

**Study Number:** C20724-04  
**Test Type:** TOX  
**Route:** Whole-Body Inhalation  
**Species/Strain:** Mouse/B6C3F1/N

**PA43: Hematology Summary**  
**Test Compound:** Acetoin  
**CAS Number:** 513-86-0

**Date Report Requested:** 11/07/2019  
**Time Report Requested:** 10:31:35  
**Lab:** NTP

**C Number:**

C20724-04

**Study Gender:**

Both

**PWG Approval Date**

See web page for date of PWG Approval

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**Male**

|   | Phase Day | Treatment Groups (ppm) |                   |                   |                   |
|---|-----------|------------------------|-------------------|-------------------|-------------------|
|   |           | 0                      | 50                | 100               | 200               |
| Hematocrit (%)                            | SD 95     | 51.2 ± 0.5 (10)        | 50.9 ± 0.3 (10)   | 52.2 ± 0.4 (10)   | 50.9 ± 0.5 (10)   |
| Percent of Control                        |           |                        | 99.5              | 102.0             | 99.4              |
| Manual Hematocrit (%)                     | SD 95     | 51.0 ± 0.3 (10)        | 51.1 ± 0.3 (10)   | 52.3 ± 0.4 (10)   | 50.9 ± 0.4 (9)    |
| Percent of Control                        |           |                        | 100.2             | 102.6             | 99.9              |
| Hemoglobin (g/dL)                         | SD 95     | 16.4 ± 0.1 (10)        | 16.4 ± 0.1 (10)   | 16.7 ± 0.1 (10)   | 16.5 ± 0.1 (10)   |
| Percent of Control                        |           |                        | 100.0             | 101.8             | 100.4             |
| Erythrocytes (10 <sup>6</sup> /uL)        | SD 95     | 11.15 ± 0.11 (10)      | 11.20 ± 0.08 (10) | 11.26 ± 0.08 (10) | 11.08 ± 0.11 (10) |
| Percent of Control                        |           |                        | 100.5             | 101.0             | 99.3              |
| Reticulocytes (10 <sup>3</sup> /uL)       | SD 95     | 307.7 ± 7.8 (10)       | 319.6 ± 6.1 (10)  | 316.2 ± 4.9 (10)  | 322.4 ± 7.0 (10)  |
| Percent of Control                        |           |                        | 103.9             | 102.8             | 104.8             |
| Mean Cell Volume (fL)                     | SD 95     | 45.9 ± 0.2 (10)        | 45.5 ± 0.1 (10)   | 46.3 ± 0.2 (10)   | 45.9 ± 0.2 (10)   |
| Percent of Control                        |           |                        | 99.0              | 100.8             | 100.0             |
| Mean Cell Hemoglobin (pg)                 | SD 95     | 14.7 ± 0.1 (10)        | 14.6 ± 0.0 (10)   | 14.8 ± 0.1 (10)   | 14.9 ± 0.1 (10)   |
| Percent of Control                        |           |                        | 99.5              | 100.8             | 101.1             |
| Mean Cell Hemoglobin Concentration (g/dL) | SD 95     | 32.0 ± 0.2 (10)        | 32.2 ± 0.1 (10)   | 32.0 ± 0.1 (10)   | 32.4 ± 0.1 (10)   |
| Percent of Control                        |           |                        | 100.6             | 100.1             | 101.2             |
| Platelets (10 <sup>3</sup> /uL)           | SD 95     | 1308 ± 26 (10)         | 1329 ± 30 (10)    | 1262 ± 35 (10)    | 1301 ± 41 (10)    |
| Percent of Control                        |           |                        | 101.6             | 96.5              | 99.5              |
| White Blood Cells (10 <sup>3</sup> /uL)   | SD 95     | 3.59 ± 0.32 (10)       | 3.02 ± 0.14 (10)  | 2.79 ± 0.33 (10)  | 3.16 ± 0.34 (10)  |
| Percent of Control                        |           |                        | 84.2              | 77.6              | 88.1              |
| Neutrophils (10 <sup>3</sup> /uL)         | SD 95     | 0.54 ± 0.10 (10)       | 0.38 ± 0.03 (10)  | 0.31 ± 0.05 (10)  | 0.41 ± 0.06 (10)  |
| Percent of Control                        |           |                        | 70.2              | 58.1              | 76.9              |

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**Male**

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|   | Phase Day | Treatment Groups (ppm) |                  |                  |                  |
|---|-----------|------------------------|------------------|------------------|------------------|
|   |           | 0                      | 50               | 100              | 200              |
| Total Lymphocytes (10 <sup>3</sup> /uL) | SD 95     | 2.84 ± 0.29 (10)       | 2.48 ± 0.11 (10) | 2.35 ± 0.26 (10) | 2.57 ± 0.27 (10) |
| Percent of Control                      |           |                        | 87.2             | 82.6             | 90.4             |
| Monocytes (10 <sup>3</sup> /uL)         | SD 95     | 0.07 ± 0.01 (10)       | 0.05 ± 0.01 (10) | 0.04 ± 0.01 (10) | 0.06 ± 0.01 (10) |
| Percent of Control                      |           |                        | 65.7             | 51.4             | 82.9             |
| Basophils (10 <sup>3</sup> /uL)         | SD 95     | 0.01 ± 0.00 (10)       | 0.01 ± 0.00 (10) | 0.00 ± 0.00 (10) | 0.01 ± 0.00 (10) |
| Percent of Control                      |           |                        | 100.0            | 37.5             | 62.5             |
| Eosinophils (10 <sup>3</sup> /uL)       | SD 95     | 0.13 ± 0.01 (10)       | 0.12 ± 0.02 (10) | 0.09 ± 0.02 (10) | 0.12 ± 0.02 (10) |
| Percent of Control                      |           |                        | 88.0             | 67.7             | 86.5             |

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**Male**

|   | Phase Day | Treatment Groups (ppm) |                   |
|---|-----------|------------------------|-------------------|
|   |           | 400                    | 800               |
| Hematocrit (%)                            | SD 95     | 51.6 ± 0.3 (10)        | 51.6 ± 0.6 (10)   |
| Percent of Control                        |           | 100.8                  | 100.8             |
| Manual Hematocrit (%)                     | SD 95     | 51.6 ± 0.3 (10)        | 51.4 ± 0.3 (10)   |
| Percent of Control                        |           | 101.2                  | 100.9             |
| Hemoglobin (g/dL)                         | SD 95     | 16.5 ± 0.1 (10)        | 16.5 ± 0.1 (10)   |
| Percent of Control                        |           | 100.9                  | 100.5             |
| Erythrocytes (10 <sup>6</sup> /uL)        | SD 95     | 11.15 ± 0.07 (10)      | 11.12 ± 0.10 (10) |
| Percent of Control                        |           | 100.0                  | 99.7              |
| Reticulocytes (10 <sup>3</sup> /uL)       | SD 95     | 305.6 ± 7.0 (10)       | 306.7 ± 5.5 (10)  |
| Percent of Control                        |           | 99.3                   | 99.7              |
| Mean Cell Volume (fL)                     | SD 95     | 46.3 ± 0.2 (10)        | 46.4 ± 0.2 (10)   |
| Percent of Control                        |           | 100.8                  | 101.0             |
| Mean Cell Hemoglobin (pg)                 | SD 95     | 14.8 ± 0.1 (10)        | 14.8 ± 0.1 (10)   |
| Percent of Control                        |           | 100.7                  | 100.7             |
| Mean Cell Hemoglobin Concentration (g/dL) | SD 95     | 32.1 ± 0.1 (10)        | 32.0 ± 0.2 (10)   |
| Percent of Control                        |           | 100.2                  | 99.9              |
| Platelets (10 <sup>3</sup> /uL)           | SD 95     | 1361 ± 24 (10)         | 1352 ± 29 (10)    |
| Percent of Control                        |           | 104.0                  | 103.3             |
| White Blood Cells (10 <sup>3</sup> /uL)   | SD 95     | 3.08 ± 0.30 (10)       | 2.78 ± 0.33 (10)  |
| Percent of Control                        |           | 85.9                   | 77.5              |
| Neutrophils (10 <sup>3</sup> /uL)         | SD 95     | 0.40 ± 0.06 (10)       | 0.34 ± 0.06 (10)  |
| Percent of Control                        |           | 73.7                   | 62.6              |

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**Male**

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|   | Phase Day | Treatment Groups (ppm) |                  |
|---|-----------|------------------------|------------------|
|   |           | 400                    | 800              |
| Total Lymphocytes (10 <sup>3</sup> /uL) | SD 95     | 2.55 ± 0.23 (10)       | 2.31 ± 0.25 (10) |
| Percent of Control                      |           | 89.6                   | 81.2             |
| Monocytes (10 <sup>3</sup> /uL)         | SD 95     | 0.05 ± 0.01 (10)       | 0.04 ± 0.01 (10) |
| Percent of Control                      |           | 67.1                   | 57.1             |
| Basophils (10 <sup>3</sup> /uL)         | SD 95     | 0.01 ± 0.00 (10)       | 0.00 ± 0.00 (10) |
| Percent of Control                      |           | 62.5                   | 50.0             |
| Eosinophils (10 <sup>3</sup> /uL)       | SD 95     | 0.09 ± 0.02 (10)       | 0.10 ± 0.03 (10) |
| Percent of Control                      |           | 67.7                   | 71.4             |

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**Female**

|   | Phase Day | Treatment Groups (ppm) |                   |                   |                   |
|---|-----------|------------------------|-------------------|-------------------|-------------------|
|   |           | 0                      | 50                | 100               | 200               |
| Hematocrit (%)                            | SD 96     | 50.7 ± 0.5 (10)        | 51.3 ± 0.4 (10)   | 50.6 ± 0.3 (10)   | 51.5 ± 0.2 (10)   |
| Percent of Control                        |           |                        | 101.2             | 99.7              | 101.6             |
| Manual Hematocrit (%)                     | SD 96     | 51.4 ± 0.5 (10)        | 51.8 ± 0.5 (10)   | 51.4 ± 0.3 (10)   | 51.6 ± 0.4 (10)   |
| Percent of Control                        |           |                        | 100.7             | 99.9              | 100.4             |
| Hemoglobin (g/dL)                         | SD 96     | 16.6 ± 0.1 (10)        | 16.7 ± 0.2 (10)   | 16.5 ± 0.1 (10)   | 16.7 ± 0.1 (10)   |
| Percent of Control                        |           |                        | 100.5             | 99.6              | 101.0             |
| Erythrocytes (10 <sup>6</sup> /uL)        | SD 96     | 10.85 ± 0.09 (10)      | 10.99 ± 0.08 (10) | 10.81 ± 0.07 (10) | 10.96 ± 0.05 (10) |
| Percent of Control                        |           |                        | 101.2             | 99.6              | 101.0             |
| Reticulocytes (10 <sup>3</sup> /uL)       | SD 96     | 316.0 ± 12.3 (10)      | 297.9 ± 21.1 (10) | 336.8 ± 30.8 (10) | 328.3 ± 11.9 (10) |
| Percent of Control                        |           |                        | 94.3              | 106.6             | 103.9             |
| Mean Cell Volume (fL)                     | SD 96     | 46.7 ± 0.2 (10)        | 46.7 ± 0.2 (10)   | 46.8 ± 0.1 (10)   | 47.0 ± 0.2 (10)   |
| Percent of Control                        |           |                        | 100.0             | 100.1             | 100.6             |
| Mean Cell Hemoglobin (pg)                 | SD 96     | 15.3 ± 0.1 (10)        | 15.2 ± 0.1 (10)   | 15.2 ± 0.1 (10)   | 15.3 ± 0.0 (10)   |
| Percent of Control                        |           |                        | 99.1              | 99.7              | 99.8              |
| Mean Cell Hemoglobin Concentration (g/dL) | SD 96     | 32.7 ± 0.2 (10)        | 32.4 ± 0.2 (10)   | 32.6 ± 0.1 (10)   | 32.5 ± 0.1 (10)   |
| Percent of Control                        |           |                        | 99.1              | 99.6              | 99.2              |
| Platelets (10 <sup>3</sup> /uL)           | SD 96     | 1176 ± 33 (10)         | 1174 ± 32 (10)    | 1171 ± 46 (10)    | 1259 ± 31 (10)    |
| Percent of Control                        |           |                        | 99.8              | 99.5              | 107.1             |
| White Blood Cells (10 <sup>3</sup> /uL)   | SD 96     | 3.40 ± 0.23 (10)       | 3.70 ± 0.29 (10)  | 2.93 ± 0.25 (10)  | 3.17 ± 0.16 (10)  |
| Percent of Control                        |           |                        | 108.9             | 86.3              | 93.4              |
| Neutrophils (10 <sup>3</sup> /uL)         | SD 96     | 0.43 ± 0.06 (10)       | 0.55 ± 0.10 (10)  | 0.39 ± 0.06 (10)  | 0.37 ± 0.05 (10)  |
| Percent of Control                        |           |                        | 128.9             | 91.1              | 87.1              |

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|   | Phase Day | Treatment Groups (ppm) |                  |                  |                  |
|---|-----------|------------------------|------------------|------------------|------------------|
|   |           | 0                      | 50               | 100              | 200              |
| Total Lymphocytes (10 <sup>3</sup> /uL) | SD 96     | 2.81 ± 0.18 (10)       | 3.05 ± 0.20 (10) | 2.45 ± 0.22 (10) | 2.67 ± 0.11 (10) |
| Percent of Control                      |           |                        | 108.7            | 87.1             | 95.1             |
| Monocytes (10 <sup>3</sup> /uL)         | SD 96     | 0.06 ± 0.01 (10)       | 0.05 ± 0.01 (10) | 0.04 ± 0.01 (10) | 0.06 ± 0.01 (10) |
| Percent of Control                      |           |                        | 87.5             | 62.5             | 103.6            |
| Basophils (10 <sup>3</sup> /uL)         | SD 96     | 0.01 ± 0.00 (10)       | 0.00 ± 0.00 (10) | 0.00 ± 0.00 (10) | 0.01 ± 0.00 (10) |
| Percent of Control                      |           |                        | 60.0             | 80.0             | 140.0            |
| Eosinophils (10 <sup>3</sup> /uL)       | SD 96     | 0.10 ± 0.02 (10)       | 0.05 ± 0.01 (10) | 0.06 ± 0.01 (10) | 0.07 ± 0.01 (10) |
| Percent of Control                      |           |                        | 48.0             | 56.1             | 71.4             |

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|   | Phase Day | Treatment Groups (ppm) |                   |
|---|-----------|------------------------|-------------------|
|   |           | 400                    | 800               |
| Hematocrit (%)                            | SD 96     | 51.2 ± 0.6 (10)        | 50.6 ± 0.4 (10)   |
| Percent of Control                        |           | 101.0                  | 99.8              |
| Manual Hematocrit (%)                     | SD 96     | 51.7 ± 0.4 (10)        | 50.5 ± 0.5 (10)   |
| Percent of Control                        |           | 100.6                  | 98.2              |
| Hemoglobin (g/dL)                         | SD 96     | 16.7 ± 0.2 (10)        | 16.4 ± 0.1 (10)   |
| Percent of Control                        |           | 101.0                  | 98.8              |
| Erythrocytes (10 <sup>6</sup> /uL)        | SD 96     | 10.92 ± 0.13 (10)      | 10.90 ± 0.09 (10) |
| Percent of Control                        |           | 100.7                  | 100.4             |
| Reticulocytes (10 <sup>3</sup> /uL)       | SD 96     | 307.3 ± 17.5 (10)      | 322.5 ± 13.2 (10) |
| Percent of Control                        |           | 97.2                   | 102.0             |
| Mean Cell Volume (fL)                     | SD 96     | 46.9 ± 0.2 (10)        | 46.5 ± 0.1 (10)   |
| Percent of Control                        |           | 100.4                  | 99.4              |
| Mean Cell Hemoglobin (pg)                 | SD 96     | 15.3 ± 0.1 (10)        | 15.0 ± 0.1 (10)   |
| Percent of Control                        |           | 100.4                  | 98.3              |
| Mean Cell Hemoglobin Concentration (g/dL) | SD 96     | 32.7 ± 0.1 (10)        | 32.3 ± 0.1 (10)   |
| Percent of Control                        |           | 99.9                   | 98.9              |
| Platelets (10 <sup>3</sup> /uL)           | SD 96     | 1304 ± 38 (10)         | 1272 ± 33 (10)    |
| Percent of Control                        |           | 110.9                  | 108.1             |
| White Blood Cells (10 <sup>3</sup> /uL)   | SD 96     | 2.85 ± 0.25 (10)       | 2.68 ± 0.20 (10)  |
| Percent of Control                        |           | 83.9                   | 78.8              |
| Neutrophils (10 <sup>3</sup> /uL)         | SD 96     | 0.35 ± 0.03 (10)       | 0.32 ± 0.04 (10)  |
| Percent of Control                        |           | 81.9                   | 75.6              |



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**Female**

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|   | <b>Phase Day</b> | <b>Treatment Groups (ppm)</b> |                  |
|---|------------------|-------------------------------|------------------|
|   |                  | <b>400</b>                    | <b>800</b>       |
| Total Lymphocytes (10 <sup>3</sup> /uL) | SD 96            | 2.40 ± 0.23 (10)              | 2.25 ± 0.17 (10) |
| Percent of Control                      |                  | 85.5                          | 80.1             |
| Monocytes (10 <sup>3</sup> /uL)         | SD 96            | 0.03 ± 0.01 (10)              | 0.04 ± 0.01 (10) |
| Percent of Control                      |                  | 58.9                          | 67.9             |
| Basophils (10 <sup>3</sup> /uL)         | SD 96            | 0.01 ± 0.00 (10)              | 0.00 ± 0.00 (10) |
| Percent of Control                      |                  | 120.0                         | 20.0             |
| Eosinophils (10 <sup>3</sup> /uL)       | SD 96            | 0.06 ± 0.01 (10)              | 0.06 ± 0.02 (10) |
| Percent of Control                      |                  | 61.2                          | 62.2             |

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#### LEGEND

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Values given as mean  $\pm$  SEM (N) with Percent of Control calculated by (dosed group mean / control group mean) x 100

SD – Study Day

Statistical analysis performed by Jonckheere (trend) and Shirley or Dunn (pairwise) tests.

Statistical significance for the control group indicates a significant trend test

Statistical significance for a treatment group indicates a significant pairwise test compared to the vehicle control group

\* Statistically significant at  $P \leq 0.05$

\*\* Statistically significant at  $P \leq 0.01$

**\*\* END OF REPORT \*\***