**Summary of Water Modeling of Oxydemeton methyl BTM and the USEPA Standard Pond**

Estimated Environmental Concentrations for Oxydemeton methyl BTM are presented in Table 1 for the USEPA standard pond with the PAappleSTD\_V2 field scenario. A graphical presentation of the year-to-year peaks is presented in Figure 1. These values were generated with the Pesticide Water Calculator (PWC), Version 1.52. Critical input values for the model are summarized in Tables 2 and 3.

This model estimates that about 0.38% of Oxydemeton methyl BTM applied to the field eventually reaches the water body. The main mechanism of transport from the field to the water body is by runoff (73.5% of the total transport), followed by spray drift (26.5%) and erosion (0.03%).

In the water body, pesticide dissipates with an effective water column half-life of 5.2 days. (This value does not include dissipation by transport to the benthic region; it includes only processes that result in removal of pesticide from the complete system.) The main source of dissipation in the water column is metabolism (effective average half-life = 5.9 days) followed by hydrolysis (46 days), photolysis (19839.4 days), and volatilization (7.601521E+08 days).

In the benthic region, pesticide dissipates (6.4 days). The main source of dissipation in the benthic region is metabolism (effective average half-life = 6.9 days) followed by hydrolysis (90.7 days). The pesticide is about evenly distributed in the benthic region between the pore water and sorbed to sediment.

**Table 1. Estimated Environmental Concentrations (ppb) for Oxydemeton methyl BTM.**

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 5.17 |
| 4-day Avg (1-in-10 yr) | 4.38 |
| 21-day Avg (1-in-10 yr) | 2.32 |
| 60-day Avg (1-in-10 yr) | 0.949 |
| 365-day Avg (1-in-10 yr) | 0.156 |
| Entire Simulation Mean | 0.595E-01 |

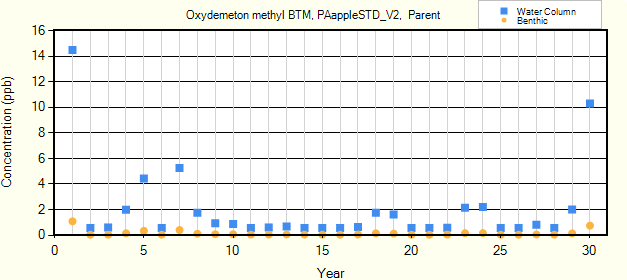
**Table 2. Summary of Model Inputs for Oxydemeton methyl BTM.**

|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1 |
| Koc (ml/g) | 9 |
| Water Half-Life (days) @ 20 °C | 3 |
| Benthic Half-Life (days) @ 20 °C | 3.5 |
| Photolysis Half-Life (days) @ 40 °Lat | 137 |
| Hydrolysis Half-Life (days) | 46 |
| Soil Half-Life (days) @ 20 °C | 3.2 |
| Foliar Half-Life (days) | 3.6 |
| Molecular Weight | 246.3 |
| Vapor Pressure (torr) | 2.85e-5 |
| Solubility (mg/l) | 50000 |
| Henry's Constant | 1.5e-11 |

**Table 3. Application Schedule for Oxydemeton methyl BTM.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Above Crop (Foliar) | 1.121 | 0.99 | 0.01 |

**Figure 1. Yearly Peak Concentrations**



**Summary of Water Modeling of Oxydemeton methyl BTM and the USEPA Standard Reservoir**

Estimated Environmental Concentrations for Oxydemeton methyl BTM are presented in Table 1 for the USEPA standard reservoir with the PAappleSTD\_V2 field scenario. A graphical presentation of the year-to-year peaks is presented in Figure 1. These values were generated with the Pesticide Water Calculator (PWC), Version 1.52. Critical input values for the model are summarized in Tables 2 and 3.

This model estimates that about 0.31% of Oxydemeton methyl BTM applied to the field eventually reaches the water body. The main mechanism of transport from the field to the water body is by runoff (90.1% of the total transport), followed by spray drift (9.88%) and erosion (0.03%).

In the water body, pesticide dissipates with an effective water column half-life of 5.0 days. (This value does not include dissipation by transport to the benthic region; it includes only processes that result in removal of pesticide from the complete system.) The main source of dissipation in the water column is metabolism (effective average half-life = 5.9 days) followed by hydrolysis (46 days), washout (138.5 days), photolysis (27180 days), and volatilization (1.041408E+09 days).

In the benthic region, pesticide dissipates (6.4 days). The main source of dissipation in the benthic region is metabolism (effective average half-life = 6.9 days) followed by hydrolysis (90.7 days). The pesticide is about evenly distributed in the benthic region between the pore water and sorbed to sediment.

**Table 1. Estimated Environmental Concentrations (ppb) for Oxydemeton methyl BTM.**

|  |  |
| --- | --- |
| Peak (1-in-10 yr) | 11.6 |
| 4-day Avg (1-in-10 yr) | 9.77 |
| 21-day Avg (1-in-10 yr) | 5.05 |
| 60-day Avg (1-in-10 yr) | 2.01 |
| 365-day Avg (1-in-10 yr) | 0.330 |
| Entire Simulation Mean | 0.111 |

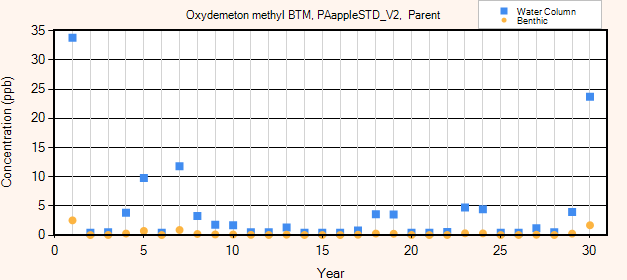
**Table 2. Summary of Model Inputs for Oxydemeton methyl BTM.**

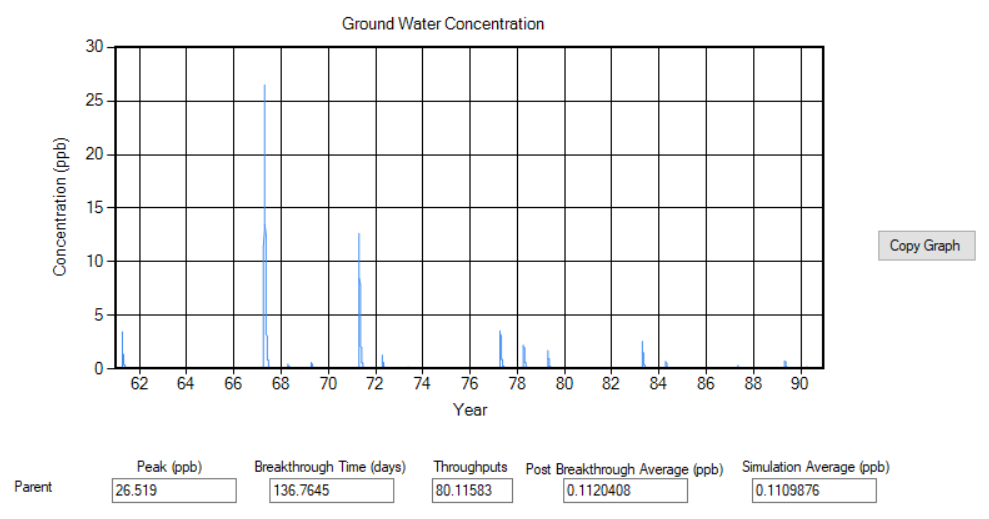
|  |  |
| --- | --- |
| Scenario | PAappleSTD\_V2 |
| Cropped Area Fraction | 1.0 |
| Koc (ml/g) | 9 |
| Water Half-Life (days) @ 20 °C | 3 |
| Benthic Half-Life (days) @ 20 °C | 3.5 |
| Photolysis Half-Life (days) @ 40 °Lat | 137 |
| Hydrolysis Half-Life (days) | 46 |
| Soil Half-Life (days) @ 20 °C | 3.2 |
| Foliar Half-Life (days) | 3.6 |
| Molecular Weight | 246.3 |
| Vapor Pressure (torr) | 2.85e-5 |
| Solubility (mg/l) | 50000 |
| Henry's Constant | 1.5e-11 |

**Table 3. Application Schedule for Oxydemeton methyl BTM.**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Date (Mon/Day) | Type | Amount (kg/ha) | Eff. | Drift |
| 4/15 | Above Crop (Foliar) | 1.121 | 0.99 | 0.01 |

**Figure 1. Yearly Peak Concentrations**



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