Experiment Number: **004554**

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

G06: Ames Summary Data

Test Compound: **Titanium dioxide**

CAS Number: **13463-67-7**

Date Report Requested: **09/14/2018**

Time Report Requested: **00:23:16**

NTP Study Number: 004554

Study Result: Negative

Experiment Number: **004554**

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

G06: Ames Summary Data

Test Compound: **Titanium dioxide**

CAS Number: **13463-67-7**

Date Report Requested: **09/14/2018**

Time Report Requested: **00:23:16**

Strain: TA100

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control[1]	138 ± 1.9	128 ± 5.6	172 ± 4.2	173 ± 6.8	145 ± 13.4
100.0	144 ± 18.6	125 ± 11.3	149 ± 7.3	154 ± 16.4	142 ± 9.2
333.0	134 ± 8.3	128 ± 9.7	142 ± 8.0	164 ± 7.6	153 ± 2.9
1000.0	120 ± 5.1[p]	134 ± 8.8[p]	147 ± 8.6[p]	142 ± 14.5[p]	135 ± 7.0[p]
3333.0	137 ± 5.5[p]	131 ± 10.0[p]	141 ± 9.2[p]	148 ± 4.3[p]	135 ± 7.7[p]
10000.0	116 ± 5.6[p]	117 ± 8.1[p]	145 ± 4.6[p]	142 ± 12.2[p]	122 ± 11.5[p]
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control[2]	410 ± 12.2	435 ± 7.1			
Positive Control[3]			594 ± 23.8	311 ± 13.9	2085 ± 107.9

Experiment Number: **004554**

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

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Test Compound: **Titanium dioxide**

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Date Report Requested: **09/14/2018**

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Strain: TA100

Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control[1]	164 ± 1.2
100.0	155 ± 4.8
333.0	170 ± 9.2
1000.0	174 ± 1.3[p]
3333.0	170 ± 6.2[p]
10000.0	148 ± 21.0[p]
Trial Summary	Negative
Positive Control[2]	
Positive Control[3]	792 ± 7.1

Experiment Number: **004554**

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

G06: Ames Summary Data

Test Compound: **Titanium dioxide**

CAS Number: **13463-67-7**

Date Report Requested: **09/14/2018**

Time Report Requested: **00:23:16**

Strain: TA1535

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control[1]	27 ± 0.3	25 ± 1.3	24 ± 0.7	14 ± 1.0	13 ± 2.6
100.0	23 ± 1.5	18 ± 0.9	11 ± 0.9	14 ± 1.2	7 ± 0.6
333.0	25 ± 1.0	20 ± 2.2	7 ± 0.9	14 ± 1.5	8 ± 1.5
1000.0	22 ± 1.2[p]	18 ± 1.2[p]	11 ± 2.2[p]	14 ± 0.3[p]	10 ± 1.8[p]
3333.0	33 ± 2.7[p]	11 ± 2.3[p]	7 ± 0.3[p]	15 ± 1.2[p]	10 ± 1.3[p]
10000.0	25 ± 3.1[p]	9 ± 1.9[p]	7 ± 1.3[p]	14 ± 1.9[p]	6 ± 1.8[p]
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control[2]	386 ± 12.9	377 ± 12.7			
Positive Control[4]			136 ± 9.9	92 ± 2.7	434 ± 34.9

Experiment Number: **004554**

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

G06: Ames Summary Data

Test Compound: **Titanium dioxide**

CAS Number: **13463-67-7**

Date Report Requested: **09/14/2018**

Time Report Requested: **00:23:16**

Strain: TA1535

Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control[1]	10 ± 2.4
100.0	12 ± 0.9
333.0	7 ± 0.3
1000.0	6 ± 0.7[p]
3333.0	6 ± 0.7[p]
10000.0	6 ± 2.3[p]
Trial Summary	Negative
Positive Control[2]	
Positive Control[4]	412 ± 47.9

Experiment Number: **004554**

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

G06: Ames Summary Data

Test Compound: **Titanium dioxide**

CAS Number: **13463-67-7**

Date Report Requested: **09/14/2018**

Time Report Requested: **00:23:16**

Strain: TA97

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control[1]	162 ± 10.3	148 ± 10.7	147 ± 2.6	179 ± 8.1	187 ± 1.7
100.0	160 ± 8.9	177 ± 10.9	189 ± 1.2	201 ± 2.0	181 ± 1.7
333.0	154 ± 5.0	161 ± 1.8	194 ± 0.7	193 ± 5.2	159 ± 3.5
1000.0	152 ± 6.4[p]	160 ± 6.5[p]	192 ± 0.6[p]	184 ± 11.6[p]	174 ± 1.5[p]
3333.0	137 ± 17.3[p]	162 ± 1.9[p]	196 ± 2.6[p]	184 ± 9.5[p]	192 ± 4.4[p]
10000.0	158 ± 13.9[p]	174 ± 3.5[p]	188 ± 8.0[p]	204 ± 3.1[p]	158 ± 7.2[p]
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control[3]					
Positive Control[4]			859 ± 42.5	606 ± 11.1	1787 ± 78.0
Positive Control[5]		432 ± 27.4			
Positive Control[6]	882 ± 101.7				

Experiment Number: **004554**

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

G06: Ames Summary Data

Test Compound: **Titanium dioxide**

CAS Number: **13463-67-7**

Date Report Requested: **09/14/2018**

Time Report Requested: **00:23:16**

Strain: TA97

Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control[1]	166 ± 5.0
100.0	194 ± 3.7
333.0	176 ± 4.8
1000.0	187 ± 5.7[p]
3333.0	191 ± 2.2[p]
10000.0	167 ± 4.1[p]
Trial Summary	Negative
Positive Control[3]	850 ± 33.6
Positive Control[4]	
Positive Control[5]	
Positive Control[6]	

Experiment Number: **004554**

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

G06: Ames Summary Data

Test Compound: **Titanium dioxide**

CAS Number: **13463-67-7**

Date Report Requested: **09/14/2018**

Time Report Requested: **00:23:16**

Strain: TA98

Dose (ug/Plate)	Without S9	Without S9	With 10% Rat S9	With 30% Rat S9	With 10% Hamster S9
Vehicle Control[1]	27 ± 3.3	25 ± 2.1	41 ± 2.8	34 ± 3.1	48 ± 2.6
100.0	27 ± 3.8	19 ± 3.5	31 ± 2.9	27 ± 3.2	39 ± 3.6
333.0	28 ± 0.7	18 ± 0.6	38 ± 5.3	34 ± 3.5	40 ± 3.9
1000.0	26 ± 2.0[p]	20 ± 1.5[p]	31 ± 4.2[p]	36 ± 2.0[p]	41 ± 6.4[p]
3333.0	21 ± 4.7[p]	21 ± 3.8[p]	28 ± 4.7[p]	38 ± 4.6[p]	38 ± 4.3[p]
10000.0	23 ± 0.9[p]	16 ± 1.5[p]	32 ± 6.9[p]	31 ± 5.5[p]	30 ± 0.3[p]
Trial Summary	Negative	Negative	Negative	Negative	Negative
Positive Control[3]			317 ± 9.8	143 ± 26.6	1520 ± 30.2
Positive Control[7]		655 ± 52.0			
Positive Control[8]	1449 ± 18.8				

Experiment Number: **004554**

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

G06: Ames Summary Data

Test Compound: **Titanium dioxide**

CAS Number: **13463-67-7**

Date Report Requested: **09/14/2018**

Time Report Requested: **00:23:16**

Strain: TA98

Dose (ug/Plate)	With 30% Hamster S9
Vehicle Control[1]	35 ± 3.0
100.0	30 ± 3.7
333.0	31 ± 4.9
1000.0	30 ± 4.8[p]
3333.0	34 ± 2.7[p]
10000.0	35 ± 2.4[p]
Trial Summary	Negative
Positive Control[3]	400 ± 13.4
Positive Control[7]	
Positive Control[8]	

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: 1.0 ug/Plate Sodium Azide
3: 1.0 ug/Plate 2-Aminoanthracene
4: 2.5 ug/Plate 2-Aminoanthracene
5: 25.0 ug/Plate 9-Aminoacridine
6: 50.0 ug/Plate 9-Aminoacridine
7: 2.5 ug/Plate 4-Nitro-O-Phenylenediamine
8: 5.0 ug/Plate 4-Nitro-O-Phenylenediamine
p: Precipitate

** END OF REPORT **