NTP Study Number: 123790
Study Result: Negative
<table>
<thead>
<tr>
<th>Dose (µg/Plate)</th>
<th>Without S9</th>
<th>Without S9</th>
<th>With 10% Rat S9</th>
<th>With 10% Rat S9</th>
<th>With 10% Hamster S9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Control</td>
<td>133 ± 1.5</td>
<td>132 ± 8.7</td>
<td>144 ± 9.9</td>
<td>218 ± 10.2</td>
<td></td>
</tr>
<tr>
<td>1.0</td>
<td>125 ± 7.1</td>
<td>118 ± 6.6</td>
<td>146 ± 32.3</td>
<td>214 ± 4.4</td>
<td></td>
</tr>
<tr>
<td>3.3</td>
<td>138 ± 6.2</td>
<td>130 ± 2.9</td>
<td>228 ± 9.6</td>
<td>171 ± 21.7</td>
<td></td>
</tr>
<tr>
<td>10.0</td>
<td>124 ± 6.4</td>
<td>125 ± 4.6</td>
<td>239 ± 20.3</td>
<td>169 ± 6.4</td>
<td></td>
</tr>
<tr>
<td>33.0</td>
<td>128 ± 5.9</td>
<td>124 ± 1.8</td>
<td>219 ± 3.5</td>
<td>173 ± 14.7</td>
<td></td>
</tr>
<tr>
<td>100.0</td>
<td>120 ± 4.3</td>
<td>119 ± 3.6</td>
<td>195 ± 17.6</td>
<td>154 ± 12.9</td>
<td></td>
</tr>
</tbody>
</table>

Trial Summary
- Negative
- Negative
- Equivocal
- Negative

Positive Control
- 509 ± 35.9
- 469 ± 22.9
- 870 ± 53.1

Positive Control
- 481 ± 16.7
- 445 ± 25.7
<table>
<thead>
<tr>
<th>Dose (ug/Plate)</th>
<th>With 10% Hamster S9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Control</td>
<td>183 ± 17.7</td>
</tr>
<tr>
<td>1.0</td>
<td>158 ± 16.5</td>
</tr>
<tr>
<td>3.3</td>
<td>178 ± 8.5</td>
</tr>
<tr>
<td>10.0</td>
<td>159 ± 8.7</td>
</tr>
<tr>
<td>33.0</td>
<td>152 ± 0.9</td>
</tr>
<tr>
<td>100.0</td>
<td>156 ± 6.5</td>
</tr>
</tbody>
</table>

Trial Summary  
Negative

Positive Control | 947 ± 46.2

Positive Control | 947 ± 46.2
**Experiment Number:** 123790  
**Test Type:** Genetic Toxicology - Bacterial Mutagenicity  
**Test Compound:** Ethylene thiourea (ETU)  
**CAS Number:** 96-45-7  

**Strain:** TA1535

<table>
<thead>
<tr>
<th>Dose (ug/Plate)</th>
<th>Without S9</th>
<th>Without S9</th>
<th>With 10% Rat S9</th>
<th>With 10% Rat S9</th>
<th>With 10% Hamster S9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Control</td>
<td>14 ± 0.7</td>
<td>14 ± 0.6</td>
<td>21 ± 1.7</td>
<td>22 ± 2.2</td>
<td>25 ± 1.2</td>
</tr>
<tr>
<td>1.0</td>
<td>13 ± 0.7</td>
<td>11 ± 0.9</td>
<td>29 ± 2.9</td>
<td>20 ± 2.4</td>
<td>22 ± 3.2</td>
</tr>
<tr>
<td>3.3</td>
<td>14 ± 2.1</td>
<td>18 ± 2.0</td>
<td>28 ± 1.7</td>
<td>22 ± 1.0</td>
<td>23 ± 3.6</td>
</tr>
<tr>
<td>10.0</td>
<td>18 ± 2.1</td>
<td>18 ± 2.0</td>
<td>33 ± 2.9</td>
<td>21 ± 2.1</td>
<td>25 ± 0.9</td>
</tr>
<tr>
<td>33.0</td>
<td>17 ± 2.1</td>
<td>14 ± 1.7</td>
<td>34 ± 3.8</td>
<td>21 ± 2.7</td>
<td>32 ± 4.9</td>
</tr>
<tr>
<td>100.0</td>
<td>17 ± 0.9</td>
<td>16 ± 1.0</td>
<td>35 ± 3.7</td>
<td>20 ± 3.7</td>
<td>34 ± 6.2</td>
</tr>
</tbody>
</table>

**Trial Summary**  
Negative  
Negative  
Negative  
Negative  

**Positive Control**  
37 ± 2.9  
39 ± 7.1  
46 ± 2.3  

**Positive Control**  
745 ± 12.5  
584 ± 106.8
<table>
<thead>
<tr>
<th>Dose (µg/Plate)</th>
<th>With 10% Hamster S9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Control</td>
<td>24 ± 0.7</td>
</tr>
<tr>
<td>1.0</td>
<td>22 ± 4.4</td>
</tr>
<tr>
<td>3.3</td>
<td>23 ± 3.5</td>
</tr>
<tr>
<td>10.0</td>
<td>23 ± 3.8</td>
</tr>
<tr>
<td>33.0</td>
<td>23 ± 4.0</td>
</tr>
<tr>
<td>100.0</td>
<td>24 ± 4.4</td>
</tr>
</tbody>
</table>

Trial Summary: Negative

Positive Control

Experiment Number: 123790
Test Type: Genetic Toxicology - Bacterial Mutagenicity
Test Compound: Ethylene thiourea (ETU)
CAS Number: 96-45-7
<table>
<thead>
<tr>
<th>Dose (ug/Plate)</th>
<th>Without S9</th>
<th>Without S9</th>
<th>With 10% Rat S9</th>
<th>With 10% Rat S9</th>
<th>With 10% Hamster S9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Control</td>
<td>8 ± 0.3</td>
<td>7 ± 0.6</td>
<td>9 ± 0.7</td>
<td>7 ± 1.5</td>
<td>12 ± 2.8</td>
</tr>
<tr>
<td>1.0</td>
<td>3 ± 1.8</td>
<td>3 ± 0.6</td>
<td>8 ± 3.1</td>
<td>7 ± 0.7</td>
<td>9 ± 0.6</td>
</tr>
<tr>
<td>3.3</td>
<td>9 ± 0.6</td>
<td>5 ± 1.8</td>
<td>10 ± 0.9</td>
<td>10 ± 1.5</td>
<td>12 ± 0.6</td>
</tr>
<tr>
<td>10.0</td>
<td>5 ± 1.5</td>
<td>4 ± 0.0</td>
<td>14 ± 2.4</td>
<td>11 ± 0.3</td>
<td>9 ± 0.7</td>
</tr>
<tr>
<td>33.0</td>
<td>5 ± 0.9</td>
<td>4 ± 1.5</td>
<td>9 ± 0.9</td>
<td>6 ± 0.6</td>
<td>14 ± 2.3</td>
</tr>
<tr>
<td>100.0</td>
<td>5 ± 0.9</td>
<td>5 ± 2.1</td>
<td>10 ± 1.5</td>
<td>8 ± 0.3</td>
<td>10 ± 1.3</td>
</tr>
</tbody>
</table>

Trial Summary
- Negative
- Negative
- Negative
- Negative

Positive Control
- Experiment 1: 20 ± 3.3
- Experiment 2: 38 ± 3.5
- Experiment 3: 52 ± 13.9
<table>
<thead>
<tr>
<th>Dose (µg/Plate)</th>
<th>With 10% Hamster S9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Control</td>
<td>9 ± 1.7</td>
</tr>
<tr>
<td>1.0</td>
<td>8 ± 1.2</td>
</tr>
<tr>
<td>3.3</td>
<td>8 ± 1.0</td>
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<tr>
<td>10.0</td>
<td>6 ± 1.2</td>
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<tr>
<td>33.0</td>
<td>7 ± 2.0</td>
</tr>
<tr>
<td>100.0</td>
<td>8 ± 0.3</td>
</tr>
</tbody>
</table>

Trial Summary: Negative

Positive Control: 75 ± 5.2
<table>
<thead>
<tr>
<th>Dose (ug/Plate)</th>
<th>Without S9</th>
<th>Without S9</th>
<th>With 10% Rat S9</th>
<th>With 10% Rat S9</th>
<th>With 10% Hamster S9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Control</td>
<td>16 ± 1.7</td>
<td>15 ± 0.3</td>
<td>53 ± 20.4</td>
<td>27 ± 4.3</td>
<td>40 ± 8.1</td>
</tr>
<tr>
<td>1.0</td>
<td>11 ± 5.0</td>
<td>10 ± 2.5</td>
<td>21 ± 5.8</td>
<td>17 ± 3.0</td>
<td>28 ± 10.0</td>
</tr>
<tr>
<td>3.3</td>
<td>23 ± 0.7</td>
<td>16 ± 3.3</td>
<td>30 ± 3.8</td>
<td>30 ± 3.9</td>
<td>32 ± 0.9</td>
</tr>
<tr>
<td>10.0</td>
<td>22 ± 0.7</td>
<td>18 ± 1.7</td>
<td>31 ± 2.6</td>
<td>30 ± 2.6</td>
<td>39 ± 1.9</td>
</tr>
<tr>
<td>33.0</td>
<td>18 ± 6.1</td>
<td>15 ± 0.9</td>
<td>39 ± 2.9</td>
<td>31 ± 0.7</td>
<td>40 ± 0.3</td>
</tr>
<tr>
<td>100.0</td>
<td>18 ± 0.7</td>
<td>19 ± 0.9</td>
<td>33 ± 5.3</td>
<td>35 ± 4.1</td>
<td>35 ± 2.7</td>
</tr>
</tbody>
</table>

Trial Summary

Negative

Negative

Negative

Negative

Positive Control $^2$

264 ± 11.9

350 ± 40.6

704 ± 80.8

Positive Control $^5$

424 ± 12.2

280 ± 23.2
### G06: Ames Summary Data

Test Compound: Ethylene thiourea (ETU)

CAS Number: 96-45-7

<table>
<thead>
<tr>
<th>Dose (μg/Plate)</th>
<th>With 10% Hamster S9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Control</td>
<td>34 ± 0.9</td>
</tr>
<tr>
<td>1.0</td>
<td>34 ± 4.5</td>
</tr>
<tr>
<td>3.3</td>
<td>32 ± 0.9</td>
</tr>
<tr>
<td>10.0</td>
<td>42 ± 2.7</td>
</tr>
<tr>
<td>33.0</td>
<td>37 ± 3.3</td>
</tr>
<tr>
<td>100.0</td>
<td>40 ± 2.4</td>
</tr>
</tbody>
</table>

Trial Summary: Negative

Positive Control

<table>
<thead>
<tr>
<th>Dose (μg/Plate)</th>
<th>Residues (μg/mL)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>778 ± 18.0</td>
</tr>
</tbody>
</table>

Experiment Number: 123790
Test Type: Genetic Toxicology - Bacterial Mutagenicity

Date Report Requested: 09/12/2018
Time Report Requested: 02:29:35
GENELOC

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 µg/Plate 2-Aminoanthracene
3: 3.3 µg/Plate Sodium Azide
4: 33.0 µg/Plate 9-Aminoacridine
5: 3.3 µg/Plate 4-Nitro-O-Phenylenediamine

** END OF REPORT **