

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**

Latest version: 23 Oct 2014 - Version produced to support guidance document published 23/10/2014

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

| | |
|--|---|
| Substance name | 6-benzyladenine |
| Product name | Maxcel |
| Reference value non acutely toxic active substance (RVNAS) | 0,471 mg/kg bw/day |
| Reference value acutely toxic active substance (RVAAS) | 0,471 mg/kg bw/day |
| Crop type | Pome fruit |
| Substance properties | |
| Formulation type | Soluble concentrates, emulsifiable concentrate, etc. |
| Minimum volume water for application (liquids) | 300 L/ha |
| Maximum application rate of active substance | 0,214 kg a.s. /ha |
| 50% Dissipation Time DT50 | 30 days |
| Initial Dislodgeable Foliar Residue | 3 µg/cm ² of foliage/kg a.s. applied/ha |
| Dermal absorption of product | 100,00% |
| Dermal absorption of in-use dilution | 100,00% |
| Oral absorption of active substance | 50,00% |
| Inhalation absorption of active substance | 100,00% |
| Vapour pressure of active substance | moderately volatile substances with a vapour pressure between 5*10 ⁻³ Pa and 10 ⁻² Pa |
| Scenario | |
| Indoor or Outdoor application | Outdoor |
| Application method | Upward spraying |
| Application equipment | Vehicle-mounted |
| Buffer strip | 5 m |
| Number of applications | 1 |
| Interval between multiple applications | 365 days |
| Season (upward spraying orchards only) | late (dense foliage) |

Exposure assessment

| | | | | | |
|-----------------------|---|--|------------------------------------|--|---|
| Substance | 6-benzyladenine | Formulation = Soluble concentrates, emulsifiable concentrate, etc. | Application rate-0,214 kg a.s. /ha | Spray dilution = 0,7133333333333333 g a.s./l | Vapour pressure = moderately volatile substances with a vapour pressure between 5*10-3Pa and 10-2Pa |
| Scenario | Pome fruit late (dense foliage) / Outdoor / Upward spraying / Vehicle-mounted | | | Buffer = 5 | Number applications = 1, Application interval = 365 days |
| Percentage Absorption | Dermal for product = 100 | Dermal for in use dilution = 100 | Oral = 50 | Inhalation = 100 | |
| RVNAS | 0,471 mg/kg bw/day | | RVAAS | 0,471 mg/kg bw/day | |
| DFR | 3 µg a.s./cm2 per kg a.s./ha | | DT50 | 30 days | |

| | | | | |
|--|--|--|------------|-------------------|
| Operator Model | Mixing, loading and application AOEM | | | |
| Potential exposure | Longer term systemic exposure mg/kg bw/day | 0,6886 | % of RVNAS | 146,20% |
| | Acute systemic exposure mg/kg bw/day | 4,5261 | % of RVAAS | 960,96% |
| 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 | 0,2777 | % of RVNAS | 58,96% |
| | Acute systemic exposure mg/kg bw/day | 1,2081 | % of RVAAS | 256,51% |

| | | | | |
|--|--|--------|------------|---------|
| Worker - Searching, reaching, picking | Potential exposure mg/kg bw/day | 1,9260 | % of RVNAS | 408,92% |
| | Working clothing mg/kg bw/day | 0,3852 | % of RVNAS | 81,78% |
| | Working clothing and gloves mg/kg bw/day | 0,1926 | % of RVNAS | 40,89% |

| | | | | |
|-------------------------|---|--------|------------|--------|
| Resident - child | Spray drift (75th percentile) mg/kg bw/day | 0,0989 | % of RVNAS | 21,00% |
| | Vapour (75th percentile) mg/kg bw/day | 0,0161 | % of RVNAS | 3,41% |
| | Surface deposits (75th percentile) mg/kg bw/day | 0,0035 | % of RVNAS | 0,73% |
| | Entry into treated crops (75th percentile) mg/kg bw/day | 0,0361 | % of RVNAS | 7,67% |
| | All pathways (mean) mg/kg bw/day | 0,1119 | % of RVNAS | 23,76% |
| Resident - adult | Spray drift (75th percentile) mg/kg bw/day | 0,0549 | % of RVNAS | 11,66% |
| | Vapour (75th percentile) mg/kg bw/day | 0,0035 | % of RVNAS | 0,73% |
| | Surface deposits (75th percentile) mg/kg bw/day | 0,0016 | % of RVNAS | 0,33% |
| | Entry into treated crops (75th percentile) mg/kg bw/day | 0,0201 | % of RVNAS | 4,26% |
| | All pathways (mean) mg/kg bw/day | 0,0563 | % of RVNAS | 11,96% |

| | | | | |
|--------------------------|---|--------|------------|--------|
| Bystander - child | Spray drift (95th percentile) mg/kg bw/day | 0,2266 | % of RVAAS | 48,11% |
| | Vapour (95th percentile) mg/kg bw/day | 0,0161 | % of RVAAS | 3,41% |
| | Surface deposits (95th percentile) mg/kg bw/day | 0,0096 | % of RVAAS | 2,03% |
| | Entry into treated crops (95th percentile) mg/kg bw/day | 0,0361 | % of RVAAS | 7,67% |
| Bystander - adult | Spray drift (95th percentile) mg/kg bw/day | 0,1258 | % of RVAAS | 26,71% |

Exposure assessment

| | | | |
|---|--------|------------|-------|
| Vapour (95th percentile) mg/kg bw/day | 0,0035 | % of RVAAS | 0,73% |
| Surface deposits (95th percentile) mg/kg bw/day | 0,0043 | % of RVAAS | 0,92% |
| Entry into treated crops (95th percentile) mg/kg bw/day | 0,0201 | % of RVAAS | 4,26% |

| | | |
|------------------------------|------------------|------------------|
| Recreational Exposure | Child % of RVNAS | Adult % of RVNAS |
|------------------------------|------------------|------------------|

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Operator exposure for Maxcel outdoor spray applications

| | | |
|--------------------------------------|--|------------------------|
| Application rate of active substance | 0,214 kg a.s./ha | <i>i_AppRate</i> |
| Assumed area treated | 10 ha/day | <i>d_AreaTreated</i> |
| Amount of active substance applied | 2,14 kg a.s./day | <i>i_AmountAS</i> |
| Dermal absorption of the product | 100,00% | <i>i_AbsorpProduct</i> |
| Dermal absorption of in-use dilution | 100,00% | <i>i_AbsorInuse</i> |
| Formulation type | Soluble concentrates, emulsifiable concentrate, etc. | |
| Indoor or Outdoor application | Outdoor | |
| Application method | Upward spraying | |
| Application equipment | Vehicle-mounted | |
| Season | late (dense foliage) | |

| | Exposure values | µg exposure/day mixed and loaded | | Reference | Comment |
|--------------------------|---|---|--------------------------|---------------------|------------------------------|
| | | 75 th centile | 95 th centile | | |
| Mixing and loading | Hands | 8724 | 32181 | AOEM | |
| | Body | 6090 | 89841 | AOEM | |
| | Head | 111 | 10751 | AOEM | |
| | Protected hands (gloves) | 56 | 424 | AOEM | |
| | Protected body (workwear or protective garment and sturdy footwear) | 47 | 313 | AOEM | |
| | Protected head (hood and face shield) | 2 | 609 | AOEM | |
| | Inhalation | 5 | 29 | AOEM | |
| | Protective Equipment | 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 th centile | 95 th centile | | |
| Application | Hands | 4954 | 13347 | AOEM | No data available for a drift reduction scenario |
| | Body | 18857 | 110031 | AOEM | |
| | Head | 2478 | 15209 | AOEM | |
| | Protected hands (gloves) | 75 | 1968 | AOEM | |
| | Protected body (workwear or protective garment and sturdy footwear) | 246 | 481 | AOEM | |
| | Inhalation | 98 | 177 | AOEM | |
| | Protective Equipment | Select for inclusion | | Penetration 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) | 41,3169426 | 16,6629842 | |
| Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day) | 0,6886157 | 0,2777164 | |
| % of RVNAS | 146,20% | 58,96% | |
| Acute | | | |

| | | | |
|--|-------------|------------|--|
| Total systemic exposure from mixing, loading and application (mg a.s./day) | 271,5663674 | 72,4889805 | |
|--|-------------|------------|--|

| | | |
|--|-----------|-----------|
| Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day) | 4,5261061 | 1,2081497 |
| % of RVAAS | 960,96% | 256,51% |

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 |
|---|---|--|---|
| Without RPE/PPE | | | |
| Hands | 8724,1361605 | 145,4022693 | $D15^*i_AbsorpProduct$ |
| Body | 6089,5857972 | 101,4930966 | $D16^*i_AbsorpProduct$ |
| Head | 111,0308778 | 1,8505146 | $D17^*i_AbsorpProduct$ |
| Inhalation | 4,6422779 | 0,0773713 | $D21^*i_AbsorpInhalation$ |
| Sum | 14929,3951135 | 248,8232519 | |
| With RPE/PPE (as selected above) | | | |
| Hands | 8724,1361605 | 145,4022693 | $D18^*i_AbsorpProduct$ |
| Body | 46,6507743 | 0,7775129 | $D19^*i_AbsorpProduct$ or $D15^*i_AbsorpProduct^*F24$ |
| Head | 111,0308778 | 1,8505146 | $D20^*i_AbsorpProduct$ or $D17^*i_AbsorpProduct^*F25$ |
| Inhalation | 4,6422779 | 0,0773713 | $D21^*i_AbsorpInhalation^*G25$ |
| Sum | 8886,4600905 | 148,1076682 | |
| Water soluble bag | 8886,4600905 | 148,1076682 | $C70^*F26$ |

2.2 Application

| | Systemic exposure [$\mu\text{g a.s. /day}$] | Systemic exposure [$\mu\text{g a.s./kg bw/day}$] | Formula |
|---|---|--|---|
| Without RPE/PPE | | | |
| Hands | 4954,2854063 | 82,5714234 | $D30^*i_Absorpnuse$ |
| Body | 18857,0509003 | 314,2841817 | $D31^*i_Absorpnuse$ |
| Head | 2478,1282202 | 41,3021370 | $D32^*i_Absorpnuse$ |
| Inhalation | 98,0829104 | 1,6347152 | $D35^*i_AbsorpInhalation$ |
| Sum | 26387,5474372 | 439,7924573 | |
| With RPE/PPE (as selected above) | | | |
| Hands | 4954,2854063 | 82,5714234 | $D33^*i_Absorpnuse$ |
| Body | 246,0275679 | 4,1004595 | $D34^*i_Absorpnuse$ or $D31^*i_Absorpnuse^*F38$ |
| Head | 2478,1282202 | 41,3021370 | $D32^*i_Absorpnuse^*F39$ |
| Inhalation | 98,0829104 | 1,6347152 | $D35^*i_Absorpnuse^*G39$ |
| Sum | 7776,5241048 | 129,6087351 | |

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 |
|---|---|--|---|
| Without RPE/PPE | | | |
| Hands | 32181,4648153 | 536,3577469 | $E15^*i_AbsorpProduct$ |
| Body | 89840,5454394 | 1497,3424240 | $E16^*i_AbsorpProduct$ |
| Head | 10751,3691416 | 179,1894857 | $E17^*i_AbsorpProduct$ |
| Inhalation | 29,2398985 | 0,4873316 | $E21^*i_AbsorpInhalation$ |
| Sum | 132802,6192948 | 2213,3769882 | |
| With RPE/PPE (as selected above) | | | |
| Hands | 32181,4648153 | 536,3577469 | $E18^*i_AbsorpProduct$ |
| Body | 312,9779729 | 5,2162995 | $E19^*i_AbsorpProduct$ or $E16^*i_AbsorpProduct^*F24$ |
| Head | 10751,3691416 | 179,1894857 | $E20^*i_AbsorpProduct$ or $E17^*i_AbsorpProduct^*F25$ |
| Inhalation | 29,2398985 | 0,4873316 | $E21^*i_AbsorpInhalation^*G25$ |
| Sum | 43275,0518283 | 721,2508638 | |
| Water soluble bag | 43275,0518283 | 721,2508638 | $C104^*F26$ |

2.2 Application

| | Systemic exposure [$\mu\text{g a.s. /day}$] | Systemic exposure [$\mu\text{g a.s./kg bw/day}$] | Formula |
|------------------------|---|--|----------------------------|
| Without RPE/PPE | | | |
| Hands | 13346,6961466 | 222,4449358 | $E30^*i_Absorpnuse$ |
| Body | 110030,6740210 | 1833,8445670 | $E31^*i_Absorpnuse$ |
| Head | 15209,4592404 | 253,4909873 | $E32^*i_Absorpnuse$ |
| Inhalation | 176,9187138 | 2,9486452 | $E35^*i_AbsorpInhalation$ |

| | | | |
|----------------------------------|----------------|--------------|---|
| Sum | 138763,7481217 | 2312,7291354 | |
| With RPE/PPE (as selected above) | | | |
| Hands | 13346,6961466 | 222,4449358 | <i>E33*i_Absorpnuse</i> |
| Body | 480,8545982 | 8,0142433 | <i>E34*i_Absorpnuse or E31*i_Absorpnuse*F38</i> |
| Head | 15209,4592404 | 253,4909873 | <i>E32*i_Absorpnuse*F39</i> |
| Inhalation | 176,9187138 | 2,9486452 | <i>E35*i_Absorpnhalation*G39</i> |
| Sum | 29213,9286989 | 486,8988116 | |

Operator exposure for Maxcel granular applications

| | | |
|--------------------------------------|--|------------------------|
| Application rate of active substance | 0,214 kg a.s./ha | <i>i_AppRate</i> |
| Assumed area treated | 10 ha/day | <i>d_AreaTreated</i> |
| Amount of active substance applied | 2,14 kg a.s./day | <i>i_AmountAS</i> |
| Dermal absorption of the product | 100,00% | <i>i_AbsorpProduct</i> |
| Dermal absorption of in-use dilution | 100,00% | <i>i_AbsorInuse</i> |
| Formulation type | Soluble concentrates, emulsifiable concentrate, etc. | |
| Indoor or Outdoor application | Outdoor This sheet is only to be used for granular applications | |
| Application method | Upward spraying | |
| Application equipment | Vehicle-mounted | |

| | Exposure values | mg exposure/kg a.s. mixed and loaded | | Reference | Comment |
|--------------------|-------------------------------|--------------------------------------|--------------------------|--------------------|--|
| | | 75 th centile | 95 th 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 |
| | Protective Equipment | 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 th centile | 95 th 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 |
| | Protective Equipment | 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 | |
| Longer term | | | |
| 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 | |
| Acute | | | |

| | | | |
|--|------|------|--|
| 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 |
|---|----------------------------------|---------------------------------------|---|
| Without RPE/PPE | | | |
| 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 | |
| With RPE/PPE (as selected above) | | | |
| 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 |
|---|----------------------------------|---------------------------------------|--|
| Without RPE/PPE | | | |
| Hands | #N/A | #N/A | $D25*100*_i_AmountAS*_i_Absorplnuse$ |
| Body | #N/A | #N/A | $D26*100*_i_AmountAS*_i_Absorplnuse$ |
| Inhalation | #N/A | #N/A | $D27*_i_AmountAS*_i_Absorplnuse$ |
| Sum | #N/A | #N/A | |
| With RPE/PPE (as selected above) | | | |
| Hands | #N/A | #N/A | $D25*_i_AmountAS*_i_Absorplnuse$ |
| Body | #N/A | #N/A | $D26*_i_AmountAS*_i_Absorplnuse$ |
| Inhalation | #N/A | #N/A | $D27*_i_AmountAS*_i_Absorplnuse*F31$ |
| 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 |
|---|----------------------------------|---------------------------------------|---|
| Without RPE/PPE | | | |
| 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 | |
| With RPE/PPE (as selected above) | | | |
| 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 |
|------------------------|----------------------------------|---------------------------------------|--|
| Without RPE/PPE | | | |
| Hands | #N/A | #N/A | $E25*100*_i_AmountAS*_i_Absorplnuse$ |
| Body | #N/A | #N/A | $E25*100*_i_AmountAS*_i_Absorplnuse$ |

| | | | |
|---|------|------|---|
| Inhalation | #N/A | #N/A | $E26 * i_AmountAS * i_Absorpinhalation$ |
| Sum | #N/A | #N/A | |
| With RPE/PPE (as selected above) | | | |
| Hands | #N/A | #N/A | $E25 * 100 * i_AmountAS * i_Absorpnuse$ |
| Body | #N/A | #N/A | $E26 * 100 * i_AmountAS * i_Absorpnuse$ |
| Inhalation | #N/A | #N/A | $E27 * i_AmountAS * i_Absorpinhalation * F31$ |
| Sum | #N/A | #N/A | |

Worker exposure from residues on foliage for Maxcel

| | | |
|--|-------------------------------|------------------------|
| 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 | 0,214 kg a.s./ha | <i>i_AppRate</i> |
| Number of applications | 1 | <i>i_AppNo</i> |
| Interval between multiple applications | 365 days | <i>i_AppInt</i> |
| Half-life of active substance | 30 days | <i>d_HalfLifeAS</i> |
| Multiple application factor | 1,0 | <i>d_MAF</i> |
| Dermal absorption of the product | 100,00% | <i>i_AbsorpProduct</i> |
| Dermal absorption of the in-use dilution | 100,00% | <i>i_Absorplnuse</i> |
| Dislodgeable foliar residue (<i>i_AppRate</i> * <i>i_DFR</i>) | 0,642 µg a.s./cm ² | <i>d_DFR</i> |
| Working hours | 8 hr | <i>d_WorkHr</i> |
| Dermal transfer coefficient - Total potential exposure | 22500 cm ² /hr | <i>d_DermTcUCV</i> |
| Dermal transfer coefficient - arms, body and legs covered | 4500 cm ² /hr | <i>d_DermTcCV1</i> |
| Dermal transfer coefficient - hands, arms, body and legs covered | 2250 cm ² /hr | <i>d_DermTcCV2</i> |
| Inhalation transfer coefficient for automated applications | NA ha/hr*10 ⁻³ | <i>d_InhalTcAut</i> |
| Inhalation transfer coefficient for cutting ornamentals | NA ha/hr*10 ⁻³ | <i>d_InhalTcCut</i> |
| Inhalation transfer coefficient for sorting / bundling ornamentals | NA ha/hr*10 ⁻³ | <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) | 115,5600000 | 23,1120000 | 11,5560000 | |
| Total systemic exposure per kg body weight (mg/kg bw/day) | 1,9260000 | 0,3852000 | 0,1926000 | |
| % of RVNAS | 408,92% | 81,78% | 40,89% | |

2. Details

| | Systemic exposure | | Formula | Comments |
|--|-------------------|---------------------|--|---------------------------|
| | [mg a.s. /day] | [mg a.s./kg bw/day] | | |
| Dermal - Potential | 115,5600000 | 1,9260000 | $d_DermTcUCV * d_WorkHr * i_DFR * i_MAF / 1000 * i_Absorplnuse$ | |
| Dermal - Work wear - arms, body and legs covered | 23,1120000 | 0,3852000 | $d_DermTcCV1 * d_WorkHr * d_DFR * d_MAF / 1000 * i_Absorplnuse$ | |
| Dermal - Working wear and gloves | 11,5560000 | 0,1926000 | $d_DermTcCV2 * d_WorkHr * d_DFR * d_MAF / 1000 * i_Absorplnuse$ | |
| Inhalation | | | | Na for outdoor activities |
| | | | | |

Resident exposure for Maxcel

| | | |
|---|---|--------------------------|
| Croptype | Pome fruit | |
| Application method | Upward spraying | |
| Application equipment | Vehicle-mounted | <i>i_AppEquip</i> |
| Formulation type | Soluble concentrates, emulsifiable concentrate, etc. | <i>i_FormVal</i> |
| Buffer strip | 5 m | <i>i_Buffer</i> |
| Application rate of the product | 0,214 kg a.s./ha | <i>i_AppRate</i> |
| Concentration of active substance (in-use dilution for liquid applications) | 0,713333333 g a.s./l | <i>d_ConcAS</i> |
| Dermal absorption of product | 100,00% | <i>i_AbsorpProduct</i> |
| Dermal absorption of in-use dilution | 100,00% | <i>i_AbsorpInuse</i> |
| Oral absorption | 50,00% | <i>i_AbsorpOrallnuse</i> |
| Dislodgeable foliar residue (<i>i_AppRate</i> * <i>i_DFR</i>) | 0,642 µg a.s./cm ² | <i>d_DFR</i> |
| Vapour pressure of in-use dilution | moderately volatile substances with a vapour pressure between 5*10-3Pa and 10-2Pa | <i>i_Volat</i> |
| Concentration in air | 0,015 mg/m ³ | <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 ³ /day/kg | <i>d_BreathRAd</i> |
| Breathing rate child (1-3 year old) | 1,07 m ³ /day/kg | <i>d_BreathRCh</i> |
| Drift percentage on surface (75th percentile) | 6,04% | |
| Drift percentage on surface (mean) | 3,73% | |
| Turf transferable residues percentage | 5,00% | <i>d_Turf</i> |
| Transfer coeff. of surface deposits-adult | 7300 cm ² /hour | <i>d_ReTCAd</i> |
| Transfer coeff. of surface deposits-child (1-3 year old) | 2600 cm ² /hour | <i>d_ReTCCh</i> |
| Saliva extraction percentage | 50,00% | <i>d_SalExt</i> |
| Surface area of hands mouthed | 20 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 cm ² | <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 ² /h | <i>d_TcEntryAd</i> |
| Transfer coefficient for entry into treated crops (75th percentile) - child | 2250 cm ² /h | <i>d_TcEntryCh</i> |
| Transfer coefficient for entry into treated crops (mean) - adult | 5980 cm ² /h | <i>d_TcEntryAd</i> |
| Transfer coefficient for entry into treated crops (mean) - child | 1794 cm ² /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) | 0,9891247 | 0,1605000 | 0,0345437 | 0,3611250 | 1,1190454 |
| Total systemic exposure per kg body weight (mg/kg bw/day) | 0,0989125 | 0,0160500 | 0,0034544 | 0,0361125 | 0,1119045 |
| % of RVNAS | 21,00% | 3,41% | 0,73% | 7,67% | 23,76% |

1.2 Adult

| | Spray drift | Vapour | Surface deposits | Entry into treated crops | All pathways (mean) |
|---|-------------|-----------|------------------|--------------------------|---------------------|
| Total systemic exposure (mg a.s./day) | 3,2946727 | 0,2070000 | 0,0943569 | 1,2037500 | 3,3788274 |
| Total systemic exposure per kg body weight (mg/kg bw/day) | 0,0549112 | 0,0034500 | 0,0015726 | 0,0200625 | 0,0563138 |
| % of RVNAS | 11,66% | 0,73% | 0,33% | 4,26% | 11,96% |

2. Resident exposure 75th Percentile

| | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula | Comments |
|---------------------------|----------------------------------|---------------------------------------|--|---|
| 1-3 year old child | | | | |
| Spray drift | 0,9891247 | 0,0989125 | $((C16 * i_Absorpnuse * (1 - d_ClothAF)) + C18) * d_ConcAS$ | 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 | 0,1605000 | 0,0160500 | $d_AirCon * d_BreathRCh * d_BwChild$ | |
| Surface deposits | | | | |
| Dermal | 0,0336066 | 0,0033607 | $(i_AppRate / 100) * C29 * d_Turf * d_ReTCCh * d_ReExpDur * MAX(i_AbsorpProduct, i_Absorpnuse) * d_MAF * IF(i_AppEquip = "Vehicle-mounted-Drift Reduction", 0.5, 1)$ | |
| Hand to mouth | 0,0006140 | 0,000614 | $(i_AppRate / 100) * C29 * d_Turf * d_SalExt * d_AreaHM * d_ReFreqHM * d_ReExpDur * i_AbsorpOrallnuse * d_MAF$ | |
| Object to mouth | 0,0003231 | 0,000323 | $(i_AppRate / 100) * C29 * d_DRP * d_MouthGrass * i_AbsorpOrallnuse * d_MAF$ | |

| | | | | |
|-----------------------------------|-----------|-----------|--|---|
| Entry into treated crops | | | | |
| Dermal | 0,3611250 | 0,0361125 | $(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_Absorpnuse)$ | |
| 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. |
| Adult | | | | |
| Spray drift | 3,2946727 | 0,0549112 | $(C15*i_Absorpnuse*(1-d_ClothAF))+C17)*d_ConcAS$ | 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 | 0,2070000 | 0,0034500 | $d_AirCon*d_BreathRAD*d_BwAdult$ | |
| Surface deposits (dermal) | 0,0943569 | 0,0015726 | $(i_AppRate/100)*C30*d_Turf*d_ReTCA*d_ReExpDur*i_AbsorpProduct*d_MAF$ | |
| Entry into treated crops (dermal) | 1,2037500 | 0,0200625 | $(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_Absorpnuse)$ | |

3. Summing of exposure pathways mean

| | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula | Comments |
|-----------------------------------|----------------------------------|---------------------------------------|--|---|
| 1-3 year old child | | | | |
| Spray drift | 0,6492760 | 0,0649276 | $((C20*i_Absorpnuse*(1-d_ClothAF))+C22)*d_ConcAS$ | 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 | 0,1605000 | 0,0160500 | $d_AirCon*d_BreathRCh*d_BwChild$ | |
| Surface deposits | | | | |
| Dermal | 0,0207537 | 0,0020754 | $(i_AppRate/100)*C30*d_Turf*d_ReTCA*d_ReExpDur*MAX(i_AbsorpProduct,i_Absorpnuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1)$ | |
| Hand to mouth | 0,0003792 | 0,0000379 | $(i_AppRate/100)*C30*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOrallnuse*d_MAF$ | |
| Object to mouth | 0,0001996 | 0,0000200 | $(i_AppRate/100)*C30*d_DRP*d_MouthGrass*i_AbsorpOrallnuse*d_MAF$ | |
| Entry into treated crops | | | | |
| Dermal | 0,2879370 | 0,0287937 | $(d_TcEntryMeanCh*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_Absorpnuse)$ | |
| 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. |
| Adult | | | | |
| Spray drift | 2,1537673 | 0,0358961 | $((C19*i_Absorpnuse*(1-d_ClothAF))+C21)*d_ConcAS$ | 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 | 0,2070000 | 0,0034500 | $d_AirCon*d_BreathRAD*d_BwAdult$ | |
| Surface deposits (dermal) | 0,0582701 | 0,0009712 | $(i_AppRate/100)*C30*d_Turf*d_ReTCA*d_ReExpDur*MAX(i_AbsorpProduct,i_Absorpnuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1)$ | |
| Entry into treated crops (dermal) | 0,9597900 | 0,0159965 | $(d_TcEntryMeanAd*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_Absorpnuse)$ | |

Bystander exposure for Maxcel

| | | |
|---|--|-------------------|
| Croptype | Pome fruit | |
| Application method | Upward spraying | |
| Application equipment | Vehicle-mounted | i_AppEquip |
| Formulation type | Soluble concentrates, emulsifiable concentrate, etc. | |
| Application rate of the product | 0,214 kg a.s./ha | i_AppRate |
| Buffer strip | 5 m | i_Buffer |
| Concentration of active substance (in-use dilution for liquid applications) | 0,713333333 g a.s./l | d_ConcAS |
| Dermal absorption of product | 100,00% | i_AbsorpProduct |
| Dermal absorption of in-use dilution | 100,00% | i_AbsorpInuse |
| Oral absorption | 50,00% | i_AbsorpOrallnuse |
| Dislodgeable foliar residue (i_AppRate*i_DFR) | 0,642 µg a.s./cm ² | d_DFR |
| Vapour pressure of in-use dilution | moderately volatile substances with a vapour pressure between 5*10-3Pa and 10-2Pa Pa | i_Volat |
| Concentration in air | 0,015 mg/m ³ | d_AirCon |
| Bystander dermal spray drift exposure - adult | 12,9 ml spray dilution/person | |
| Bystander dermal spray drift exposure - child | 3,87 ml spray dilution/person | |
| Bystander inhal. spray drift exposure - adult | 0,00440 ml spray dilution/person | |
| Bystander inhal. spray drift exposure - child | 0,00348 ml spray dilution/person | |
| Exposure duration | 2 hours | d_ByExpDur |
| Exposure duration entry into treated crops | 0,25 hours | d_ExpDurTreatCrop |
| Light clothing adjustment factor | 18,0% | d_ClothAF |
| Breathing rate adult | 0,23 m ³ /hours/kg | d_BreathRAd |
| Breathing rate child (1-3 year old) | 1,07 m ³ /hours/kg | d_BreathRCh |
| Drift percentage on surface (90th percentile) | 8,41% | |
| Turf transferable residues percentage | 5,00% | d_Turf |
| Transfer coeff. of surface deposits-adult | 14500 cm ² /hour | d_ByTCAd |
| Transfer coeff. of surface deposits-child (1-3 year old) | 5200 cm ² /hour | d_ByTCCh |
| Saliva extraction percentage | 50,00% | d_SalExt |
| Surface area of hands mouthed | 20 cm ² | d_AreaHM |
| Frequency of hand to mouth activity | 20 events/hour | d_ByFreqHM |
| Ingestion rate for mouthing of grass per day | 25 cm ² | d_MouthGrass |
| Dislodgeable residues percentage transferability for object to mouth | 20,00% | d_DRP |
| Transfer coefficient for entry into treated crops - adult | 7500 cm ² /h | d_TcEntryAd |
| Transfer coefficient for entry into treated crops - child | 2250 cm ² /h | d_TcEntryCh |

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) | 2,2661768 | 0,1605000 | 0,0958362 | 0,3611250 |
| Total systemic exposure per kg body weight (mg/kg bw/day) | 0,2266177 | 0,0160500 | 0,0095836 | 0,0361125 |
| % of RVAAS | 48,11% | 3,41% | 2,03% | 7,67% |

1.2 Adult

| | Spray drift | Vapour | Surface deposits | Entry into treated crops |
|---|-------------|-----------|------------------|--------------------------|
| Total systemic exposure (mg a.s./day) | 7,5487787 | 0,2070000 | 0,2609623 | 1,2037500 |
| Total systemic exposure per kg body weight (mg/kg bw/day) | 0,1258130 | 0,0034500 | 0,0043494 | 0,0200625 |
| % of RVAAS | 26,71% | 0,73% | 0,92% | 4,26% |

2. Details

| | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula | Comments |
|---------------------------|----------------------------------|---------------------------------------|--|---|
| 1-3 year old child | | | | |
| Spray drift | 2,2661768 | 0,2266177 | $((C16*i_Absorplnuse*(1-d_ClothAF))+C18)*d_ConcAS$ | 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 | 0,1605000 | 0,0160500 | $d_AirCon*d_BreathRCh*d_BwChild$ | |
| Surface deposits | | | | |
| Dermal | 0,0935865 | 0,0093586 | $(i_AppRate/100)*C24*d_Turf*d_ByTCCh*d_ByExpDur*MAX(i_AbsorpProduct,i_Absorplnuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)$ | |
| Hand to mouth | 0,0017997 | 0,0001800 | $(i_AppRate/100)*C25*d_Turf*d_SalExt*d_AreaHM*d_ByFreqHM*d_ByExpDur*i_AbsorpOralnuse*d_MAF$ | |
| Object to mouth | 0,0004499 | 0,0000450 | $(i_AppRate/100)*C25*d_DRP*d_MouthGrass*i_AbsorpOralnuse*d_MAF$ | |

| | | | | |
|-----------------------------------|-----------|-----------|--|---|
| Entry into treated crops | | | | |
| Dermal | 0,3611250 | 0,0361125 | $(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_Absorplnuse)$ | |
| 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. |
| Adult | | | | |
| Spray drift | 7,5487787 | 0,1258130 | $((C15*i_Absorplnuse*(1-d_ClothAF))+C17)*d_ConcAS$ | 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 | 0,2070000 | 0,0034500 | $d_AirCon*d_BreathRAD*d_BwAdult$ | |
| Surface deposits (dermal) | 0,2609623 | 0,0043494 | $(i_AppRate/100)*C24*d_Turf*d_ByTCAd*d_ByExpDur*MAX(i_AbsorpProduct,i_Absorplnuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)$ | |
| Entry into treated crops (dermal) | 1,2037500 | 0,0200625 | $(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_Absorplnuse)$ | |

Recreational exposure for Maxcel

| 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 | | Soluble concentrates, emulsifiable concentrate, etc. | <i>i_FormVal</i> |
| Application rate of the product | | 0,214 kg a.s./ha | <i>i_AppRate</i> |
| Dermal absorption of product | | 100,00% | <i>i_AbsorpProduct</i> |
| Dermal absorption of in-use dilution | | 100,00% | <i>i_Absorplnuse</i> |
| Oral absorption | | 50,00% | <i>i_AbsorpOrallnuse</i> |
| Dislodgeable foliar residue ($i_AppRate \cdot i_DFR$) | | 0,642 $\mu\text{g a.s./cm}^2$ | <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 cm^2/hour | <i>d_ReTCAd</i> |
| Transfer coeff. of surface deposits-child (1-3 year old) | | 2600 cm^2/hour | <i>d_ReTCCh</i> |
| Saliva extraction percentage | | 50,00% | <i>d_SalExt</i> |
| Surface area of hands mouthed | | 20 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 cm^2 | <i>d_MouthGrass</i> |

2. Details

| | Systemic exposure [mg a.s. /day] | Systemic exposure [mg a.s./kg bw/day] | Formula | Comments |
|---------------------------|----------------------------------|---------------------------------------|--|----------|
| 1-3 year old child | | | | |
| Surface deposits | | | | |
| Dermal | 0,5564000 | 0,0556400 | $(i_AppRate/100) \cdot C13 \cdot d_Turf \cdot d_ReTCCh \cdot d_ReExpDur \cdot \text{MAX}(i_AbsorpProduct, i_Absorplnuse) \cdot d_MAF$ | |
| Hand to mouth | 0,0101650 | 0,0010165 | $(i_AppRate/100) \cdot C13 \cdot d_Turf \cdot d_SalExt \cdot d_AreaHM \cdot d_ReFreqHM \cdot d_ReExpDur \cdot i_AbsorpOrallnuse \cdot d_MAF$ | |
| Object to mouth | 0,0053500 | 0,0005350 | $(i_AppRate/100) \cdot C13 \cdot d_DRP \cdot d_MouthGrass \cdot i_AbsorpOrallnuse \cdot d_MAF$ | |
| Total systemic exposure | 0,5719150 | 0,0571915 | | |
| % of RVNAS | | | | |
| Adult | | | | |
| Surface deposits (dermal) | | | | |
| | 1,5622000 | 0,0260367 | $(i_AppRate/100) \cdot C13 \cdot d_Turf \cdot d_ReTCAd \cdot d_ReExpDur \cdot \text{MAX}(i_AbsorpProduct, i_Absorplnuse) \cdot d_MAF$ | |
| % of RVNAS | | | | |

| | | |
|---------------------------------|---|-------------------------------|
| <i>d_AirConVol</i> | Concentration in air of moderately volatile substances | 0,015 mg/m ³ |
| <i>d_AirConNonVol</i> | Concentration in air of low volatile substances | 0,001 mg/m ³ |
| <i>d_AreaHM</i> | Surface area of hands mouthed | 20 cm ² |
| <i>d_AreaTreated</i> | Area treated (defined by crop type) | 10 ha |
| <i>d_BreathRAd</i> | Breathing rate adult residents | 0,23 m ³ /day/kg |
| <i>d_BreathRCh</i> | Breathing rate child (1-3 year old) residents | 1,07 m ³ /day/kg |
| <i>d_BwAdult</i> | Adult body weight | 60 kg |
| <i>d_BwChild</i> | Child body weight (1 to < 3 year olds) | 10 kg |
| <i>d_ByBreathRAd</i> | Breathing rate adult bystander | 0,04 m ³ /hours/kg |
| <i>d_ByBreathRCh</i> | Breathing rate child (1-3 year old) bystander | 0,19 m ³ /hours/kg |
| <i>d_ByExpDur</i> | Exposure duration intense activity breathing rates | 2 hours |
| <i>d_ByFreqHM</i> | Frequency of hand to mouth activity | 20 events/hour |
| <i>d_ByTCAd</i> | Transfer coeff. of surface deposits-adult | 14500 cm ² /hour |
| <i>d_ByTCCh</i> | Transfer coeff. of surface deposits-child (1-3 year old) | 5200 cm ² /hour |
| <i>d_ClothAF</i> | Light clothing adjustment factor resident and bystanders | 18,0% |
| <i>d_ConcAs</i> | Concentration of active substance (in-use dilution for liquid applications) | 0,713333333 g a.s./l |
| <i>d_DFR</i> | Dislodgeable foliar residue (i_AppRate*i_DFR) | 0,642 µg a.s./cm ² |
| <i>d_DRP</i> | Dislodgeable residues percentage transferability for object to mouth | 20,0% |
| <i>d_HalfLifeAS</i> | Half-life of active substance (DT50) | 30 days |
| <i>d_InhalTcAut</i> | Inhalation transfer coefficient for automated applications | NA ha/hr*10 ^{^(-3)} |
| <i>d_InhalTcCut</i> | Inhalation transfer coefficient for cutting ornamentals | NA ha/hr*10 ^{^(-3)} |
| <i>d_InhalTcSort</i> | Inhalation transfer coefficient for sorting / bundling ornamentals | NA ha/hr*10 ^{^(-3)} |
| <i>d_MAF</i> | Multiple application factor | 1,00 |
| <i>d_MouthGrass</i> | Ingestion rate for mouthing of grass per day | 25 cm ² grass/day |
| <i>d_ReExpDur</i> | Exposure duration resident dermal | 2 hours |
| <i>d_ReExpDurInhal</i> | Exposure duration resident inhalation | 24 hours |
| <i>d_ExpDurTreatCrop</i> | Exposure duration for resident and bystander entry into treated crops | 0,25 hours |
| <i>d_ReFreqHM</i> | Frequency of hand to mouth activity | 9,5 events/hour |
| <i>d_ReTCAd</i> | Transfer coeff. of surface deposits-adult | 7300 cm ² /hour |
| <i>d_ReTCCh</i> | Transfer coeff. of surface deposits-child (1-3 year old) | 2600 cm ² /hour |
| <i>d_SalExt</i> | Saliva extraction percentage | 50,0% |
| <i>d_TcEntryAd</i> | Transfer coefficient for entry into treated crops 75th percentile - adult | 7500 cm ² /h |
| <i>d_TcEntryCh</i> | Transfer coefficient for entry into treated crops 75th percentile - child | 2250 cm ² /h |
| <i>d_TcEntryMeanAd</i> | Transfer coefficient for entry into treated crops mean - adult | 5980 cm ² /h |
| <i>d_TcEntryMeanCh</i> | Transfer coefficient for entry into treated crops mean - child | 1794 cm ² /h |
| <i>d_Turf</i> | Turf transferable residues percentage | 5,0% |
| <i>d_PctExtrapolation</i> | For exposure value 75 percentiles above this amount linear extrapolation is performed | 1,5 kg |
| <i>d_head75ProtectionFactor</i> | Coefficient to estimate head protection factor 75 th Percentile | 1,79422 |
| <i>d_head95ProtectionFactor</i> | Coefficient to estimate head protection factor 95 Percentile | 1,24705 |

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 | | 10 | |
| Leaf vegetables and fresh herbs | | 2500 | 5800 Reaching, picking | | 8 Hand and body | | 580 Field crops | | 50 | |
| 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 | |
| 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 | |
| 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 | |
| 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 | 0,041 |
| Field cropsnot relevant5 | 0,035 | 0,023 | 0,018 |
| Field cropsnot relevant10 | 0,019 | 0,013 | 0,010 |
| Fruit cropsnot relevant2-3 | 0,292 | 0,240 | 0,190 |
| Fruit cropsnot relevant5 | 0,199 | 0,158 | 0,117 |
| Fruit cropsnot relevant10 | 0,118 | 0,090 | 0,061 |
| Fruit cropsearly (without leaves)2-3 | 0,292 | 0,240 | 0,190 |
| Fruit cropsearly (without leaves)5 | 0,199 | 0,158 | 0,117 |

| | | | |
|-------------------------------------|-------|-------|-------|
| 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 |
|--|-----------------------|-------------------------|-----------------------------------|------------------------------|-------------------------|---|---|---|-----------------------------------|------------------------------------|------------------------------------|---|--------------------------|
| Mixing Method | Outdoor/Indoor | Formulation type | Application method | Application equipment | Type of exposure | Mixing & Loading 75th percentile | Mixing & Loading 95th percentile | Mixing & Loading Comments | Mixing & Loading Model | Application 75th percentile | Application 95th percentile | Application Comments | Application Model |
| 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 |

