± 21.7
Positive Control ⁸	

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Date Report Requested: 09/12/2018

Time Report Requested: 04:51:16

Strain: TA102

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control ¹	227 ± 4.2	161 ± 13.6	207 ± 12.7	312 ± 30.0	211 ± 8.7
100.0	230 ± 14.3	148 ± 3.2	212 ± 5.9	351 ± 15.4	224 ± 11.2
333.0	236 ± 19.8	160 ± 18.4	197 ± 13.8	338 ± 5.5	220 ± 12.5
1000.0	210 ± 10.7	154 ± 3.1	196 ± 8.2	352 ± 12.2	209 ± 13.8
3333.0	151 ± 4.4 ^P	163 ± 2.6 ^P	198 ± 16.7 ^P	321 ± 15.5 ^P	210 ± 2.1 ^P
10000.0	154 ± 3.8 ^P	151 ± 2.6 ^P	250 ± 8.1 ^P	350 ± 17.9 ^P	233 ± 5.0 ^P
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control ⁹	813 ± 13.5	737 ± 7.8			
Positive Control ¹⁰			1110 ± 17.2	1236 ± 18.7	534 ± 59.0

Experiment Number: 498230
Test Type: Genetic Toxicology - Bacterial
Mutagenicity

G06: Ames Summary Data
Test Compound: Nickel subsulfide
CAS Number: 12035-72-2

Date Report Requested: 09/12/2018
Time Report Requested: 04:51:16

Strain: TA102

Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control ¹	249 ± 2.5
100.0	234 ± 11.2
333.0	276 ± 14.6
1000.0	281 ± 16.7
3333.0	279 ± 15.8
10000.0	300 ± 5.8
Trial Summary	Negative
Positive Control ⁹	
Positive Control ¹⁰	926 ± 74.0

Experiment Number: 498230
Test Type: Genetic Toxicology - Bacterial
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G06: Ames Summary Data
Test Compound: Nickel subsulfide
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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: 1.0 ug/Plate Sodium Azide

5: 2.5 ug/Plate 2-Aminoanthracene

6: 5.0 ug/Plate 2-Aminoanthracene

7: 50.0 ug/Plate 9-Aminoacridine

8: 2.5 ug/Plate 4-Nitro-O-Phenylenediamine

9: 0.5 ug/Plate Mitomycin-C

10: 10.0 ug/Plate Sterigmatocystin

p: Precipitate

x: Slight Toxicity and Precipitate

** END OF REPORT **