### Methyl acetoacetate

#### Experimental Data (Short treatments)

<table>
<thead>
<tr>
<th>Treatment Time (h)</th>
<th>S9 mix</th>
<th>Concentration (mg/ml)</th>
<th>Cell with Structural Chromosome Aberration (%)</th>
<th>Gap Growth Rate (%)</th>
<th>Cell with Numerical Chromosome Aberration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>No. of Metaphase</td>
<td>Chromatid</td>
<td>Chromosome</td>
</tr>
<tr>
<td>6-18</td>
<td>-</td>
<td>[H₂O]</td>
<td>200</td>
<td>0 0 0 0 0 0 0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(10%)</td>
<td>0.30</td>
<td>200 0 0 0 0 0 0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[H₂O]</td>
<td>0.60</td>
<td>200 0 0 0 0 0 0 0.5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(10%)</td>
<td>0.90</td>
<td>200 0.5 0 0 0 0 0 0.5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2</td>
<td>200</td>
<td>0 0 0 0 0 0 0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[MMC]</td>
<td>200</td>
<td>14 37.5 0 0 0 0 0</td>
<td>46.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.00012)</td>
<td>0.30</td>
<td>200 0 0 0 0 0 0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[H₂O]</td>
<td>0.60</td>
<td>200 0.5 1 0 0 0 0</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(10%)</td>
<td>0.90</td>
<td>200 0.5 0 0.5 1</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.2</td>
<td>200</td>
<td>0 2 0 0 0 0 2</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>[B[a]P]</td>
<td>200</td>
<td>5.5 39 0.5 0 0 0</td>
<td>41.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.01)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

※ Test conditions: S9mix ; 5%, Treatment time ; 6h, Recovery time ; 18h

---

- **Chemical Name**: Methyl acetoacetate
- **Synonym**: Methyl 3-oxobutanoate
- **Molecular Weight**: 116.12
- **Melting Point**: 80°C [Merck]
- **Boiling Point**: 169-170°C [CHCD]
- **Flashing Point**: 67°C [CHCD]
- **Molecular Formula**: C₅H₈O₃
- **Chemical Structure**: CH₃COCH₂COOCH₃
- **CAS No.**: 105-45-3
- **METI No.**: (2)-1474, (2)-1475
- **MHLW No.**: —
- **Source of Substance**: Tokyo Kasei Kogyo Co., Ltd.
- **Lot No.**: GE01
- **Purity**: 99.8%
- **Vehicle**: Ultrapure H₂O

Judgement for Chromosomal Aberration in CHL/IU: Positive

IARC Evaluation: not yet cited
### Experimental Data without Metabolic Activation (Continuous treatments)

<table>
<thead>
<tr>
<th>Treatment Time (h)</th>
<th>Concentration (mg/ml)</th>
<th>Cell with Structural Chromosome Aberration (%)</th>
<th>Gap (%)</th>
<th>Cell Growth Rate (%)</th>
<th>Cell with Numerical Chromosome Aberration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>No. of Metaphase</td>
<td>Chromatid</td>
<td>Chromosome</td>
<td>Others</td>
</tr>
<tr>
<td>24-h</td>
<td>[H₂O] (10%)</td>
<td>200</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.40</td>
<td>200</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.60</td>
<td>200</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.80</td>
<td>200</td>
<td>1</td>
<td>0.5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1.0</td>
<td>200</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1.2</td>
<td>200</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>48-h</td>
<td>[MMC] (0.00004)</td>
<td>200</td>
<td>12.5</td>
<td>30</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>[H₂O] (10%)</td>
<td>200</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.40</td>
<td>200</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.60</td>
<td>200</td>
<td>0.5</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>0.80</td>
<td>200</td>
<td>0</td>
<td>0.5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1.0</td>
<td>200</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1.2</td>
<td>200</td>
<td>0</td>
<td>0.5</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>[MMC] (0.00004)</td>
<td>200</td>
<td>19</td>
<td>40</td>
<td>0</td>
</tr>
</tbody>
</table>

※ Test conditions: Treatment time: 24h or 48h, Recovery time: 0h