Experiment Number: **110259**

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

**G06: Ames Summary Data**

Test Compound: **Citral**

CAS Number: **5392-40-5**

Date Report Requested: **09/11/2018**

Time Report Requested: **19:30:45**

**NTP Study Number:** 110259

**Study Result:** Negative

Experiment Number: **110259**

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

**G06: Ames Summary Data**

Test Compound: **Citral**

CAS Number: **5392-40-5**

Date Report Requested: **09/11/2018**

Time Report Requested: **19:30:45**

**Strain: TA100**

| Dose (ug/Plate) | Without S9 | Without S9 | With 10% Rat S9 | With 10% Rat S9 | With 10% Hamster S9 |
|---|---|---|---|---|---|
| Vehicle Control[1] | 155 ± 3.2 | 154 ± 6.1 | 122 ± 7.9 | 150 ± 8.4 | 148 ± 9.0 |
| 1.0 | 152 ± 16.8 | 146 ± 9.4 | | | |
| 3.3 | 136 ± 7.2 | 141 ± 2.4 | 111 ± 11.3 | 128 ± 3.5 | 157 ± 4.8 |
| 10.0 | 140 ± 6.9 | 143 ± 7.1 | 126 ± 2.8 | 122 ± 1.7 | 145 ± 9.7 |
| 33.0 | 134 ± 3.8 | 147 ± 14.0 | 123 ± 8.1 | 138 ± 2.1 | 145 ± 0.9 |
| 50.0 | | 132 ± 12.9[s] | | | |
| 67.0 | Toxic | | | | |
| 100.0 | | | 129 ± 1.0 | 150 ± 9.4 | 151 ± 5.9 |
| 160.0 | | | | 126 ± 5.5[s] | |
| 220.0 | | | Toxic | | Toxic |
| Trial Summary | Negative | Negative | Negative | Negative | Negative |
| Positive Control[2] | | | | | 900 ± 38.1 |
| Positive Control[3] | | | 774 ± 9.1 | 434 ± 32.4 | |
| Positive Control[4] | 1386 ± 11.9 | 1349 ± 18.9 | | | |

Experiment Number: **110259**

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

**G06: Ames Summary Data**

Test Compound: **Citral**

CAS Number: **5392-40-5**

Date Report Requested: **09/11/2018**

Time Report Requested: **19:30:45**

**Strain: TA100**

| Dose (ug/Plate) | With 10% Hamster S9 |
|---|---|
| Vehicle Control[1] | 146 ± 5.8 |
| 1.0 | |
| 3.3 | 149 ± 2.2 |
| 10.0 | 134 ± 8.4 |
| 33.0 | 142 ± 5.2 |
| 50.0 | |
| 67.0 | |
| 100.0 | 142 ± 6.3 |
| 160.0 | 141 ± 1.9[s] |
| 220.0 | |
| Trial Summary | Negative |
| Positive Control[2] | 439 ± 24.6 |
| Positive Control[3] | |
| Positive Control[4] | |

Experiment Number: **110259**

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

**G06: Ames Summary Data**

Test Compound: **Citral**

CAS Number: **5392-40-5**

Date Report Requested: **09/11/2018**

Time Report Requested: **19:30:45**

**Strain: TA1535**

| Dose (ug/Plate) | Without S9 | Without S9 | With 10% Rat S9 | With 10% Rat S9 | With 10% Hamster S9 |
|---|---|---|---|---|---|
| Vehicle Control[1] | 29 ± 4.5 | 25 ± 2.6 | 14 ± 1.5 | 7 ± 1.9 | 17 ± 2.6 |
| 1.0 | 25 ± 1.9 | 18 ± 3.0 | | | |
| 3.3 | 27 ± 3.8 | 23 ± 1.7 | 17 ± 0.6 | 12 ± 0.9 | 14 ± 2.0 |
| 10.0 | 27 ± 3.8 | 23 ± 4.1 | 8 ± 0.3 | 9 ± 2.1 | 13 ± 2.9 |
| 33.0 | 26 ± 3.8 | 23 ± 4.3 | 13 ± 1.5 | 13 ± 3.8 | 16 ± 2.3 |
| 50.0 | | 16 ± 2.0[s] | | | |
| 67.0 | 19 ± 2.3[s] | | | | |
| 100.0 | | | 11 ± 1.2 | 8 ± 0.6 | 18 ± 3.0 |
| 160.0 | | | | 10 ± 1.3[s] | |
| 220.0 | | | Toxic | | Toxic |
| Trial Summary | Negative | Negative | Negative | Negative | Negative |
| Positive Control[2] | | | | | 119 ± 5.2 |
| Positive Control[3] | | | 99 ± 6.2 | 71 ± 5.3 | |
| Positive Control[4] | 1277 ± 17.6 | 1098 ± 39.7 | | | |

Experiment Number: **110259**

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

**G06: Ames Summary Data**

Test Compound: **Citral**

CAS Number: **5392-40-5**

Date Report Requested: **09/11/2018**

Time Report Requested: **19:30:45**

**Strain: TA1535**

| Dose (ug/Plate) | With 10% Hamster S9 |
|---|---|
| Vehicle Control[1] | 9 ± 1.7 |
| 1.0 | |
| 3.3 | 11 ± 1.2 |
| 10.0 | 12 ± 3.8 |
| 33.0 | 12 ± 0.3 |
| 50.0 | |
| 67.0 | |
| 100.0 | 14 ± 2.7 |
| 160.0 | 11 ± 3.7[s] |
| 220.0 | |
| Trial Summary | Negative |
| Positive Control[2] | 57 ± 2.8 |
| Positive Control[3] | |
| Positive Control[4] | |

Experiment Number: **110259**

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

**G06: Ames Summary Data**

Test Compound: **Citral**

CAS Number: **5392-40-5**

Date Report Requested: **09/11/2018**

Time Report Requested: **19:30:45**

**Strain: TA1537**

| Dose (ug/Plate) | Without S9 | Without S9 | With 10% Rat S9 | With 10% Rat S9 | With 10% Hamster S9 |
|---|---|---|---|---|---|
| Vehicle Control[1] | 10 ± 0.3 | 5 ± 0.9 | 9 ± 1.5 | 7 ± 1.0 | 10 ± 3.2 |
| 1.0 | 9 ± 1.5 | 5 ± 0.7 | | | |
| 3.3 | 9 ± 0.9 | 6 ± 1.7 | 9 ± 1.2 | 6 ± 1.0 | 10 ± 3.7 |
| 10.0 | 8 ± 1.7 | 6 ± 0.9 | 8 ± 0.9 | 7 ± 1.2 | 13 ± 2.8 |
| 33.0 | 6 ± 1.3 | 7 ± 0.3 | 6 ± 0.6 | 5 ± 1.0 | 12 ± 2.0 |
| 50.0 | | 3 ± 1.2[s] | | | |
| 67.0 | Toxic | | | | |
| 100.0 | | | 9 ± 0.7 | 7 ± 1.9 | 9 ± 0.6 |
| 160.0 | | | | 7 ± 0.6[s] | |
| 220.0 | | | Toxic | | Toxic |
| Trial Summary | Negative | Negative | Negative | Negative | Negative |
| Positive Control[2] | | | | | 74 ± 1.2 |
| Positive Control[3] | | | 54 ± 3.2 | 34 ± 6.4 | |
| Positive Control[5] | 547 ± 36.5 | 516 ± 58.9 | | | |

Experiment Number: **110259**

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

**G06: Ames Summary Data**

Test Compound: **Citral**

CAS Number: **5392-40-5**

Date Report Requested: **09/11/2018**

Time Report Requested: **19:30:45**

**Strain: TA1537**

| Dose (ug/Plate) | With 10% Hamster S9 |
|---|---|
| Vehicle Control[1] | 7 ± 0.9 |
| 1.0 | |
| 3.3 | 3 ± 0.7 |
| 10.0 | 8 ± 1.0 |
| 33.0 | 5 ± 0.9 |
| 50.0 | |
| 67.0 | |
| 100.0 | 6 ± 1.5 |
| 160.0 | 5 ± 0.7[s] |
| 220.0 | |
| Trial Summary | Negative |
| Positive Control[2] | 30 ± 0.3 |
| Positive Control[3] | |
| Positive Control[5] | |

Experiment Number: **110259**

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

**G06: Ames Summary Data**

Test Compound: **Citral**

CAS Number: **5392-40-5**

Date Report Requested: **09/11/2018**

Time Report Requested: **19:30:45**

**Strain: TA98**

| Dose (ug/Plate) | Without S9 | Without S9 | With 10% Rat S9 | With 10% Rat S9 | With 10% Hamster S9 |
|---|---|---|---|---|---|
| Vehicle Control[1] | 33 ± 2.6 | 15 ± 1.8 | 29 ± 1.5 | 23 ± 0.9 | 40 ± 1.5 |
| 1.0 | 28 ± 1.0 | 18 ± 2.3 | | | |
| 3.3 | 25 ± 2.2 | 13 ± 2.8 | 34 ± 2.7 | 20 ± 3.6 | 32 ± 4.1 |
| 10.0 | 26 ± 5.4 | 17 ± 1.8 | 34 ± 2.5 | 22 ± 0.9 | 38 ± 3.4 |
| 33.0 | 30 ± 2.8 | 16 ± 0.6 | 31 ± 6.2 | 21 ± 1.2 | 40 ± 5.5 |
| 50.0 | | 13 ± 1.2 | | | |
| 67.0 | 23 ± 0.9[s] | | | | |
| 100.0 | | | 34 ± 3.0 | 21 ± 1.0 | 30 ± 1.5 |
| 160.0 | | | | 23 ± 1.5[s] | |
| 220.0 | | | Toxic | | Toxic |
| Trial Summary | Negative | Negative | Negative | Negative | Negative |
| Positive Control[2] | | | | | 890 ± 39.3 |
| Positive Control[3] | | | 679 ± 19.5 | 328 ± 20.3 | |
| Positive Control[6] | 1510 ± 60.1 | 1171 ± 55.0 | | | |

Experiment Number: **110259**

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

**G06: Ames Summary Data**

Test Compound: **Citral**

CAS Number: **5392-40-5**

Date Report Requested: **09/11/2018**

Time Report Requested: **19:30:45**

**Strain: TA98**

| Dose (ug/Plate) | With 10% Hamster S9 |
|---|---|
| Vehicle Control[1] | 24 ± 2.0 |
| 1.0 | |
| 3.3 | 25 ± 4.4 |
| 10.0 | 28 ± 4.6 |
| 33.0 | 25 ± 3.3 |
| 50.0 | |
| 67.0 | |
| 100.0 | 29 ± 4.1 |
| 160.0 | 21 ± 3.4[s] |
| 220.0 | |
| Trial Summary | Negative |
| Positive Control[2] | 288 ± 6.8 |
| Positive Control[3] | |
| Positive Control[6] | |

**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: Dimethyl Sulfoxide
2: 0.75 ug/Plate 2-Aminoanthracene
3: 1.5 ug/Plate 2-Aminoanthracene
4: 2.5 ug/Plate Sodium Azide
5: 80.0 ug/Plate 9-Aminoacridine
6: 12.0 ug/Plate 4-Nitro-O-Phenylenediamine
s: Slight Toxicity

** END OF REPORT **