

## **Instructions for using the workbook**

The information required for the exposure assessment needs to be entered in the worksheet "**Data entry**".

In the following worksheets formulas calculate the exposure values automatically

Worksheet "**Operator Outdoor Spray AOEM**" is to be for outdoor spray applications. PPE options can be selected in this worksheet

Worksheet "**Operator Granules**" is for granular applications. Currently the calculator does not allow operator exposure for indoor applications. PPE options can be selected in this worksheet

Worksheets "**Resident exposure**" and "**Bystander exposure**" are only relevant for outdoor applications

Worksheet "**Recreational Exposure**" is only applicable for golf course, turf, other sports lawns or amenity turf/grassland areas where members of the public are likely to have access

The combined results of the exposure assessment are presented in worksheet "**Summary**"

This calculator should be used in conjunction with the **Guidance on the Assessment of Exposure for Operators, Workers, Residents and Bystanders in Risk Assessment for Plant Protection Products**

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Note: Some drop-down menus depend on others. To avoid errors, please fill-in from top to bottom

|  |   |
|--|---|
| Substance name   | Captan  |
| Product name   | Merpan Spsuitkorrel   |
| Reference value non acutely toxic active substance (RVNAS) | 0,1 mg/kg bw/day  |
| Reference value acutely toxic active substance (RVAAS)     | 0,1 mg/kg bw/day  |
| Crop type  | Pome fruit  |
| <b>Substance properties</b>                                |   |
| Formulation type   | Wettable granules, soluble granules   |
| Minimum volume water for application (liquids)             | 500 L/ha  |
| Maximum application rate of active substance               | 1,8 kg a.s. /ha   |
| 50% Dissipation Time DT50                                  | 30 days   |
| Initial Dislodgeable Foliar Residue                        | 3 µg/cm2 of foliage/kg a.s. applied/ha  |
| Dermal absorption of product                               | 1,00%   |
| Dermal absorption of in-use dilution                       | 10,00%  |
| Oral absorption of active substance                        | 81,00%  |
| Inhalation absorption of active substance                  | 100,00%   |
| Vapour pressure of active substance                        | low volatile substances having a vapour pressure of <math><5 \cdot 10^{-3}</math>Pa |
| <b>Scenario</b>  |   |
| Indoor or Outdoor application                              | Outdoor   |
| Application method   | Upward spraying   |
| Application equipment                                      | Vehicle-mounted   |
| Buffer strip   | 5 m   |
| Number of applications                                     | 10  |
| Interval between multiple applications                     | 7 days  |
| Season (upward spraying orchards only)                     | early (without leaves)  |

### Exposure assessment

|                       |   |   |                                  |                               |   |
|-----------------------|---|---|----------------------------------|-------------------------------|---|
| Substance             | Captan  | Formulation = Wettable granules, soluble granules | Application rate-1,8 kg a.s. /ha | Spray dilution = 3,6 g a.s./l | Vapour pressure = low volatile substances having a vapour pressure of <math><5 \cdot 10^{-3}</math>Pa |
| Scenario              | Pome fruit early (without leaves) / Outdoor / Upward spraying / Vehicle-mounted |   |                                  | Buffer = 5                    | Number applications = 10, Application interval = 7 days   |
| Percentage Absorption | Dermal for product = 1  | Dermal for in use dilution = 10                   | Oral = 81                        | Inhalation = 100              |   |
| RVNAS                 | 0,1 mg/kg bw/day  |   | RVAAS                            | 0,1 mg/kg bw/day              |   |
| DFR                   | 3 µg a.s./cm <sup>2</sup> per kg a.s./ha  |   | DT50                             | 30 days                       |   |

|  |  |  |            |                   |
|--|--|--|------------|-------------------|
| <b>Operator Model</b>                  | Mixing, loading and application AOEM       |  |            |                   |
| Potential exposure                     | Longer term systemic exposure mg/kg bw/day | 0,3642   | % of RVNAS | 364,19%           |
|  | Acute systemic exposure mg/kg bw/day       | 1,9933   | % of RVAAS | 1993,32%          |
| Mixing and Loading                     | Gloves = No                                | Clothing = Work wear - arms, body and legs covered | RPE = None | Soluble bags = No |
| Application                            | Gloves = No                                | Clothing = Work wear - arms, body and legs covered | RPE = None | Closed cabin = No |
| Exposure (including PPE options above) | Longer term systemic exposure mg/kg bw/day | 0,1018   | % of RVNAS | 101,76%           |
|  | Acute systemic exposure mg/kg bw/day       | 0,4516   | % of RVAAS | 451,55%           |

|  |  |        |            |          |
|--|--|--------|------------|----------|
| <b>Worker - Searching, reaching, picking</b> | Potential exposure mg/kg bw/day          | 8,6957 | % of RVNAS | 8695,68% |
|  | Working clothing mg/kg bw/day            | 1,7391 | % of RVNAS | 1739,14% |
|  | Working clothing and gloves mg/kg bw/day | 0,8696 | % of RVNAS | 869,57%  |

|                         |   |        |            |         |
|-------------------------|---|--------|------------|---------|
| <b>Resident - child</b> | Spray drift (75th percentile) mg/kg bw/day              | 0,0505 | % of RVNAS | 50,45%  |
|                         | Vapour (75th percentile) mg/kg bw/day                   | 0,0011 | % of RVNAS | 1,07%   |
|                         | Surface deposits (75th percentile) mg/kg bw/day         | 0,0576 | % of RVNAS | 57,58%  |
|                         | Entry into treated crops (75th percentile) mg/kg bw/day | 0,1630 | % of RVNAS | 163,04% |
|                         | All pathways (mean) mg/kg bw/day                        | 0,2065 | % of RVNAS | 206,47% |
| <b>Resident - adult</b> | Spray drift (75th percentile) mg/kg bw/day              | 0,0278 | % of RVNAS | 27,83%  |
|                         | Vapour (75th percentile) mg/kg bw/day                   | 0,0002 | % of RVNAS | 0,23%   |
|                         | Surface deposits (75th percentile) mg/kg bw/day         | 0,0186 | % of RVNAS | 18,56%  |
|                         | Entry into treated crops (75th percentile) mg/kg bw/day | 0,0906 | % of RVNAS | 90,58%  |
|                         | All pathways (mean) mg/kg bw/day                        | 0,1044 | % of RVNAS | 104,40% |

|                          |   |        |            |         |
|--------------------------|---|--------|------------|---------|
| <b>Bystander - child</b> | Spray drift (95th percentile) mg/kg bw/day      | 0,1155 | % of RVAAS | 115,50% |
|                          | Vapour (95th percentile) mg/kg bw/day           | 0,0011 | % of RVAAS | 1,07%   |
|                          | Surface deposits (95th percentile) mg/kg bw/day | 0,1388 | % of RVAAS | 138,85% |

**Exposure assessment**

|                              |   |                  |            |                  |
|------------------------------|---|------------------|------------|------------------|
|                              | Entry into treated crops (95th percentile) mg/kg bw/day | 0,1630           | % of RVAAS | 163,04%          |
| <b>Bystander - adult</b>     | Spray drift (95th percentile) mg/kg bw/day              | 0,0637           | % of RVAAS | 63,73%           |
|                              | Vapour (95th percentile) mg/kg bw/day                   | 0,0002           | % of RVAAS | 0,23%            |
|                              | Surface deposits (95th percentile) mg/kg bw/day         | 0,0464           | % of RVAAS | 46,44%           |
|                              | Entry into treated crops (95th percentile) mg/kg bw/day | 0,0906           | % of RVAAS | 90,58%           |
| <b>Recreational Exposure</b> |   | Child % of RVNAS |            | Adult % of RVNAS |

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**Operator exposure for Merpan Sputkorrel outdoor spray applications**

|                                      |                                     |                        |
|--------------------------------------|-------------------------------------|------------------------|
| Application rate of active substance | 1,8 kg a.s./ha                      | <i>i_AppRate</i>       |
| Assumed area treated                 | 10 ha/day                           | <i>d_AreaTreated</i>   |
| Amount of active substance applied   | 18 kg a.s./day                      | <i>i_AmountAS</i>      |
| Dermal absorption of the product     | 1,00%                               | <i>i_AbsorpProduct</i> |
| Dermal absorption of in-use dilution | 10,00%                              | <i>i_AbsorInuse</i>    |
| Formulation type                     | Wettable granules, soluble granules |                        |
| Indoor or Outdoor application        | Outdoor                             |                        |
| Application method                   | Upward spraying                     |                        |
| Application equipment                | Vehicle-mounted                     |                        |
| Season                               | early (without leaves)              |                        |

|                          | Exposure values   | µg exposure/day mixed and loaded        |                          | Reference           | Comment                      |
|--------------------------|---|---|--------------------------|---------------------|------------------------------|
|                          |   | 75 <sup>th</sup> centile                | 95 <sup>th</sup> centile |                     |                              |
| Mixing and loading       | Hands   | 12132                                   | 59352                    | AOEM                |                              |
|                          | Body  | 9420                                    | 37215                    | AOEM                |                              |
|                          | Head  | 117                                     | 29876                    | AOEM                |                              |
|                          | Protected hands (gloves)  | 108                                     | 566                      | AOEM                |                              |
|                          | Protected body (workwear or protective garment and sturdy footwear) | 241                                     | 1120                     | AOEM                |                              |
|                          | Protected head (hood and face shield)                               | 2                                       | 1692                     | AOEM                |                              |
|                          | Inhalation  | 88                                      | 278                      | AOEM                |                              |
|                          | <b>Protective Equipment</b>   | Select for inclusion                    |                          | Penetration factor  | Inhalation Protection factor |
|                          | Gloves  | No                                      |                          |                     |                              |
|                          | Clothing  | Work wear - arms, body and legs covered |                          | Incl. in AOEM model |                              |
| Head and respiratory PPE | None  |   | 1                        | 1                   |                              |
| Water soluble bag        | No  |   | 1                        |                     |                              |

|             | Exposure values   | µg exposure/day applied                 |                                      | Reference           | Comment  |
|-------------|---|---|--------------------------------------|---------------------|--|
|             |   | 75 <sup>th</sup> centile                | 95 <sup>th</sup> centile             |                     |  |
| Application | Hands   | 32743                                   | 112262                               | AOEM                | No data available for a drift reduction scenario |
|             | Body  | 158611                                  | 925492                               | AOEM                |  |
|             | Head  | 20844                                   | 127930                               | AOEM                |  |
|             | Protected hands (gloves)  | 633                                     | 16550                                | AOEM                |  |
|             | Protected body (workwear or protective garment and sturdy footwear) | 2069                                    | 4045                                 | AOEM                |  |
|             | Inhalation  | 327                                     | 1488                                 | AOEM                |  |
|             | <b>Protective Equipment</b>   | Select for inclusion                    |                                      | Penetration factor  | Inhalation Protection factor                     |
|             | Gloves  | No                                      |                                      |                     |  |
|             | Clothing  | Work wear - arms, body and legs covered |                                      | Incl. in AOEM model |  |
|             | Head and respiratory PPE  | None                                    |                                      | 1                   | 1  |
| Closed cab  | No  |   | vehicle mounted upward spraying only |                     |  |

| 1. Total   |                 |              |  |
|--|-----------------|--------------|--|
|  | Without RPE/PPE | With RPE/PPE |  |
| Longer term  |                 |              |  |
| Total systemic exposure from mixing, loading and application (mg a.s./day)                     | 21,8515185      | 6,1055952    |  |
| Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day) | 0,3641920       | 0,1017599    |  |
| % of RVNAS   | 364,19%         | 101,76%      |  |
| Acute  |                 |              |  |

|  |             |            |  |
|--|-------------|------------|--|
| Total systemic exposure from mixing, loading and application (mg a.s./day) | 119,5989167 | 27,0932588 |  |
|--|-------------|------------|--|

|  |           |           |  |
|--|-----------|-----------|--|
| Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day) | 1,9933153 | 0,4515543 |  |
| % of RVAAS   | 1993,32%  | 451,55%   |  |

## 2. Longer term exposure

### 2.1 Mixing and loading

|   | Systemic exposure [ $\mu\text{g a.s. /day}$ ] | Systemic exposure [ $\mu\text{g a.s./kg bw/day}$ ] | Formula   |
|---|---|--|---|
| <b>Without RPE/PPE</b>                  |   |  |   |
| Hands                                   | 121,3183326                                   | 2,0219722  | $D15^*i\_AbsorpProduct$                                 |
| Body                                    | 94,2016917                                    | 1,5700282  | $D16^*i\_AbsorpProduct$                                 |
| Head                                    | 1,1688062                                     | 0,0194801  | $D17^*i\_AbsorpProduct$                                 |
| Inhalation                              | 88,2590193                                    | 1,4709837  | $D21^*i\_AbsorpInhalation$                              |
| Sum                                     | 304,9478498                                   | 5,0824642  |   |
| <b>With RPE/PPE (as selected above)</b> |   |  |   |
| Hands                                   | 121,3183326                                   | 2,0219722  | $D18^*i\_AbsorpProduct$                                 |
| Body                                    | 2,4101601                                     | 0,0401693  | $D19^*i\_AbsorpProduct$ or $D15^*i\_AbsorpProduct^*F24$ |
| Head                                    | 1,1688062                                     | 0,0194801  | $D20^*i\_AbsorpProduct$ or $D17^*i\_AbsorpProduct^*F25$ |
| Inhalation                              | 88,2590193                                    | 1,4709837  | $D21^*i\_AbsorpInhalation^*G25$                         |
| Sum                                     | 213,1563182                                   | 3,5526053  |   |
| Water soluble bag                       | 213,1563182                                   | 3,5526053  | $C70^*F26$  |

### 2.2 Application

|   | Systemic exposure [ $\mu\text{g a.s. /day}$ ] | Systemic exposure [ $\mu\text{g a.s./kg bw/day}$ ] | Formula   |
|---|---|--|---|
| <b>Without RPE/PPE</b>                  |   |  |   |
| Hands                                   | 3274,2964659                                  | 54,5716078   | $D30^*i\_Absorpnuse$                              |
| Body                                    | 15861,0708507                                 | 264,3511808  | $D31^*i\_Absorpnuse$                              |
| Head                                    | 2084,4069142                                  | 34,7401152   | $D32^*i\_Absorpnuse$                              |
| Inhalation                              | 326,7963944                                   | 5,4466066  | $D35^*i\_AbsorpInhalation$                        |
| Sum                                     | 21546,5706252                                 | 359,1095104  |   |
| <b>With RPE/PPE (as selected above)</b> |   |  |   |
| Hands                                   | 3274,2964659                                  | 54,5716078   | $D33^*i\_Absorpnuse$                              |
| Body                                    | 206,9390758                                   | 3,4489846  | $D34^*i\_Absorpnuse$ or $D31^*i\_Absorpnuse^*F38$ |
| Head                                    | 2084,4069142                                  | 34,7401152   | $D32^*i\_Absorpnuse^*F39$                         |
| Inhalation                              | 326,7963944                                   | 5,4466066  | $D35^*i\_Absorpnuse^*G39$                         |
| Sum                                     | 5892,4388503                                  | 98,2073142   |   |

## 3. Acute exposure

### 3.1 Mixing and loading

|   | Systemic exposure [ $\mu\text{g a.s. /day}$ ] | Systemic exposure [ $\mu\text{g a.s./kg bw/day}$ ] | Formula   |
|---|---|--|---|
| <b>Without RPE/PPE</b>                  |   |  |   |
| Hands                                   | 593,5213043                                   | 9,8920217  | $E15^*i\_AbsorpProduct$                                 |
| Body                                    | 372,1487660                                   | 6,2024794  | $E16^*i\_AbsorpProduct$                                 |
| Head                                    | 298,7600374                                   | 4,9793340  | $E17^*i\_AbsorpProduct$                                 |
| Inhalation                              | 278,0240595                                   | 4,6337343  | $E21^*i\_AbsorpInhalation$                              |
| Sum                                     | 1542,4541672                                  | 25,7075695   |   |
| <b>With RPE/PPE (as selected above)</b> |   |  |   |
| Hands                                   | 593,5213043                                   | 9,8920217  | $E18^*i\_AbsorpProduct$                                 |
| Body                                    | 11,1988262                                    | 0,1866471  | $E19^*i\_AbsorpProduct$ or $E16^*i\_AbsorpProduct^*F24$ |
| Head                                    | 298,7600374                                   | 4,9793340  | $E20^*i\_AbsorpProduct$ or $E17^*i\_AbsorpProduct^*F25$ |
| Inhalation                              | 278,0240595                                   | 4,6337343  | $E21^*i\_AbsorpInhalation^*G25$                         |
| Sum                                     | 1181,5042274                                  | 19,6917371   |   |
| Water soluble bag                       | 1181,5042274                                  | 19,6917371   | $C104^*F26$   |

### 2.2 Application

|                        | Systemic exposure [ $\mu\text{g a.s. /day}$ ] | Systemic exposure [ $\mu\text{g a.s./kg bw/day}$ ] | Formula                    |
|------------------------|---|--|----------------------------|
| <b>Without RPE/PPE</b> |   |  |                            |
| Hands                  | 11226,1930205                                 | 187,1032170  | $E30^*i\_Absorpnuse$       |
| Body                   | 92549,1650644                                 | 1542,4860844                                       | $E31^*i\_Absorpnuse$       |
| Head                   | 12793,0030994                                 | 213,2167183  | $E32^*i\_Absorpnuse$       |
| Inhalation             | 1488,1013309                                  | 24,8016888   | $E35^*i\_AbsorpInhalation$ |

|                                  |                |              |   |
|----------------------------------|----------------|--------------|---|
| Sum                              | 118056,4625151 | 1967,6077086 |   |
| With RPE/PPE (as selected above) |                |              |   |
| Hands                            | 11226,1930205  | 187,1032170  | <i>E33*i_Absorpnuse</i>                         |
| Body                             | 404,4571387    | 6,7409523    | <i>E34*i_Absorpnuse or E31*i_Absorpnuse*F38</i> |
| Head                             | 12793,0030994  | 213,2167183  | <i>E32*i_Absorpnuse*F39</i>                     |
| Inhalation                       | 1488,1013309   | 24,8016888   | <i>E35*i_Absorpnhalation*G39</i>                |
| Sum                              | 25911,7545894  | 431,8625765  |   |

**Operator exposure for Merpan Sputikorrel granular applications**

|                                      |  |                        |
|--------------------------------------|--|------------------------|
| Application rate of active substance | 1,8 kg a.s./ha   | <i>i_AppRate</i>       |
| Assumed area treated                 | 10 ha/day  | <i>d_AreaTreated</i>   |
| Amount of active substance applied   | 18 kg a.s./day   | <i>i_AmountAS</i>      |
| Dermal absorption of the product     | 1,00%  | <i>i_AbsorpProduct</i> |
| Dermal absorption of in-use dilution | 10,00%   | <i>i_AbsorInuse</i>    |
| Formulation type                     | Wettable granules, soluble granules                                    |                        |
| Indoor or Outdoor application        | Outdoor <b>This sheet is only to be used for granular applications</b> |                        |
| Application method                   | Upward spraying  |                        |
| Application equipment                | Vehicle-mounted  |                        |

|                    | Exposure values             | mg exposure/kg a.s. mixed and loaded |                          | Reference          | Comment  |
|--------------------|-----------------------------|--------------------------------------|--------------------------|--------------------|--|
|                    |                             | 75 <sup>th</sup> centile             | 95 <sup>th</sup> centile |                    |  |
| Mixing and loading | Hands                       | #N/A                                 | #N/A                     | #N/A               | #N/A   |
|                    | Body                        | #N/A                                 | #N/A                     | #N/A               | #N/A   |
|                    | Inhalation                  | #N/A                                 | #N/A                     | #N/A               | #N/A   |
|                    | <b>Protective Equipment</b> | Choose item                          |                          | Penetration factor |  |
|                    | Gloves                      | Chemical resistant gloves            |                          |                    | Protection for granules exposure is based on measured values |
|                    | Body PPE                    | Certified protective coverall        |                          |                    |  |
|                    | RPE                         | None                                 |                          | 1                  |  |

|             | Exposure values             | mg exposure/kg a.s. applied   |                          | Reference          | Comment  |
|-------------|-----------------------------|-------------------------------|--------------------------|--------------------|--|
|             |                             | 75 <sup>th</sup> centile      | 95 <sup>th</sup> centile |                    |  |
| Application | Hands                       | #N/A                          | #N/A                     | #N/A               | #N/A   |
|             | Body                        | #N/A                          | #N/A                     | #N/A               | #N/A   |
|             | Inhalation                  | #N/A                          | #N/A                     | #N/A               | #N/A   |
|             | <b>Protective Equipment</b> | Choose item                   |                          | Penetration factor |  |
|             | Gloves                      | Chemical resistant gloves     |                          |                    | Protection for granules exposure is based on measured values |
|             | Body PPE                    | Certified protective coverall |                          |                    |  |
|             | RPE                         | FP1, P1 and similar           |                          | 0,25               |  |

**1. Total**

|  | Without RPE/PPE | With RPE/PPE |
|--|-----------------|--------------|
| <b>Longer term</b>   |                 |              |
| Total systemic exposure from mixing, loading and application (mg a.s./day)                     | #N/A            | #N/A         |
| Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day) | #N/A            | #N/A         |
| % of RVNAS   | #N/A            | #N/A         |
| <b>Acute</b>   |                 |              |
| Total systemic exposure from mixing, loading and application (mg a.s./day)                     | #N/A            | #N/A         |



|  |      |      |  |
|--|------|------|--|
| Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day) | #N/A | #N/A |  |
| % of RVAAS   | #N/A | #N/A |  |

**2. Longer term exposure**

**2.1 Mixing and loading**

|   | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula                                   |
|---|----------------------------------|---------------------------------------|---|
| <b>Without RPE/PPE</b>                  |                                  |                                       |   |
| Hands                                   | #N/A                             | #N/A                                  | $D14*100*i\_AmountAS*i\_AbsorpProduct$    |
| Body                                    | #N/A                             | #N/A                                  | $D15*100*i\_AmountAS*i\_AbsorpProduct$    |
| Inhalation                              | #N/A                             | #N/A                                  | $D16*i\_AmountAS*i\_AbsorpInhalation$     |
| Sum                                     | #N/A                             | #N/A                                  |   |
| <b>With RPE/PPE (as selected above)</b> |                                  |                                       |   |
| Hands                                   | #N/A                             | #N/A                                  | $D14*i\_AmountAS*i\_AbsorpProduct$        |
| Body                                    | #N/A                             | #N/A                                  | $D15*i\_AmountAS*i\_AbsorpProduct$        |
| Inhalation                              | #N/A                             | #N/A                                  | $D16*i\_AmountAS*i\_AbsorpInhalation*F20$ |
| Sum                                     | #N/A                             | #N/A                                  |   |

**2.2 Application**

|   | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula                                   |
|---|----------------------------------|---------------------------------------|---|
| <b>Without RPE/PPE</b>                  |                                  |                                       |   |
| Hands                                   | #N/A                             | #N/A                                  | $D25*100*i\_AmountAS*i\_AbsorpInuse$      |
| Body                                    | #N/A                             | #N/A                                  | $D26*100*i\_AmountAS*i\_AbsorpInuse$      |
| Inhalation                              | #N/A                             | #N/A                                  | $D27*i\_AmountAS*i\_AbsorpInhalation$     |
| Sum                                     | #N/A                             | #N/A                                  |   |
| <b>With RPE/PPE (as selected above)</b> |                                  |                                       |   |
| Hands                                   | #N/A                             | #N/A                                  | $D25*i\_AmountAS*i\_AbsorpInuse$          |
| Body                                    | #N/A                             | #N/A                                  | $D26*i\_AmountAS*i\_AbsorpInuse$          |
| Inhalation                              | #N/A                             | #N/A                                  | $D27*i\_AmountAS*i\_AbsorpInhalation*F31$ |
| Sum                                     | #N/A                             | #N/A                                  |   |

**3. Acute exposure**

**3.1 Mixing and loading**

|   | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula                                   |
|---|----------------------------------|---------------------------------------|---|
| <b>Without RPE/PPE</b>                  |                                  |                                       |   |
| Hands                                   | #N/A                             | #N/A                                  | $E14*100*i\_AmountAS*i\_AbsorpProduct$    |
| Body                                    | #N/A                             | #N/A                                  | $E15*100*i\_AmountAS*i\_AbsorpProduct$    |
| Inhalation                              | #N/A                             | #N/A                                  | $E16*i\_AmountAS*i\_AbsorpInhalation$     |
| Sum                                     | #N/A                             | #N/A                                  |   |
| <b>With RPE/PPE (as selected above)</b> |                                  |                                       |   |
| Hands                                   | #N/A                             | #N/A                                  | $E14*100*i\_AmountAS*i\_AbsorpProduct$    |
| Body                                    | #N/A                             | #N/A                                  | $E15*100*i\_AmountAS*i\_AbsorpProduct$    |
| Inhalation                              | #N/A                             | #N/A                                  | $E16*i\_AmountAS*i\_AbsorpInhalation*F20$ |
| Sum                                     | #N/A                             | #N/A                                  |   |

**3.2 Application**

|   | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula                               |
|---|----------------------------------|---------------------------------------|---------------------------------------|
| <b>Without RPE/PPE</b>                  |                                  |                                       |                                       |
| Hands                                   | #N/A                             | #N/A                                  | $E25*100*i\_AmountAS*i\_AbsorpInuse$  |
| Body                                    | #N/A                             | #N/A                                  | $E25*100*i\_AmountAS*i\_AbsorpInuse$  |
| Inhalation                              | #N/A                             | #N/A                                  | $E26*i\_AmountAS*i\_AbsorpInhalation$ |
| Sum                                     | #N/A                             | #N/A                                  |                                       |
| <b>With RPE/PPE (as selected above)</b> |                                  |                                       |                                       |
| Hands                                   | #N/A                             | #N/A                                  | $E25*100*i\_AmountAS*i\_AbsorpInuse$  |

|            |      |      |  |
|------------|------|------|--|
| Body       | #N/A | #N/A | $E26*100*i\_AmoutAS*i\_Absorplnuse$      |
| Inhalation | #N/A | #N/A | $E27*i\_AmoutAS*i\_Absorplnhalation*F31$ |
| Sum        | #N/A | #N/A |  |

## Worker exposure from residues on foliage for Merpan Spsitkorrel

|  |                              |                        |
|--|------------------------------|------------------------|
| Crop type  | Pome fruit                   |                        |
| Indoor or outdoor  | Outdoor                      |                        |
| Application method   | Upward spraying              |                        |
| Application equipment  | Vehicle-mounted              |                        |
| Worker's task  | Searching, reaching, picking |                        |
| Main body parts in contact with foliage                            | Hand and body                |                        |
| Application rate of active substance                               | 1,8 kg a.s./ha               | <i>i_AppRate</i>       |
| Number of applications   | 10                           | <i>i_AppNo</i>         |
| Interval between multiple applications                             | 7 days                       | <i>i_AppInt</i>        |
| Half-life of active substance                                      | 30 days                      | <i>d_HalfLifeAS</i>    |
| Multiple application factor  | 5,4                          | <i>d_MAF</i>           |
| Dermal absorption of the product                                   | 1,00%                        | <i>i_AbsorpProduct</i> |
| Dermal absorption of the in-use dilution                           | 10,00%                       | <i>i_Absorplnuse</i>   |
| Dislodgeable foliar residue ( <i>i_AppRate</i> * <i>i_DFR</i> )    | 5,4 µg a.s./cm <sup>2</sup>  | <i>d_DFR</i>           |
| Working hours  | 8 hr                         | <i>d_WorkHr</i>        |
| Dermal transfer coefficient - Total potential exposure             | 22500 cm <sup>2</sup> /hr    | <i>d_DermTcUCV</i>     |
| Dermal transfer coefficient - arms, body and legs covered          | 4500 cm <sup>2</sup> /hr     | <i>d_DermTcCV1</i>     |
| Dermal transfer coefficient - hands, arms, body and legs covered   | 2250 cm <sup>2</sup> /hr     | <i>d_DermTcCV2</i>     |
| Inhalation transfer coefficient for automated applications         | NA ha/hr*10 <sup>(-3)</sup>  | <i>d_InhalTcAut</i>    |
| Inhalation transfer coefficient for cutting ornamentals            | NA ha/hr*10 <sup>(-3)</sup>  | <i>d_InhalTcCut</i>    |
| Inhalation transfer coefficient for sorting / bundling ornamentals | NA ha/hr*10 <sup>(-3)</sup>  | <i>d_InhalTcSort</i>   |

### 1. Total

|   | Potential exposure | Work wear - arms, body and legs covered | Working wear and gloves | Comments |
|---|--------------------|---|-------------------------|----------|
| Total systemic exposure (mg a.s./day)                     | 521,7410833        | 104,3482167                             | 52,1741083              |          |
| Total systemic exposure per kg body weight (mg/kg bw/day) | 8,6956847          | 1,7391369                               | 0,8695685               |          |
| % of RVNAS  | 8695,68%           | 1739,14%                                | 869,57%                 |          |

### 2. Details

|  | Systemic exposure |                     | Formula  | Comments                  |
|--|-------------------|---------------------|--|---------------------------|
|  | [mg a.s. /day]    | [mg a.s./kg bw/day] |  |                           |
| Dermal - Potential                               | 521,7410833       | 8,6956847           | <i>d_DermTcUCV</i> * <i>d_WorkHr</i> * <i>i_DFR</i> * <i>i_MAF</i> /1000* <i>i_Absorplnuse</i> |                           |
| Dermal - Work wear - arms, body and legs covered | 104,3482167       | 1,7391369           | <i>d_DermTcCV1</i> * <i>d_WorkHr</i> * <i>d_DFR</i> * <i>d_MAF</i> /1000* <i>i_Absorplnuse</i> |                           |
| Dermal - Working wear and gloves                 | 52,1741083        | 0,8695685           | <i>d_DermTcCV2</i> * <i>d_WorkHr</i> * <i>d_DFR</i> * <i>d_MAF</i> /1000* <i>i_Absorplnuse</i> |                           |
| Inhalation                                       |                   |                     |  | Na for outdoor activities |



Resident exposure for Merpan Sputtkorrel

|   |  |                          |
|---|--|--------------------------|
| Croptype  | Pome fruit   |                          |
| Application method  | Upward spraying  |                          |
| Application equipment   | Vehicle-mounted  | <i>i_AppEquip</i>        |
| Formulation type  | Wettable granules, soluble granules  | <i>i_FormVal</i>         |
| Buffer strip  | 5 m  | <i>i_Buffer</i>          |
| Application rate of the product   | 1,8 kg a.s./ha   | <i>i_AppRate</i>         |
| Concentration of active substance (in-use dilution for liquid applications) | 3,6 g a.s./l   | <i>d_ConcAS</i>          |
| Dermal absorption of product  | 1,00%  | <i>i_AbsorpProduct</i>   |
| Dermal absorption of in-use dilution  | 10,00%   | <i>i_AbsorpInuse</i>     |
| Oral absorption   | 100,00%  | <i>i_AbsorpOrallnuse</i> |
| Dislodgeable foliar residue ( $i\_AppRate * i\_DFR$ )                       | 5,4 µg a.s./cm <sup>2</sup>  | <i>d_DFR</i>             |
| Vapour pressure of in-use dilution  | low volatile substances having a vapour pressure of <5*10 <sup>-3</sup> Pa | <i>i_Volat</i>           |
| Concentration in air  | 0,001 mg/m <sup>3</sup>  | <i>d_AirCon</i>          |
| Resident dermal spray drift exposure 75th percentile - adult                | 5,63 ml spray dilution/person  |                          |
| Resident dermal spray drift exposure 75th percentile - child                | 1,689 ml spray dilution/person   |                          |
| Resident inhal. spray drift exposure 75th percentile - adult                | 0,00210 ml spray dilution/person   |                          |
| Resident inhal. spray drift exposure 75th percentile - child                | 0,00164 ml spray dilution/person   |                          |
| Resident dermal spray drift exposure mean - adult                           | 3,68 ml spray dilution/person  |                          |
| Resident dermal spray drift exposure mean - child                           | 1,11 ml spray dilution/person  |                          |
| Resident inhal. spray drift exposure mean - adult                           | 0,00170 ml spray dilution/person   |                          |
| Resident inhal. spray drift exposure mean - child                           | 0,00133 ml spray dilution/person   |                          |
| Exposure duration dermal  | 2 hours  | <i>d_ReExpDur</i>        |
| Exposure duration inhalation  | 24 hours   | <i>d_ReExpDurInhal</i>   |
| Exposure duration entry into treated crops                                  | 0,25 hours   | <i>d_ExpDurTreatCrop</i> |
| Light clothing adjustment factor  | 18,0%  | <i>d_ClothAF</i>         |
| Breathing rate adult  | 0,23 m <sup>3</sup> /day/kg  | <i>d_BreathRAD</i>       |
| Breathing rate child (1-3 year old)   | 1,07 m <sup>3</sup> /day/kg  | <i>d_BreathRCh</i>       |
| Drift percentage on surface (75th percentile)                               | 15,79%   |                          |
| Drift percentage on surface (mean)  | 11,69%   |                          |
| Turf transferable residues percentage                                       | 5,00%  | <i>d_Turf</i>            |
| Transfer coeff. of surface deposits-adult                                   | 7300 cm <sup>2</sup> /hour   | <i>d_ReTCAd</i>          |
| Transfer coeff. of surface deposits-child (1-3 year old)                    | 2600 cm <sup>2</sup> /hour   | <i>d_ReTCCh</i>          |
| Saliva extraction percentage  | 50,00%   | <i>d_SalExt</i>          |
| Surface area of hands mouthed   | 20 cm <sup>2</sup>   | <i>d_AreaHM</i>          |
| Frequency of hand to mouth activity   | 9,5 events/hour  | <i>d_ReFreqHM</i>        |
| Ingestion rate for mouthing of grass per day                                | 25 cm <sup>2</sup>   | <i>d_MouthGrass</i>      |
| Dislodgeable residues percentage transferability for object to mouth        | 20,00%   | <i>d_DRP</i>             |
| Transfer coefficient for entry into treated crops (75th percentile) - adult | 7500 cm <sup>2</sup> /h  | <i>d_TcEntryAd</i>       |
| Transfer coefficient for entry into treated crops (75th percentile) - child | 2250 cm <sup>2</sup> /h  | <i>d_TcEntryCh</i>       |
| Transfer coefficient for entry into treated crops (mean) - adult            | 5980 cm <sup>2</sup> /h  | <i>d_TcEntryAd</i>       |
| Transfer coefficient for entry into treated crops (mean) - child            | 1794 cm <sup>2</sup> /h  | <i>d_TcEntryCh</i>       |

1. Total

1.1 1-3 year old child

|   | Spray drift (75th percentile) | Vapour (75th percentile) | Surface deposits (75th percentile) | Entry into treated crops (75th percentile) | All pathways (mean) |
|---|-------------------------------|--------------------------|------------------------------------|--|---------------------|
| Total systemic exposure (mg a.s./day)                     | 0,5045093                     | 0,0107000                | 0,5758413                          | 1,6304409                                  | 2,0646964           |
| Total systemic exposure per kg body weight (mg/kg bw/day) | 0,0504509                     | 0,0010700                | 0,0575841                          | 0,1630441                                  | 0,2064696           |
| % of RVNAS  | 50,45%                        | 1,07%                    | 57,58%                             | 163,04%                                    | 206,47%             |

1.2 Adult

|   | Spray drift | Vapour    | Surface deposits | Entry into treated crops | All pathways (mean) |
|---|-------------|-----------|------------------|--------------------------|---------------------|
| Total systemic exposure (mg a.s./day)                     | 1,6695360   | 0,0138000 | 1,1136950        | 5,4348030                | 6,2641207           |
| Total systemic exposure per kg body weight (mg/kg bw/day) | 0,0278256   | 0,0002300 | 0,0185616        | 0,0905800                | 0,1044020           |
| % of RVNAS  | 27,83%      | 0,23%     | 18,56%           | 90,58%                   | 104,40%             |

2. Resident exposure 75th Percentile

|                           | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula   | Comments  |
|---------------------------|----------------------------------|---------------------------------------|---|---|
| <b>1-3 year old child</b> |                                  |                                       |   |   |
| Spray drift               | 0,5045093                        | 0,0504509                             | $((C16 * i\_AbsorpInuse * (1 - d\_ClothAF)) + C18) * d\_ConcAS$   | the only available values are for the 8 m distance downwind from the middle of the tree trunk, which are assumed to represent 5 m distance from the edge of orchard; the same value is used for 5 and 10 m. |
| Vapour                    | 0,0107000                        | 0,0010700                             | $d\_AirCon * d\_BreathRCh * d\_BwChild$   |   |
| Surface deposits          |                                  |                                       |   |   |
| Dermal                    | 0,3966585                        | 0,0396658                             | $(i\_AppRate / 100) * C29 * d\_Turf * d\_ReTCCh * d\_ReExpDur * MAX(i\_AbsorpProduct, i\_AbsorpInuse) * d\_MAF * IF(i\_AppEquip = "Vehicle-mounted-Drift Reduction", 0.5, 1)$ |   |
| Hand to mouth             | 0,1173957                        | 0,0117396                             | $(i\_AppRate / 100) * C29 * d\_Turf * d\_SalExt * d\_AreaHM * d\_ReFreqHM * d\_ReExpDur * i\_AbsorpOrallnuse * d\_MAF$  |   |
| Object to mouth           | 0,0617872                        | 0,0061787                             | $(i\_AppRate / 100) * C29 * d\_DRP * d\_MouthGrass * i\_AbsorpOrallnuse * d\_MAF$   |   |

|                                   |           |           |  |   |
|-----------------------------------|-----------|-----------|--|---|
| Entry into treated crops          |           |           |  |   |
| Dermal                            | 1,6304409 | 0,1630441 | $(d\_TcEntryCh*0.25*d\_DFR*d\_MAF)/1000*MAX(i\_AbsorpProduct,i\_Absorplnuse)$                    |   |
| Hand to mouth                     |           |           | $(i\_AppRate/100)*d\_Turf*d\_MAF*d\_SalExt*d\_AreaHM*d\_ReFreqHM*d\_ReExpDur*i\_AbsorpOrallnuse$ | Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.  |
| Object to mouth                   |           |           | $(i\_AppRate/100)*d\_DRP*d\_MouthGrass*i\_AbsorpOrallnuse*d\_MAF$                                | Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.  |
| <b>Adult</b>                      |           |           |  |   |
| Spray drift                       | 1,6695360 | 0,0278256 | $(C15*i\_Absorplnuse*(1-d\_ClothAF))+C17)*d\_ConcAS$   | the only available values are for the 8 m distance downwind from the middle of the tree trunk, which are assumed to represent 5 m distance from the edge of orchard; the same value is used for 5 and 10 m. |
| Vapour                            | 0,0138000 | 0,0002300 | $d\_AirCon*d\_BreathRAD*d\_BwAdult$  |   |
| Surface deposits (dermal)         | 1,1136950 | 0,0185616 | $(i\_AppRate/100)*C30*d\_Turf*d\_ReTCA*d\_ReExpDur*i\_Absorplnuse$                               |   |
| Entry into treated crops (dermal) | 5,4348030 | 0,0905800 | $(d\_TcEntryAd*0.25*d\_DFR*d\_MAF)/1000*MAX(i\_AbsorpProduct,i\_Absorplnuse)$                    |   |

### 3. Summing of exposure pathways mean

|                                   | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula   | Comments  |
|-----------------------------------|----------------------------------|---------------------------------------|---|---|
| <b>1-3 year old child</b>         |                                  |                                       |   |   |
| Spray drift                       | 0,3276720                        | 0,0327672                             | $((C20*i\_Absorplnuse*(1-d\_ClothAF))+C22)*d\_ConcAS$   | the only available values are for the 8 m distance downwind from the middle of the tree trunk, which are assumed to represent 5 m distance from the edge of orchard; the same value is used for 5 and 10 m. |
| Vapour                            | 0,0107000                        | 0,0010700                             | $d\_AirCon*d\_BreathRCh*d\_BwChild$   |   |
| Surface deposits                  |                                  |                                       |   |   |
| Dermal                            | 0,2936629                        | 0,0293663                             | $(i\_AppRate/100)*C30*d\_Turf*d\_ReTCh*d\_ReExpDur*MAX(i\_AbsorpProduct,i\_Absorplnuse)*d\_MAF*IF(i\_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1)$ |   |
| Hand to mouth                     | 0,0869129                        | 0,0086913                             | $(i\_AppRate/100)*C30*d\_Turf*d\_SalExt*d\_AreaHM*d\_ReFreqHM*d\_ReExpDur*i\_AbsorpOrallnuse*d\_MAF$  |   |
| Object to mouth                   | 0,0457436                        | 0,0045744                             | $(i\_AppRate/100)*C30*d\_DRP*d\_MouthGrass*i\_AbsorpOrallnuse*d\_MAF$   |   |
| Entry into treated crops          |                                  |                                       |   |   |
| Dermal                            | 1,3000049                        | 0,1300005                             | $(d\_TcEntryMeanCh*0.25*d\_DFR*d\_MAF)/1000*MAX(i\_AbsorpProduct,i\_Absorplnuse)$   |   |
| Hand to mouth                     |                                  |                                       | $(i\_AppRate/100)*1*d\_Turf*d\_MAF*d\_SalExt*d\_AreaHM*d\_ReFreqHM*d\_ReExpDur*i\_AbsorpOrallnuse$  | Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.  |
| Object to mouth                   |                                  |                                       | $(i\_AppRate/100)*1*d\_DRP*d\_MouthGrass*i\_AbsorpOrallnuse*d\_MAF$   | Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.  |
| <b>Adult</b>                      |                                  |                                       |   |   |
| Spray drift                       | 1,0924560                        | 0,0182076                             | $"(C19*i\_Absorplnuse*(1-d\_ClothAF))+C21)*d\_ConcAS"$  | the only available values are for the 8 m distance downwind from the middle of the tree trunk, which are assumed to represent 5 m distance from the edge of orchard; the same value is used for 5 and 10 m. |
| Vapour                            | 0,0138000                        | 0,0002300                             | $d\_AirCon*d\_BreathRAD*d\_BwAdult$   |   |
| Surface deposits (dermal)         | 0,8245152                        | 0,0137419                             | $(i\_AppRate/100)*C30*d\_Turf*d\_ReTCA*d\_ReExpDur*MAX(i\_AbsorpProduct,i\_Absorplnuse)*d\_MAF*IF(i\_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1)$ |   |
| Entry into treated crops (dermal) | 4,3333496                        | 0,0722225                             | $(d\_TcEntryMeanAd*0.25*d\_DFR*d\_MAF)/1000*MAX(i\_AbsorpProduct,i\_Absorplnuse)$   |   |



## Bystander exposure for Merpan Spsuitkorrel

|   |  |                          |
|---|--|--------------------------|
| Croptype  | <b>Pome fruit</b>  |                          |
| Application method  | <b>Upward spraying</b>   |                          |
| Application equipment   | <b>Vehicle-mounted</b>   | <i>i_AppEquip</i>        |
| Formulation type  | <b>Wettable granules, soluble granules</b>   |                          |
| Application rate of the product   | <b>1,8 kg a.s./ha</b>  | <i>i_AppRate</i>         |
| Buffer strip  | <b>5 m</b>   | <i>i_Buffer</i>          |
| Concentration of active substance (in-use dilution for liquid applications) | <b>3,6 g a.s./l</b>  | <i>d_ConcAS</i>          |
| Dermal absorption of product  | <b>1,00%</b>   | <i>i_AbsorpProduct</i>   |
| Dermal absorption of in-use dilution  | <b>10,00%</b>  | <i>i_Absorpnuse</i>      |
| Oral absorption   | <b>100,00%</b>   | <i>i_AbsorpOrallnuse</i> |
| Dislodgeable foliar residue ( $i\_AppRate * i\_DFR$ )                       | <b>5,4 <math>\mu\text{g a.s./cm}^2</math></b>  | <i>d_DFR</i>             |
| Vapour pressure of in-use dilution  | <b>low volatile substances having a vapour pressure of <math>&lt;5 * 10^{-3}</math> Pa</b> | <i>i_Volat</i>           |
| Concentration in air  | <b>0,001 <math>\text{mg/m}^3</math></b>  | <i>d_AirCon</i>          |
| Bystander dermal spray drift exposure - adult                               | <b>12,9 ml spray dilution/person</b>   |                          |
| Bystander dermal spray drift exposure - child                               | <b>3,87 ml spray dilution/person</b>   |                          |
| Bystander inhal. spray drift exposure - adult                               | <b>0,00440 ml spray dilution/person</b>  |                          |
| Bystander inhal. spray drift exposure - child                               | <b>0,00348 ml spray dilution/person</b>  |                          |
| Exposure duration   | <b>2 hours</b>   | <i>d_ByExpDur</i>        |
| Exposure duration entry into treated crops                                  | <b>0,25 hours</b>  | <i>d_ExpDurTreatCrop</i> |
| Light clothing adjustment factor  | <b>18,0%</b>   | <i>d_ClothAF</i>         |
| Breathing rate adult  | <b>0,23 <math>\text{m}^3/\text{hours}/\text{kg}</math></b>                                 | <i>d_BreathRAD</i>       |
| Breathing rate child (1-3 year old)   | <b>1,07 <math>\text{m}^3/\text{hours}/\text{kg}</math></b>                                 | <i>d_BreathRCh</i>       |
| Drift percentage on surface (90th percentile)                               | <b>19,89%</b>  |                          |
| Turf transferable residues percentage                                       | <b>5,00%</b>   | <i>d_Turf</i>            |
| Transfer coeff. of surface deposits-adult                                   | <b>14500 <math>\text{cm}^2/\text{hour}</math></b>  | <i>d_ByTCAd</i>          |
| Transfer coeff. of surface deposits-child (1-3 year old)                    | <b>5200 <math>\text{cm}^2/\text{hour}</math></b>   | <i>d_ByTCCh</i>          |
| Saliva extraction percentage  | <b>50,00%</b>  | <i>d_SalExt</i>          |
| Surface area of hands mouthed   | <b>20 <math>\text{cm}^2</math></b>   | <i>d_AreaHM</i>          |
| Frequency of hand to mouth activity   | <b>20 events/hour</b>  | <i>d_ByFreqHM</i>        |
| Ingestion rate for mouthing of grass per day                                | <b>25 <math>\text{cm}^2</math></b>   | <i>d_MouthGrass</i>      |
| Dislodgeable residues percentage transferability for object to mouth        | <b>20,00%</b>  | <i>d_DRP</i>             |
| Transfer coefficient for entry into treated crops - adult                   | <b>7500 <math>\text{cm}^2/\text{h}</math></b>  | <i>d_TcEntryAd</i>       |
| Transfer coefficient for entry into treated crops - child                   | <b>2250 <math>\text{cm}^2/\text{h}</math></b>  | <i>d_TcEntryCh</i>       |

### 1. Total

#### 1.1 1-3 year old child

|   | Spray drift      | Vapour           | Surface deposits | Entry into treated crops |
|---|------------------|------------------|------------------|--------------------------|
| Total systemic exposure (mg a.s./day)                     | <b>1,1549640</b> | <b>0,0107000</b> | <b>1,3884617</b> | <b>1,6304409</b>         |
| Total systemic exposure per kg body weight (mg/kg bw/day) | <b>0,1154964</b> | <b>0,0010700</b> | <b>0,1388462</b> | <b>0,1630441</b>         |
| % of RVAAS  | <b>115,50%</b>   | <b>1,07%</b>     | <b>138,85%</b>   | <b>163,04%</b>           |

#### 1.2 Adult

|   | Spray drift      | Vapour           | Surface deposits | Entry into treated crops |
|---|------------------|------------------|------------------|--------------------------|
| Total systemic exposure (mg a.s./day)                     | <b>3,8239200</b> | <b>0,0138000</b> | <b>2,7865322</b> | <b>5,4348030</b>         |
| Total systemic exposure per kg body weight (mg/kg bw/day) | <b>0,0637320</b> | <b>0,0002300</b> | <b>0,0464422</b> | <b>0,0905800</b>         |

|            |        |       |        |        |
|------------|--------|-------|--------|--------|
| % of RVAAS | 63,73% | 0,23% | 46,44% | 90,58% |
|------------|--------|-------|--------|--------|

## 2. Details

|                           | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula  | Comments  |
|---------------------------|----------------------------------|---------------------------------------|--|---|
| <b>1-3 year old child</b> |                                  |                                       |  |   |
| Spray drift               | 1,1549640                        | 0,1154964                             | $((C16*i\_AbsorpInuse*(1-d\_ClothAF))+C18)*d\_ConcAS''$  | the only available values are for the 8 m distance downwind from the middle of the tree trunk, which are assumed to represent 5 m distance from the edge of orchard; the same value is used for 5 and 10 m. |
| Vapour                    | 0,0107000                        | 0,0010700                             | $d\_AirCon*d\_BreathRCh*d\_BwChild$  |   |
| Surface deposits          |                                  |                                       |  |   |
| Dermal                    | 0,9993081                        | 0,0999308                             | $(i\_AppRate/100)*C24*d\_Turf*d\_ByTCCh*d\_ByExpDur*MAX(i\_AbsorpProduct,i\_AbsorpInuse)*d\_MAF*IF(i\_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)$ |   |
| Hand to mouth             | 0,3113229                        | 0,0311323                             | $(i\_AppRate/100)*C25*d\_Turf*d\_SalExt*d\_AreaHM*d\_ByFreqHM*d\_ByExpDur*i\_AbsorpOralnuse*d\_MAF$  |   |
| Object to mouth           | 0,0778307                        | 0,0077831                             | $(i\_AppRate/100)*C25*d\_DRP*d\_MouthGrass*i\_AbsorpOralnuse*d\_MAF$   |   |

|                                   |           |           |  |   |
|-----------------------------------|-----------|-----------|--|---|
| Entry into treated crops          |           |           |  |   |
| Dermal                            | 1,6304409 | 0,1630441 | $(d\_TcEntryCh*0.25*d\_DFR*d\_MAF)/1000*MAX(i\_AbsorpProduct,i\_Absorplnuse)$  |   |
| Hand to mouth                     |           |           | $(i\_AppRate/100)*d\_MAF*d\_Turf*d\_SalExt*d\_AreaHM*d\_ByFreqHM*d\_ByExpDur*i\_AbsorpOrallnuse$   | Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.  |
| Object to mouth                   |           |           | $(i\_AppRate/100)*d\_DRP*d\_MouthGrass*i\_AbsorpOrallnuse*d\_MAF$  | Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.  |
| <b>Adult</b>                      |           |           |  |   |
| Spray drift                       | 3,8239200 | 0,0637320 | $((C15*i\_Absorplnuse*(1-d\_ClothAF)t)+C17)*d\_ConcAS$   | the only available values are for the 8 m distance downwind from the middle of the tree trunk, which are assumed to represent 5 m distance from the edge of orchard; the same value is used for 5 and 10 m. |
| Vapour                            | 0,0138000 | 0,0002300 | $d\_AirCon*d\_BreathRA*d\_BwAdult$   |   |
| Surface deposits (dermal)         | 2,7865322 | 0,0464422 | $(i\_AppRate/100)*C24*d\_Turf*d\_ByTCAd*d\_ByExpDur*MAX(i\_AbsorpProduct,i\_Absorplnuse)*d\_MAF*IF(i\_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)$ |   |
| Entry into treated crops (dermal) | 5,4348030 | 0,0905800 | $(d\_TcEntryAd*0.25*d\_DFR*d\_MAF)/1000*MAX(i\_AbsorpProduct,i\_Absorplnuse)$  |   |

## Recreational exposure for Merpan Spsitkorrel

|   |   |   |
|---|---|---|
| Croptype  | Golf course, turf or other sports lawns | This sheet is only to be used for treatment of grassland used for recreational purposes |
| Application method  | Upward spraying                         |   |
| Application equipment                                     | Vehicle-mounted                         | <i>i_AppEquip</i>   |
| Formulation type  | Wettable granules, soluble granules     | <i>i_FormVal</i>  |
| Application rate of the product                           | 1,8 kg a.s./ha                          | <i>i_AppRate</i>  |
| Dermal absorption of product                              | 1,00%                                   | <i>i_AbsorpProduct</i>  |
| Dermal absorption of in-use dilution                      | 10,00%                                  | <i>i_Absorplnuse</i>  |
| Oral absorption   | 100,00%                                 | <i>i_AbsorpOrallnuse</i>  |
| Dislodgeable foliar residue ( $i\_AppRate \cdot i\_DFR$ ) | 5,4 $\mu\text{g a.s./cm}^2$             | <i>d_DFR</i>  |
| Exposure duration dermal                                  | 2 hours                                 | <i>d_ReExpDur</i>   |
| Light clothing adjustment factor Adult resident           | 18,0%                                   | <i>d_ClothAF</i>  |
| Drift percentage on surface                               | 100,00%                                 |   |
| Turf transferable residues percentage                     | 5,00%                                   | <i>d_Turf</i>   |
| Transfer coeff. of surface deposits-adult                 | 7300 $\text{cm}^2/\text{hour}$          | <i>d_ReTCAd</i>   |
| Transfer coeff. of surface deposits-child (1-3 year old)  | 2600 $\text{cm}^2/\text{hour}$          | <i>d_ReTCCh</i>   |
| Saliva extraction percentage                              | 50,00%                                  | <i>d_SalExt</i>   |
| Surface area of hands mouthed                             | 20 $\text{cm}^2$                        | <i>d_AreaHM</i>   |
| Frequency of hand to mouth activity                       | 9,5 events/hour                         | <i>d_ReFreqHM</i>   |
| Ingestion rate for mouthing of grass per day              | 25 $\text{cm}^2$                        | <i>d_MouthGrass</i>   |

### 2. Details

|                           | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula  | Comments |
|---------------------------|----------------------------------|---------------------------------------|--|----------|
| <b>1-3 year old child</b> |                                  |                                       |  |          |
| Surface deposits          |                                  |                                       |  |          |
| Dermal                    | 2,5120867                        | 0,2512087                             | $(i\_AppRate/100) \cdot C13 \cdot d\_Turf \cdot d\_ReTCCh \cdot d\_ReExpDur \cdot \text{MAX}(i\_AbsorpProduct, i\_Absorplnuse) \cdot d\_MAF$         |          |
| Hand to mouth             | 0,7434810                        | 0,0743481                             | $(i\_AppRate/100) \cdot C13 \cdot d\_Turf \cdot d\_SalExt \cdot d\_AreaHM \cdot d\_ReFreqHM \cdot d\_ReExpDur \cdot i\_AbsorpOrallnuse \cdot d\_MAF$ |          |
| Object to mouth           | 0,3913058                        | 0,0391306                             | $(i\_AppRate/100) \cdot C13 \cdot d\_DRP \cdot d\_MouthGrass \cdot i\_AbsorpOrallnuse \cdot d\_MAF$  |          |
| Total systemic exposure   | 3,6468736                        | 0,3646874                             |  |          |
| % of RVNAS                |                                  |                                       |  |          |
| <b>Adult</b>              |                                  |                                       |  |          |
| Surface deposits (dermal) | 7,0531665                        | 0,1175528                             | $(i\_AppRate/100) \cdot C13 \cdot d\_Turf \cdot d\_ReTCAd \cdot d\_ReExpDur \cdot \text{MAX}(i\_AbsorpProduct, i\_Absorplnuse) \cdot d\_MAF$         |          |
| % of RVNAS                |                                  |                                       |  |          |



|                                 |   |                                      |
|---------------------------------|---|--------------------------------------|
| <i>d_AirConVol</i>              | Concentration in air of moderately volatile substances                                | <b>0,015</b> mg/m <sup>3</sup>       |
| <i>d_AirConNonVol</i>           | Concentration in air of low volatile substances                                       | <b>0,001</b> mg/m <sup>3</sup>       |
| <i>d_AreaHM</i>                 | Surface area of hands mouthed   | <b>20</b> cm <sup>2</sup>            |
| <i>d_AreaTreated</i>            | Area treated (defined by crop type)   | <b>10</b> ha                         |
| <i>d_BreathRAd</i>              | Breathing rate adult residents  | <b>0,23</b> m <sup>3</sup> /day/kg   |
| <i>d_BreathRCh</i>              | Breathing rate child (1-3 year old) residents   | <b>1,07</b> m <sup>3</sup> /day/kg   |
| <i>d_BwAdult</i>                | Adult body weight   | <b>60</b> kg                         |
| <i>d_BwChild</i>                | Child body weight (1 to < 3 year olds)  | <b>10</b> kg                         |
| <i>d_ByBreathRAd</i>            | Breathing rate adult bystander  | <b>0,04</b> m <sup>3</sup> /hours/kg |
| <i>d_ByBreathRCh</i>            | Breathing rate child (1-3 year old) bystander   | <b>0,19</b> m <sup>3</sup> /hours/kg |
| <i>d_ByExpDur</i>               | Exposure duration intense activity breathing rates                                    | <b>2</b> hours                       |
| <i>d_ByFreqHM</i>               | Frequency of hand to mouth activity   | <b>20</b> events/hour                |
| <i>d_ByTCAd</i>                 | Transfer coeff. of surface deposits-adult   | <b>14500</b> cm <sup>2</sup> /hour   |
| <i>d_ByTCCh</i>                 | Transfer coeff. of surface deposits-child (1-3 year old)                              | <b>5200</b> cm <sup>2</sup> /hour    |
| <i>d_ClothAF</i>                | Light clothing adjustment factor resident and bystanders                              | <b>18,0%</b>                         |
| <i>d_ConcAs</i>                 | Concentration of active substance (in-use dilution for liquid applications)           | <b>3,6</b> g a.s./l                  |
| <i>d_DFR</i>                    | Dislodgeable foliar residue (i_AppRate*i_DFR)   | <b>5,4</b> µg a.s./cm <sup>2</sup>   |
| <i>d_DRP</i>                    | Dislodgeable residues percentage transferability for object to mouth                  | <b>20,0%</b>                         |
| <i>d_HalfLifeAS</i>             | Half-life of active substance (DT50)  | <b>30</b> days                       |
| <i>d_InhalTcAut</i>             | Inhalation transfer coefficient for automated applications                            | <b>NA</b> ha/hr*10 <sup>^(-3)</sup>  |
| <i>d_InhalTcCut</i>             | Inhalation transfer coefficient for cutting ornamentals                               | <b>NA</b> ha/hr*10 <sup>^(-3)</sup>  |
| <i>d_InhalTcSort</i>            | Inhalation transfer coefficient for sorting / bundling ornamentals                    | <b>NA</b> ha/hr*10 <sup>^(-3)</sup>  |
| <i>d_MAF</i>                    | Multiple application factor   | <b>5,37</b>                          |
| <i>d_MouthGrass</i>             | Ingestion rate for mouthing of grass per day  | <b>25</b> cm <sup>2</sup> grass/day  |
| <i>d_ReExpDur</i>               | Exposure duration resident dermal   | <b>2</b> hours                       |
| <i>d_ReExpDurInhal</i>          | Exposure duration resident inhalation   | <b>24</b> hours                      |
| <i>d_ExpDurTreatCrop</i>        | Exposure duration for resident and bystander entry into treated crops                 | <b>0,25</b> hours                    |
| <i>d_ReFreqHM</i>               | Frequency of hand to mouth activity   | <b>9,5</b> events/hour               |
| <i>d_ReTCAd</i>                 | Transfer coeff. of surface deposits-adult   | <b>7300</b> cm <sup>2</sup> /hour    |
| <i>d_ReTCCh</i>                 | Transfer coeff. of surface deposits-child (1-3 year old)                              | <b>2600</b> cm <sup>2</sup> /hour    |
| <i>d_SalExt</i>                 | Saliva extraction percentage  | <b>50,0%</b>                         |
| <i>d_TcEntryAd</i>              | Transfer coefficient for entry into treated crops 75th percentile - adult             | <b>7500</b> cm <sup>2</sup> /h       |
| <i>d_TcEntryCh</i>              | Transfer coefficient for entry into treated crops 75th percentile - child             | <b>2250</b> cm <sup>2</sup> /h       |
| <i>d_TcEntryMeanAd</i>          | Transfer coefficient for entry into treated crops mean - adult                        | <b>5980</b> cm <sup>2</sup> /h       |
| <i>d_TcEntryMeanCh</i>          | Transfer coefficient for entry into treated crops mean - child                        | <b>1794</b> cm <sup>2</sup> /h       |
| <i>d_Turf</i>                   | Turf transferable residues percentage   | <b>5,0%</b>                          |
| <i>d_PctExtrapolation</i>       | For exposure value 75 percentiles above this amount linear extrapolation is performed | <b>1,5</b> kg                        |
| <i>d_head75ProtectionFactor</i> | Coefficient to estimate head protection factor 75 th Percentile                       | <b>1,79422</b>                       |
| <i>d_head95ProtectionFactor</i> | Coefficient to estimate head protection factor 95 Percentile                          | <b>1,24705</b>                       |



*sys\_KeyOperator* Variables for operator exposure lookup key  
*sys\_OperatorModel* Operator model

**i\_IndoorOutdoor&i\_FormVal&i\_AppMeth&i\_AppEquip&**

**1**

| RPE reduction factor  |      |
|-----------------------|------|
| key_MixRPE, ay_MixRPE |      |
| None                  | 1    |
| FP1, P1 and similar   | 0,25 |
| FP2, P2 and similar   | 0,1  |

| PPE reduction factor                    |      |
|---|------|
| key_MixPPEBody, ay_MixPPEBody           |      |
| Potential exposure                      | 1    |
| Work wear - arms, body and legs covered | 0,1  |
| Certified protective coverall           | 0,05 |

| PPE reduction factor          |      |
|-------------------------------|------|
| key_MixPPEHead, ay_MixPPEHead |      |
| None                          | 1    |
| Hood                          | 0,5  |
| Hood and visor                | 0,05 |
| FP1, P1 and similar           | 0,8  |
| FP2, P2 and similar           | 0,8  |

| Application: Gloves PPE reduction factor (depending on formulation type) |                           |      |
|--|---------------------------|------|
| key_AppPPEHands, ay_AppPPEHands  |                           |      |
| Wettable powder, soluble powder  | Chemical resistant gloves | 0,05 |
| Granules, fine granules  | Chemical resistant gloves | 0,05 |
| Wettable granules, soluble granules                                      | Chemical resistant gloves | 0,05 |
| Soluble concentrates, emulsifiable concentrate, etc.                     | Chemical resistant gloves | 0,1  |
| Wettable powder, soluble powder  | None                      | 1    |
| Granules, fine granules  | None                      | 1    |
| Wettable granules, soluble granules                                      | None                      | 1    |
| Soluble concentrates, emulsifiable concentrate, etc.                     | None                      | 1    |

| Crop dependent exposure parameters      |                            |                          |  |                       |                     |                                     |                                     |                              |  |    |
|---|----------------------------|--------------------------|--|-----------------------|---------------------|-------------------------------------|-------------------------------------|------------------------------|--|----|
| key_CropType, ay_CropType               | Transfer coefficients      | Transfer coefficients    | 2250                                       | Transfer coefficients | Area Treated        |                                     |                                     |                              |  |    |
| Crop type                               | Arm, body and legs covered | Total potential exposure | Activity                                   | hours per day         | Body parts involved | Hands, arm, body and legs covered   | Type of crop for Resident Bystander | Vehicle Mounted Applications |  |    |
| Bare soil                               | NA                         | NA                       | NA   | NA                    | NA                  | NA                                  | Field crops                         |                              |  | 50 |
| Low berries and other small fruits      |                            | 3000                     | 5800 Reaching, picking                     |                       | 8 Hand and forearm  |                                     | 750 Field crops                     |                              |  | 50 |
| Brassica vegetables                     |                            | 2500                     | 5800 Reaching, picking                     |                       | 8 Hand and body     |                                     | 580 Field crops                     |                              |  | 50 |
| Bulb vegetables                         |                            | 2500                     | 5800 Reaching, picking                     |                       | 8 Hand and body     |                                     | 580 Field crops                     |                              |  | 50 |
| Cane fruit                              |                            | 4500                     | 22500 Searching, reaching, picking         |                       | 8 Hand and body     |                                     | 2250 Field crops                    |                              |  | 10 |
| Cereals                                 |                            | 1400                     | 12500 Inspection, irrigation               |                       | 2 Hand and body     | no TC available for this assessment | Field crops                         |                              |  | 50 |
| Citrus fruit                            |                            | 4500                     | 22500 Searching, reaching, picking         |                       | 8 Hand and body     |                                     | 2250 Fruit crops                    |                              |  | 10 |
| Fruiting vegetables                     |                            | 2500                     | 5800 Reaching, picking                     |                       | 8 Hand and body     |                                     | 580 Field crops                     |                              |  | 50 |
| Grapes                                  |                            | 10100                    | 30000 Hand harvesting                      |                       | 8 Hand and body     | no TC available for this assessment | Grapes                              |                              |  | 10 |
| Grassland and lawns                     |                            | 1400                     | 12500 Inspection, irrigation               |                       | 2 Hand and body     | no TC available for this assessment | Field crops                         |                              |  | 50 |
| Golf course, turf or other sports lawns |                            | 2500                     | 5800 Maintenance                           |                       | 8 Hand and body     |                                     | 580 Field crops                     |                              |  | 50 |
| Hops                                    |                            | 1400                     | 12500 Inspection, irrigation               |                       | 2 Hand and body     | no TC available for this assessment | Hops                                |                              |  | 50 |
| Leaf vegetables and fresh herbs         |                            | 2500                     | 5800 Reaching, picking                     |                       | 8 Hand and body     |                                     | 580 Field crops                     |                              |  | 10 |
| Legume vegetables                       |                            | 2500                     | 5800 Reaching, picking                     |                       | 8 Hand and body     |                                     | 580 Field crops                     |                              |  | 50 |
| Oilfruits                               |                            | 4500                     | 22500 Searching, reaching, picking         |                       | 8 Hand and body     |                                     | 2250 Fruit crops                    |                              |  | 10 |
| Oilseeds                                |                            | 1400                     | 12500 Inspection, irrigation               |                       | 2 Hand and body     | no TC available for this assessment | Field crops                         |                              |  | 50 |
| Ornamentals                             |                            | 5000                     | 14000 Cutting, sorting, bundling, carrying |                       | 8 Hand and body     |                                     | 1400 Field crops                    |                              |  | 10 |
| Pome fruit                              |                            | 4500                     | 22500 Searching, reaching, picking         |                       | 8 Hand and body     |                                     | 2250 Fruit crops                    |                              |  | 10 |
| Root and tuber vegetables               |                            | 1400                     | 12500 Inspection, irrigation               |                       | 2 Hand and body     | no TC available for this assessment | Field crops                         |                              |  | 50 |
| Stone fruit                             |                            | 4500                     | 22500 Searching, reaching, picking         |                       | 8 Hand and body     |                                     | 2250 Fruit crops                    |                              |  | 10 |
| Tree nuts                               |                            | 4500                     | 22500 Searching, reaching, picking         |                       | 8 Hand and body     |                                     | 2250 Fruit crops                    |                              |  | 10 |

| Resident Spray Drift  |               |                 |                   |                     |         |
|---|---------------|-----------------|-------------------|---------------------|---------|
| These values are the 75th Percentiles for Residents (assuming average breathing rates for inhalation exposures) |               |                 |                   |                     |         |
| key_ResidSpray, ay_ResidSpray   | Adults Dermal | Children Dermal | Adults Inhalation | Children Inhalation |         |
| Downward spraying2-3  |               | 0,47            | 0,327             | 0,0001              | 0,00022 |
| Downward spraying5  |               | 0,24            | 0,22              | 0,00009             | 0,00017 |
| Downward spraying10   |               | 0,20            | 0,18              | 0,00009             | 0,00013 |
| Upward spraying2-3  | NA            | NA              | NA                | NA                  | NA      |
| Upward spraying5  |               | 5,63            | 1,689             | 0,0021              | 0,00164 |
| Upward spraying10   |               | 5,63            | 1,689             | 0,0021              | 0,00164 |

| Bystander Spray Drift   |               |                 |                   |                     |         |
|---|---------------|-----------------|-------------------|---------------------|---------|
| These values are the 95th Percentiles for Bystanders (assuming high breathing rates for inhalation exposures) |               |                 |                   |                     |         |
| key_BySpray, ay_BySpray   | Adults Dermal | Children Dermal | Adults Inhalation | Children Inhalation |         |
| Downward spraying2-3  |               | 1,21            | 0,74              | 0,0005              | 0,0011  |
| Downward spraying5  |               | 0,57            | 0,48              | 0,00048             | 0,0008  |
| Downward spraying10   |               | 0,48            | 0,39              | 0,00051             | 0,00076 |
| Upward spraying2-3  | NA            | NA              | NA                | NA                  | NA      |
| Upward spraying5  |               | 12,9            | 3,87              | 0,0044              | 0,0035  |
| Upward spraying10   |               | 12,9            | 3,87              | 0,0044              | 0,0035  |

| Mean Spray Drift   |               |                 |                   |                     |        |
|--|---------------|-----------------|-------------------|---------------------|--------|
| These values are the mean values (assuming average breathing rates for inhalation exposures) |               |                 |                   |                     |        |
| key_AvgSpray, ay_AvgSpray  | Adults Dermal | Children Dermal | Adults Inhalation | Children Inhalation |        |
| Downward spraying2-3   |               | 0,22            | 0,18              | 0,0001              | 0,0002 |
| Downward spraying5   |               | 0,12            | 0,12              | 0,0001              | 0,0001 |
| Downward spraying10  |               | 0,11            | 0,1               | 0,0001              | 0,0001 |
| Upward spraying2-3   | NA            | NA              | NA                | NA                  | NA     |
| Upward spraying5   |               | 3,68            | 1,11              | 0,0017              | 0,0013 |
| Upward spraying10  |               | 3,68            | 1,11              | 0,0017              | 0,0013 |

| Resident and bystander Surface Deposits Drift percentage  |   |  |       |
|---|---|--|-------|
| Ground sediments in % of the application rate calculated on the basis of percentile values (drift data acc. Rautmann) |   |  |       |
| key_ByCropType, ay_ByCropType   | Bystander surface deposit (90th Percentile) | Resident surface deposit (77th Percentile) | mean  |
| Field cropsnot relevant2-3  |   | 0,085                                      | 0,056 |
| Field cropsnot relevant5  |   | 0,035                                      | 0,023 |
| Field cropsnot relevant10   |   | 0,019                                      | 0,013 |
| Fruit cropsnot relevant2-3  |   | 0,292                                      | 0,240 |
| Fruit cropsnot relevant5  |   | 0,199                                      | 0,158 |
| Fruit cropsnot relevant10   |   | 0,118                                      | 0,090 |
| Fruit cropsearly (without leaves)2-3  |   | 0,292                                      | 0,240 |
| Fruit cropsearly (without leaves)5  |   | 0,199                                      | 0,158 |

|                                     |       |       |       |
|-------------------------------------|-------|-------|-------|
| Fruit cropsearly (without leaves)10 | 0,118 | 0,090 | 0,061 |
| Fruit cropslate (dense foliage)2-3  | 0,157 | 0,110 | 0,070 |
| Fruit cropslate (dense foliage)5    | 0,084 | 0,060 | 0,037 |
| Fruit cropslate (dense foliage)10   | 0,036 | 0,027 | 0,016 |
| Grapesnot relevant2-3               | 0,080 | 0,069 | 0,053 |
| Grapesnot relevant5                 | 0,036 | 0,031 | 0,023 |
| Grapesnot relevant10                | 0,012 | 0,010 | 0,008 |
| Hopsnot relevant2-3                 | 0,193 | 0,159 | 0,100 |
| Hopsnot relevant5                   | 0,116 | 0,086 | 0,059 |
| Hopsnot relevant10                  | 0,058 | 0,037 | 0,029 |

| 1  | 2                     | 3                       | 4                                 | 5                            | 6                       | 7   | 8   | 9   | 10                                | 11                                 | 12                                 | 13  | 14                       |
|--|-----------------------|-------------------------|-----------------------------------|------------------------------|-------------------------|---|---|---|-----------------------------------|------------------------------------|------------------------------------|---|--------------------------|
| <b>Mitch Mit-oid</b>   | <b>Outdoor/Indoor</b> | <b>Formulation type</b> | <b>Application method</b>         | <b>Application equipment</b> | <b>Type of exposure</b> | <b>Mixing &amp; Loading 75th percentile</b> | <b>Mixing &amp; Loading 95th percentile</b> | <b>Mixing &amp; Loading Comments</b>  | <b>Mixing &amp; Loading Model</b> | <b>Application 75th percentile</b> | <b>Application 95th percentile</b> | <b>Application Comments</b>   | <b>Application Model</b> |
| IndoorGranules, fine granulesApplication of granulesManualBody                           | Indoor                | Granules, fine granules | Application of granules           | Manual                       | Body                    |   |   | Value for application is for combination of mixing&loading and application  | PHED                              | 68,8708                            | 253,4438                           | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                     |
| IndoorGranules, fine granulesApplication of granulesManualHands                          | Indoor                | Granules, fine granules | Application of granules           | Manual                       | Hands                   |   |   | Value for application is for combination of mixing&loading and application  | PHED                              | 26,5320                            | 94,3636                            | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                     |
| IndoorGranules, fine granulesApplication of granulesManualInhalation                     | Indoor                | Granules, fine granules | Application of granules           | Manual                       | Inhalation              |   |   | Value for application is for combination of mixing&loading and application  | PHED                              | 0,4677                             | 1,5251                             | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                     |
| OutdoorGranules, fine granulesBroadcast application of granulesVehicle-mountedBody       | Outdoor               | Granules, fine granules | Broadcast application of granules | Vehicle-mounted              | Body                    | 0,0162                                      | 0,0427                                      | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                              | 0,0047                             | 0,0151                             | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                     |
| OutdoorGranules, fine granulesBroadcast application of granulesVehicle-mountedHands      | Outdoor               | Granules, fine granules | Broadcast application of granules | Vehicle-mounted              | Hands                   | 0,0015                                      | 0,0069                                      | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                              | 0,0004                             | 0,0018                             | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                     |
| OutdoorGranules, fine granulesBroadcast application of granulesVehicle-mountedInhalation | Outdoor               | Granules, fine granules | Broadcast application of granules | Vehicle-mounted              | Inhalation              | 0,0208                                      | 0,0784                                      |   | PHED                              | 0,0012                             | 0,0045                             |   | PHED                     |
| OutdoorGranules, fine granulesIn furrow application of granulesVehicle-mountedBody       | Outdoor               | Granules, fine granules | In furrow application of granules | Vehicle-mounted              | Body                    | 0,0162                                      | 0,0427                                      | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                              | 0,0047                             | 0,0151                             | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                     |
| OutdoorGranules, fine granulesIn furrow application of granulesVehicle-mountedHands      | Outdoor               | Granules, fine granules | In furrow application of granules | Vehicle-mounted              | Hands                   | 0,0015                                      | 0,0069                                      | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                              | 0,0004                             | 0,0018                             | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                     |
| OutdoorGranules, fine granulesIn furrow application of granulesVehicle-mountedInhalation | Outdoor               | Granules, fine granules | In furrow application of granules | Vehicle-mounted              | Inhalation              | 0,0208                                      | 0,0784                                      |   | PHED                              | 0,0012                             | 0,0045                             |   | PHED                     |
| OutdoorGranules, fine granulesManual application of granulesManualBody                   | Outdoor               | Granules, fine granules | Manual application of granules    | Manual                       | Body                    |   |   | Value for application is for combination of mixing&loading and application  | PHED                              | 68,8708                            | 253,4438                           | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                     |
| OutdoorGranules, fine granulesManual application of granulesManualHands                  | Outdoor               | Granules, fine granules | Manual application of granules    | Manual                       | Hands                   |   |   | Value for application is for combination of mixing&loading and application  | PHED                              | 26,5320                            | 94,3636                            | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                     |
| OutdoorGranules, fine granulesManual application of granulesManualInhalation             | Outdoor               | Granules, fine granules | Manual application of granules    | Manual                       | Inhalation              |   |   | Value for application is for combination of mixing&loading and application  | PHED                              | 0,4677                             | 1,5251                             | Exposure value originally included use of PPE, calculated potential exposure is 100 times higher assuming a 'worst case' reduction factor of 1% for gloves/coverall | PHED                     |



