Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

CAS Number: **4080-31-3**

Date Report Requested: **09/15/2018**

Time Report Requested: **07:13:35**

NTP Study Number: 614941

Study Result: Weakly Positive

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

CAS Number: **4080-31-3**

Date Report Requested: **09/15/2018**

Time Report Requested: **07:13:35**

Strain: TA100

Dose (ug/Plate)	Without S9	Without S9	Without S9	With 5% Rat S9	With 5% Rat S9
Vehicle Control[1]	164 ± 13.8	84 ± 8.4	88 ± 4.1	89 ± 5.7	81 ± 1.8
3.3		71 ± 5.8	81 ± 4.0	73 ± 3.6	77 ± 8.5
10.0	174 ± 11.1	87 ± 1.5	87 ± 2.9	89 ± 3.7	78 ± 2.8
33.0	175 ± 1.0	97 ± 3.8	88 ± 5.2	95 ± 4.9	81 ± 7.3
100.0	204 ± 20.7	94 ± 2.8	102 ± 4.2	103 ± 12.0	88 ± 7.5
250.0			117 ± 5.8		119 ± 7.2
256.0		107 ± 9.3[s]		110 ± 0.3[s]	
333.0	194 ± 8.7[s]	82 ± 16.3[s]	104 ± 4.8[s]	117 ± 4.3[s]	172 ± 5.5[s]
666.0	Toxic				
Trial Summary	Equivocal	Negative	Negative	Negative	Weakly Positive
Positive Control[2]					
Positive Control[3]	373 ± 2.4	268 ± 11.4	449 ± 10.2		
Positive Control[4]				706 ± 66.6	506 ± 8.5
Positive Control[5]					
Positive Control[6]					

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

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Strain: TA100

Dose (ug/Plate)	With 10% Rat S9	With 10% Rat S9	With 30% Rat S9	With 30% Rat S9	With 5% Hamster S9
Vehicle Control[1]	173 ± 13.7	84 ± 5.1	107 ± 4.6	88 ± 0.6	89 ± 6.7
3.3		79 ± 1.3	93 ± 14.1	87 ± 2.3	91 ± 7.8
10.0	181 ± 7.8	81 ± 3.5	97 ± 4.4	83 ± 6.4	83 ± 2.1
33.0	174 ± 10.3	83 ± 1.7	101 ± 10.7	96 ± 7.3	101 ± 11.3
100.0	199 ± 10.7	81 ± 2.2	112 ± 9.8	82 ± 0.9	104 ± 4.0
250.0		125 ± 12.5		95 ± 6.1	
256.0			136 ± 4.4[s]		127 ± 2.9[s]
333.0	214 ± 12.3[s]	129 ± 17.4[s]	167 ± 12.3[s]	99 ± 5.4[s]	161 ± 6.1[s]
666.0	22 ± 2.2[s]				
Trial Summary	Equivocal	Equivocal	Equivocal	Negative	Weakly Positive
Positive Control[2]					2067 ± 124.5
Positive Control[3]					
Positive Control[4]	448 ± 13.7	269 ± 18.6			
Positive Control[5]					
Positive Control[6]			299 ± 6.2	320 ± 6.6	

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

CAS Number: **4080-31-3**

Date Report Requested: **09/15/2018**

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Strain: TA100

Dose (ug/Plate)	With 5% Hamster S9	With 10% Hamster S9	With 10% Hamster S9	With 30% Hamster S9	With 30% Hamster S9
Vehicle Control[1]	84 ± 4.9	167 ± 3.5	114 ± 21.7	100 ± 9.4	83 ± 1.7
3.3	81 ± 3.3		86 ± 2.8	94 ± 3.4	87 ± 2.3
10.0	81 ± 4.0	176 ± 11.7	83 ± 0.9	96 ± 1.2	104 ± 0.7
33.0	82 ± 2.8	194 ± 7.3	96 ± 11.1	91 ± 12.2	94 ± 3.0
100.0	96 ± 2.7	190 ± 11.6	87 ± 9.4	112 ± 7.7	86 ± 0.7
250.0	113 ± 4.1		100 ± 14.4		102 ± 4.7
256.0				120 ± 2.4[s]	
333.0	130 ± 10.1[s]	247 ± 16.2[s]	155 ± 12.7[s]	117 ± 3.4[s]	134 ± 7.0[s]
666.0		Toxic			
Trial Summary	Equivocal	Equivocal	Equivocal	Negative	Equivocal
Positive Control[2]		754 ± 5.8	312 ± 15.5		
Positive Control[3]					
Positive Control[4]	380 ± 4.2				
Positive Control[5]				194 ± 15.4	358 ± 27.2
Positive Control[6]					

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

CAS Number: **4080-31-3**

Date Report Requested: **09/15/2018**

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Strain: TA1535

Dose (ug/Plate)	Without S9	With 10% Rat S9	With 10% Hamster S9
Vehicle Control[1]	27 ± 0.9	12 ± 0.3	14 ± 3.8
10.0	25 ± 0.9	11 ± 2.5	12 ± 1.8
33.0	28 ± 4.0	11 ± 1.5	17 ± 2.1
100.0	22 ± 2.5	13 ± 4.4	15 ± 2.0
333.0	18 ± 1.2	12 ± 2.1[s]	17 ± 1.9
666.0	Toxic	Toxic	1 ± 1.3
Trial Summary	Negative	Negative	Negative
Positive Control[2]			77 ± 2.4
Positive Control[3]	305 ± 2.2		
Positive Control[6]		197 ± 5.2	

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

CAS Number: **4080-31-3**

Date Report Requested: **09/15/2018**

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Strain: TA1537

Dose (ug/Plate)	With 5% Rat S9	With 10% Rat S9	With 30% Rat S9	With 5% Hamster S9	With 10% Hamster S9
Vehicle Control[1]	8 ± 1.5	8 ± 1.7	8 ± 0.3	6 ± 0.9	5 ± 0.9
3.3	10 ± 3.1	8 ± 3.5	7 ± 1.2	9 ± 0.7	6 ± 1.2
10.0	11 ± 1.8	8 ± 1.0	8 ± 1.5	7 ± 2.7	6 ± 3.0
33.0	8 ± 2.1	9 ± 1.2	10 ± 1.5	5 ± 0.9	5 ± 0.6
100.0	8 ± 2.3	6 ± 0.3	7 ± 1.9	6 ± 0.6	5 ± 1.0
250.0	7 ± 0.9	10 ± 0.6	9 ± 1.5	9 ± 2.6	9 ± 1.2
333.0	10 ± 1.3[s]	7 ± 1.2[s]	12 ± 0.9[s]	6 ± 2.8[s]	11 ± 0.9[s]
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control[4]					93 ± 13.9
Positive Control[6]	241 ± 31.4	83 ± 1.5		324 ± 4.4	
Positive Control[7]			67 ± 7.4		
Positive Control[8]					

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

CAS Number: **4080-31-3**

Date Report Requested: **09/15/2018**

Time Report Requested: **07:13:35**

Strain: TA1537

Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control[1]	7 ± 2.1
3.3	8 ± 2.5
10.0	6 ± 1.7
33.0	7 ± 0.3
100.0	9 ± 4.3
250.0	7 ± 0.7
333.0	10 ± 1.3[s]
Trial Summary	Negative
Positive Control[4]	
Positive Control[6]	
Positive Control[7]	140 ± 10.5
Positive Control[8]	

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

CAS Number: **4080-31-3**

Date Report Requested: **09/15/2018**

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Strain: TA97

Dose (ug/Plate)	Without S9	Without S9	With 5% Rat S9	With 5% Rat S9	With 10% Rat S9
Vehicle Control[1]	68 ± 2.6	76 ± 2.0	105 ± 2.0	96 ± 4.6	105 ± 12.3
3.3	71 ± 7.0	81 ± 6.4	91 ± 1.8	99 ± 2.3	123 ± 9.8
10.0	73 ± 2.9	88 ± 4.9	108 ± 3.2	105 ± 5.0	154 ± 7.3
33.0	76 ± 1.2	101 ± 6.7	101 ± 2.0	115 ± 11.9	151 ± 1.9
100.0	95 ± 7.3[s]	98 ± 3.6	138 ± 7.1	122 ± 2.6	156 ± 10.0
250.0		107 ± 4.3		132 ± 7.9	
256.0			177 ± 4.9		
333.0	89 ± 12.2[s]	133 ± 21.1[s]	194 ± 4.0[s]	138 ± 3.6[s]	191 ± 7.2[s]
666.0					
Trial Summary	Negative	Equivocal	Weakly Positive	Equivocal	Weakly Positive
Positive Control[4]					
Positive Control[6]			1370 ± 56.7	1420 ± 78.3	932 ± 32.7
Positive Control[7]					
Positive Control[8]	408 ± 19.1				
Positive Control[9]		223 ± 18.1			

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

CAS Number: **4080-31-3**

Date Report Requested: **09/15/2018**

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Strain: TA97

Dose (ug/Plate)	With 10% Rat S9	With 30% Rat S9	With 30% Rat S9	With 5% Hamster S9	With 5% Hamster S9
Vehicle Control[1]	99 ± 6.7	136 ± 32.3	186 ± 1.7	126 ± 11.5	126 ± 4.0
3.3	106 ± 4.3	169 ± 6.0	203 ± 4.5	111 ± 16.7	115 ± 3.2
10.0	110 ± 3.1	195 ± 4.7	204 ± 7.8	124 ± 7.5	123 ± 4.1
33.0	122 ± 5.2	200 ± 6.4	190 ± 5.2	124 ± 15.9	122 ± 4.7
100.0	146 ± 9.2	200 ± 4.4	221 ± 7.7	126 ± 18.4	156 ± 8.0
250.0	164 ± 7.6		223 ± 5.5		199 ± 11.8
256.0		234 ± 9.0		142 ± 8.1[s]	
333.0	185 ± 7.1[s]	216 ± 19.8[s]	256 ± 7.2[s]	180 ± 10.7[s]	198 ± 9.5[s]
666.0					
Trial Summary	Positive	Weakly Positive	Equivocal	Equivocal	Equivocal
Positive Control[4]				883 ± 73.5	977 ± 31.2
Positive Control[6]	534 ± 13.3				
Positive Control[7]		304 ± 15.7	497 ± 16.1		
Positive Control[8]					
Positive Control[9]					

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

CAS Number: **4080-31-3**

Date Report Requested: **09/15/2018**

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Strain: TA97

Dose (ug/Plate)	With 10% Hamster S9	With 10% Hamster S9	With 30% Hamster S9	With 30% Hamster S9
Vehicle Control[1]	165 ± 0.3	121 ± 5.9	114 ± 9.6	129 ± 11.3
3.3	163 ± 3.3	124 ± 4.7	130 ± 10.7	136 ± 12.3
10.0	212 ± 11.0	167 ± 5.8	147 ± 4.0	142 ± 8.4
33.0	178 ± 12.5	153 ± 8.1	120 ± 11.3	122 ± 3.0
100.0	196 ± 2.4	171 ± 5.7	126 ± 3.9	165 ± 5.6
250.0		192 ± 8.1		193 ± 5.5
256.0			148 ± 14.5[s]	
333.0	218 ± 14.7[s]	203 ± 11.6[s]	173 ± 20.5[s]	225 ± 10.7[s]
666.0				
Trial Summary	Equivocal	Weakly Positive	Equivocal	Weakly Positive
Positive Control[4]	684 ± 40.9	549 ± 14.0		
Positive Control[6]				
Positive Control[7]			372 ± 57.8	729 ± 13.0
Positive Control[8]				
Positive Control[9]				

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

CAS Number: **4080-31-3**

Date Report Requested: **09/15/2018**

Time Report Requested: **07:13:35**

Strain: TA98

Dose (ug/Plate)	Without S9	Without S9	Without S9	With 5% Rat S9	With 5% Rat S9
Vehicle Control[1]	19 ± 1.2	11 ± 2.6	9 ± 2.2	23 ± 3.9	23 ± 0.3
3.3		14 ± 0.7	12 ± 1.7	20 ± 0.7	28 ± 1.3
10.0	22 ± 1.2	16 ± 3.0	11 ± 1.2	22 ± 4.6	23 ± 0.6
33.0	24 ± 3.2	18 ± 2.6	17 ± 2.3	18 ± 2.9	27 ± 0.9
100.0	29 ± 9.1	19 ± 4.9	17 ± 1.2	30 ± 1.5	24 ± 2.7
250.0			27 ± 2.5		36 ± 4.2
256.0		30 ± 3.8[s]		35 ± 0.7	
333.0	39 ± 7.4[s]	31 ± 4.3[s]	20 ± 1.7[s]	39 ± 0.7[s]	38 ± 3.7[s]
666.0	Toxic				
Trial Summary	Equivocal	Positive	Weakly Positive	Equivocal	Negative
Positive Control[10]					
Positive Control[2]				353 ± 4.2	54 ± 5.2
Positive Control[5]					
Positive Control[11]	129 ± 7.2	167 ± 11.9	163 ± 9.8		

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

CAS Number: **4080-31-3**

Date Report Requested: **09/15/2018**

Time Report Requested: **07:13:35**

Strain: TA98

Dose (ug/Plate)	With 10% Rat S9	With 10% Rat S9	With 30% Rat S9	With 30% Rat S9	With 5% Hamster S9
Vehicle Control[1]	32 ± 1.8	18 ± 1.0	24 ± 2.0	21 ± 1.3	26 ± 0.3
3.3		22 ± 2.7	24 ± 1.7	24 ± 2.5	26 ± 4.7
10.0	35 ± 1.2	26 ± 1.3	25 ± 1.2	24 ± 3.2	26 ± 2.4
33.0	39 ± 4.1	20 ± 1.3	22 ± 4.9	27 ± 1.5	27 ± 1.7
100.0	39 ± 2.0	24 ± 3.2	29 ± 4.6	25 ± 3.2	35 ± 1.5
250.0		28 ± 1.3		22 ± 4.4	
256.0			26 ± 2.3[s]		38 ± 1.5
333.0	45 ± 7.8	33 ± 4.3[s]	42 ± 2.3[s]	25 ± 2.0[s]	39 ± 5.5[s]
666.0	12 ± 3.3				
Trial Summary	Negative	Equivocal	Equivocal	Negative	Negative
Positive Control[10]					222 ± 11.0
Positive Control[2]	207 ± 3.8	90 ± 9.2			
Positive Control[5]			53 ± 4.5	101 ± 3.5	
Positive Control[11]					

Experiment Number: **614941**

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

G06: Ames Summary Data

Test Compound: **N-(3-Chloroallyl)hexaminium chloride**

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Strain: TA98

Dose (ug/Plate)	With 5% Hamster S9	With 10% Hamster S9	With 10% Hamster S9	With 30% Hamster S9	With 30% Hamster S9
Vehicle Control[1]	24 ± 1.2	33 ± 3.8	26 ± 1.2	20 ± 4.4	27 ± 3.0
3.3	25 ± 1.9		23 ± 0.9	26 ± 1.5	21 ± 3.9
10.0	25 ± 4.5	36 ± 3.0	28 ± 5.5	26 ± 3.0	23 ± 2.7
33.0	25 ± 3.1	37 ± 2.0	25 ± 1.5	24 ± 1.7	22 ± 0.3
100.0	30 ± 1.0	37 ± 1.3	29 ± 2.7	23 ± 4.7	25 ± 3.4
250.0	33 ± 1.5		32 ± 2.0		31 ± 1.9
256.0				23 ± 0.7[s]	
333.0	41 ± 5.5[s]	48 ± 4.9[s]	38 ± 3.6[s]	25 ± 1.7[s]	27 ± 2.3[s]
666.0		9 ± 2.0[s]			
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control[10]	435 ± 21.6	182 ± 13.4	188 ± 13.4		
Positive Control[2]				110 ± 9.1	59 ± 3.2
Positive Control[5]					
Positive Control[11]					

LEGEND

Values given as Mean or Mean ± 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: Water
2: 0.4 ug/Plate 2-Aminoanthracene
3: 0.5 ug/Plate Sodium Azide
4: 0.75 ug/Plate 2-Aminoanthracene
5: 1.0 ug/Plate 2-Aminoanthracene
6: 2.0 ug/Plate 2-Aminoanthracene
7: 2.5 ug/Plate 2-Aminoanthracene
8: 4.0 ug/Plate 9-Aminoacridine
9: 8.0 ug/Plate 9-Aminoacridine
10: 0.2 ug/Plate 2-Aminoanthracene
11: 1.0 ug/Plate 4-Nitro-O-Phenylenediamine
s: Slight Toxicity

** END OF REPORT **