Bestemmingsplan “Bouwlocaties Tull en ‘t Waal II”,

Rapportage inzake ruimtelijk acceptabele afstanden

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1. Inleiding

Het bestemmingsplan ‘Bouwlocaties Tull en ‘t Waal II’ (ontwerp ter inzage gelegd vanaf 7 januari 2016) heeft betrekking op een woningbouwontwikkeling aan de westelijke rand van het dorp Tull en ’t Waal in de gemeente Houten.

Voor deze ontwikkeling is eerder een bestemmingsplan (Bouwlocaties Tull en ’t Waal’) vastgesteld op 23 mei 2013, maar de beoogde woningbouwontwikkeling heeft nog niet plaatsgevonden. Het bestemmingsplan is namelijk geschorst bij beslissing van de voorzitter van de Afdeling bestuursrechtspraak d.d. 1 oktober 2013[1]. Aansluitend zijn bij uitspraak van 7 januari 2015[2] door de Afdeling bestuursrechtspraak de relevante onderdelen van het bestemmingsplan vernietigd.

De reden voor schorsing en aansluitend vernietiging van deze woningbouwmogelijkheid was gelegen in de omstandigheid dat de Afdeling de onderbouwing voor de minimaal aan te houden afstand tussen de nieuwe woonpercelen en de bestaande boomgaard (de zogenaamde spuitzone) onvoldoende achtte.

Het gemeentebestuur van Houten beoogt voor de vernietigde onderdelen van het bestemmingsplan ‘Bouwlocaties Tull en ’t Waal’ een nieuw bestemmingsplan, ‘Bouwlocaties Tull en t Waal II’ vast te stellen. In dat kader is gevraagd om een nieuwe onderzoeksrapportage op te stellen.
Deze rapportage zal dienen als verbeterde en geactualiseerde onderbouwing bij de vaststelling van het bestemmingsplan ‘Bouwlocaties Tull en ’t Waal II’.

1.1. Uitspraak Afdeling bestuursrechtspraak Raad van State

In de eerdere beroepsprocedure is het gebruik van de stoffen Captan en Flonicamid als representatief beoordeeld voor de spuitzone welke in de onderhavige situatie (gebruik van gronden als boomgaard) moet worden aangehouden.

Captan wordt gebruikt ter bestrijding van schimmel en schurft in fruitbomen. Net als alle gewasbeschermingsmiddelen dient het te worden gebruikt overeenkomstig het wettelijke gebruiksvoorschrift dat het College voor de toelating van gewasbeschermingsmiddelen en biociden (hierna ook: Ctgb) is vastgesteld.

In haar uitspraak van 7 januari 2015 heeft de Afdeling bestuursrechtspraak aangegeven dat de stof Malvin WG in de betreffende rapportage niet met de maximale dosering is meegenomen. In deze rapportage is dat probleem opgepakt.

1 VzABRvS 1 oktober 2013 201305911/2/R6.
2 ABRvS 7 januari 2015, 201305911/1/R6

1.2. Gemeentelijk beleid

De gemeente Houten heeft op 2 juli 2015 de Nota Gewasbescherming en Ruimtelijke ordening vastgesteld met daarin het te hanteren beleid bij spuitzones in zowel bestaande als nieuwe situaties.

In onderhavig rapport is overeenkomstig deze nota onderzocht wat de aan te houden ruimtelijk aanvaardbare veiligheidszone dient te zijn in verband met mogelijke drift van gewasbeschermingsmiddelen vanuit een naburige laagstam boomgaard. Het beleidskader in de nota is gebaseerd op onderzoek van Plant Research International (hierna ook: PRI), onderdeel van de Universiteit Wageningen, naar drift van gewasbeschermingsmiddelen vanuit een boomgaard.

Conform dit beleidskader is in onderhavig rapport gebruik gemaakt van dit onderzoek van PRI. Daarnaast is gebruik gemaakt van het verspreidingsmodel van het European Food and Safety Authority (Efsa-model). Dit laatste als aanvulling op / ondersteuning van het in genoemde beleidsnota vastgelegde keuze voor het onderzoek van PRI.

1.3. Opzet van deze rapportage

In deze rapportage wordt nader ingegaan op de aan te houden spuitzone welke in de onderhavige omstandigheden als ruimtelijk acceptabel kan gelden. In het kader daarvan wordt het bouwplan beschreven in relatie tot de representatieve invulling van de maximale planologische mogelijkheden van het betrokken fruitbedrijf. Aansluitend wordt nader ingegaan op de door het bedrijf in te zetten gewasbeschermingsmiddelen en de hierbij voorkomende spuittechnieken.

Overeenkomstig de uitspraak van de Afdeling bestuursrechtspraak kan de stof Captan als maatgevend kan worden beschouwd voor de aan te houden spuitzone voor een boomgaard.
Echter op verzoek van de exploitant van de boomgaard zijn ook andere gewasbeschermingsmiddelen die gebruik worden in de boomgaard onderzocht, te weten Teppeki, Basta200 en Mancozeb WG. Deze middelen zijn beoordeeld met behulp van het EFSA-model. Andere stoffen voor andere soorten teelt zijn – aangezien het dan niet gaat om de representatieve ruimtelijke invulling - niet in beeld gebracht (zie ook hierna) .

Tot slot wordt ingegaan op de hierbij behorende spuitzone welke al dan niet na het treffen van maatregelen als ruimtelijk acceptabel kan gelden.

2. Bouwplan en boomgaard

2.1. Bouwplan

Het is de bedoeling om 29 nieuwe woningen op te richten aan de Kerkebogerd. De woningen zullen een maximale goothoogte mogen hebben van 4,5 dan wel 6 meter en een nokhoogte tot 10,5 meter.

De woonbestemmingen zijn beoogd op een afstand van minimaal 30 meter uit de boomgaard (dit betreft de afstand van de woonbestemming (achtertuinen) tot aan de eerste bomenrij).

2.2. Boomgaard

G.J. van Doorn V.O.F. beschikt over een boomgaard aan de Waalseweg 83 in Tull en ‘t Waal. De locatie wordt gebruikt als laagstam boomgaard welke door een sloot van de projectlocatie wordt gescheiden.

Tussen boomgaard en sloot houdt het bedrijf een teeltvrije zone aan van 3 meter.

Voor de boomgaard geldt het bestemmingsplan ‘Eiland van Schalkwijk’ dat is vastgesteld door de raad van de gemeente Houten op 13 oktober 2015. Er blijkt niet van planologische wijzigingen sindsdien.

2.3. Sloot

Voor de sloot langs de boomgaard geldt het bestemmingsplan ‘Bouwlocaties Tull en ‘t Waal’ van 23 mei 2013. De watergang is blijkens de daartoe strekkende aanduiding als zodanig bestemd.

Op grond van de legger van het Hoogheemraadschap de Stichtse Rijnlanden is de watergang op de perceelgrens aangeduid als natte (watervoerende) tertiaire watergang met kenmerk TN10456. De sloot heeft een breedte van circa 4,5 meter[5] en een diepte van 0,60 meter. Op basis van de Keur wordt aan beide zijden van de sloot een beschermingszone van 2 meter aangehouden. In de legger is aangegeven dat eigenaren van aangelegen gronden onderhoudsplichtig zijn. Ingevolge de Keur betreft dit onderhoud zowel regulier als buitengewoon onderhoud t.b.v. de instandhouding van de watergang.

Gelet op een en ander kan ervan worden uitgegaan dat de desbetreffende sloot niet mag worden gedempt. Dit nog los van de omstandigheid dat hiervoor in privaatrechtelijke zin toestemming dient te worden verkregen. Immers de sloot ligt op (de grens van) twee eigendommen.

3. Milieu, representatieve situatie, gebruikte gewasbeschermingsmiddelen

In het onderhavige hoofdstuk wordt ingegaan op de representatieve invulling van de maximale planologische mogelijkheden van de boomgaard, mede gelet op het geldende bestemmingsplan. Daarnaast wordt ingegaan op de milieuregelgeving welke voor het bedrijf van toepassing is voor het gebruik van gewasbeschermingsmiddelen.

3.1. Bestemmingsplan

Blijkens de verbeelding van het geldende bestemmingsplan ‘Eiland van Schalkwijk’ zijn daarbij de volgende aanduidingen relevant voor de boomgaard:

- Agrarisch (deels met een bouwvlak, voorzien van de functieaanduiding ‘fruitteelt’)
- Waarde – cultuurhistorie
- Waarde – Landschap 4
- Waarde – Archeologie 1/3
- Milieuzone – Boringsvrije zone

De gronden welke in gebruik zijn als boomgaard in directe nabijheid van het projectgebied (de woningbouwlocatie) kennen uitsluitend een aanduiding voor ‘agrarisch’, zonder aanduiding voor bouwvlak of fruitteelt. In de context van deze rapportage is enkel de bestemming van die gronden relevant (en bijvoorbeeld niet een bij deze gronden aanwezig bouwvlak). De in het plan opgenomen afwijkings- en wijzigingsbevoegdheden worden evenmin behandeld.

3.1.1. Agrarisch

Deze als boomgaard door Van Doorn gebruikte voor ‘agrarisch’ aangeduide gronden zijn bestemd voor de uitoefening van een grondgebonden agrarisch bedrijf. Meer bepaald moet het hierbij gaan om akkerbouw, vollegrondstuinbouw, fruitteelt of boomteelt en/of een rundvee-, paarden-, schapen- of geitenhouderij. Alhoewel de teelt van gewassen in de open grond in zijn algemeenheid is toegestaan, is de sier- en bollenteelt hiervan uitgezonderd.

De gronden zijn daarnaast bestemd voor aan de agrarische bestemming ondergeschikte waterberging.

In de agrarische bestemming mogen uitsluitend erfafscheidingen worden gebouwd tot een hoogte van 2 meter en daarnaast per fruitteeltbedrijf 1 gebouw t.b.v. installaties zoals een aggregaat, een druppelaar, irrigatiepomp o.i.d. met een maximale oppervlakte van 30 m^2 en een maximale bouwhoogte van 3 meter. Alle overige bebouwing dient in een agrarisch bouwvlak te worden opgericht.

De gronden zijn tevens bestemd voor ‘bescherming van een aanvaardbaar woon- en leefklimaat van omliggende gevoelige functies, voor zover gelegen binnen een afstand van 50 meter van een nieuw aan te planten fruitboomgaard’.

3.1.2. Conclusie bestemmingsplan

Gelet op het voorgaande is een agrarisch gebruik als boomgaard toegestaan op grond van de geldende bestemming. Het volledige perceel is in gebruik als boomgaard. Uitbreiding van de boomgaard in de richting van de toekomstige woningen is niet mogelijk vanwege de aanwezige sloot, die niet opgeschoven kan worden richting woningen in verband met de daar geldende eigendomsrechten en daarmee samenhangende beperkingen op het vlak van de milieuregelgeving.

Mede vanuit oogpunt van landschap en cultuurhistorie gelden er beperkingen voor het realiseren van nieuwe diepwortelende beplanting of opgaand gewas. Dit is relevant voor wat betreft het eventueel realiseren van windschermen of een hoogstam boomgaard.

Voor wat betreft de beoordeling van driftverspreiding vormt een invulling van de locatie met een laagstam boomgaard de representatieve invulling van de maximale planologische mogelijkheden.

3.2. Representatief gebruik gewasbeschermingsmiddelen

In deze paragraaf wordt ingegaan op het gebruik van gewasbeschermingsmiddelen dat voor de onderhavige boomgaard als maximale representatieve invulling van de planologische situatie kan worden aangehouden.

3.2.1. Bestaande beperkingen driftreductie

Vanwege de aanwezige watergang dient het fruitteeltbedrijf in de huidige situatie maatregelen te nemen die drift van gewasbeschermingsmiddelen in de sloot tegengaan. Verwijdering van de watergang is in de huidige situatie geen reële mogelijkheid.

De sloot is als zodanig bestemd en een eventuele verschuiving van de watergang betreft geen optie waarmee rekening moet worden gehouden als mogelijke ontwikkeling. Op basis van de dubbelbestemming ter bescherming van het landschap zou voor het veranderen van deze watergang een Wabo-aanlegvergunning noodzakelijk zijn. Daarnaast zou hiervoor een vergunningplicht gelden op grond van de Waterwet.

Verplaatsing van de sloot in de richting van de boomgaard zou leiden tot verplaatsing van de teeltvrije zone met onder omstandigheden een grotere afstand van de boomgaard tot de beoogde woningbouw. Verplaatsing van de sloot in de richting van de toekomstige woonbestemmingen zou de (privaatrechtelijke) instemming nodig hebben van de betrokken grondeigenaar.

Om deze redenen wordt de huidige watergang als een gegeven beschouwd. Dit betekent dat een teeltvrije zone, waarin de eerste bomenrij zich op 3 meter afstand van de watergang bevindt een gegeven vormt. Daarnaast dienen driftreducerende technieken te worden toegepast.

3.2.2. Activiteitenbesluit

Op grond van artikel 3.80, lid 4 onder c van het Activiteitenbesluit geldt een teeltvrije zone van 3 meter langs een watergang indien driftreducerende technieken worden toegepast. Concreet is in dit artikel het volgende bepaald over driftreducerende technieken:

- Gebruik maken van een tunnelspuit, of
- Gebruik maken van een vanggewas, of
- Biologische productie, of
- Gebruik maken van een dwarsstroomspuit met reflectiescherm en van een emissiescherm, of
- Gebruik maken van een dwarsstroomspuit of axiaalspuit en bij de buitenste gewasrij wordt gericht vanaf de watergang en de spuitdoppen met 90% driftreductie.

Driftreductie kan dus ook worden bereikt door het toepassen van schermen. Er is in de huidige situatie geen scherm aanwezig. Vanwege de omstandigheid dat het geldende bestemmingsplan geen bouwwerken zoals als een scherm toelaat, zou daarbij moeten worden gewerkt met tijdelijke schermen. Dit is bewerkelijk.

Er is in de huidige situatie evenmin een vanggewas (vegetatiescherm) aanwezig. Het geldende bestemmingsplan bevat beperkingen (vergunningplicht) voor wat betreft het realiseren van hoogopgaande gewassen.

Gelet op een en ander wordt ervan uitgegaan dat het bedrijf andere vormen van driftreductie toepast, zoals een tunnelspuit, een dwarsstroomspuit of axiaalspuit met schermen aan de installatie zelf of driftarme doppen. Het Activiteitenbesluit bevat op dit punt een aanvullende regeling voor wat betreft te toe te passen spuitdoppen (artikel 3.83, lid 4).

In algemene zin bevat het Activiteitenbesluit beperkingen aan het gebruik van gewasbeschermingsmiddelen bij windsnelheden hoger dan 5 meter per seconde (artikel 3.83, lid 6).

3.2.3. Cgtb – wettelijk gebruiksvoorschrift

Het College voor de toelating van gewasbeschermingsmiddelen en biociden (Ctgb) beslist over de toelaatbaarheid van gewasbeschermingsmiddelen in Nederland. Bij toelating geeft het college ook een wettelijk gebruiksvoorschrift. Deze voorschriften gelden als aanvulling op de bepalingen uit het Activiteitenbesluit milieubeheer.

Zoals aangegeven wordt in onderhavige rapportage ingegaan op de stof Captan en wordt op verzoek van de exploitant van de boomgaard ook ingegaan op enkele andere gewasbeschermingsmiddelen.

Captan

Captan wordt als maatgevend beschouwd vanwege de toxiciteit, het verhoudingsgewijs intensieve gebruik en vanwege de omstandigheid dat dit middel ook buiten de volbladperiode mag worden gebruikt. Indien er geen of minder bladeren aan de bomen zijn, is (het risico op) verspreiding door drift groter[3]. Tot slot wordt dit middel opwaarts gespoten voor de behandeling van de bomen zelf (bestrijding / preventie schurft/schimmelinfecties). Het verspreidingsrisico is in die situatie groter dan bijvoorbeeld bij onkruidbestrijdigingsmiddelen welke neerwaarts worden verspoten.

Het bestanddeel Captan vormt ook het werkzame ingrediënt van de toegelaten middelen Captosan en Pro-Captan 80% WG. Voor deze beide middelen geldt een gebruiksvoorschrift dat afwijkt van Malvin WG.

Meer bepaald komt deze erop neer dat grotere hoeveelheden mogen worden gebruikt, ook (met voorzorgen/beperkingen) langs watergangen, met een maximum van 39,2 kg/ha/jaar en tot 2,5 kg/ha voor een behandeling, ook buiten het bladseizoen.

Voor wat betreft de toepassing van Captan zijn thans dus de middelen Pro-captan en Captosan van belang geworden ter bepaling van de maximale representatieve situatie.

Flonicamid

Naast Captan worden er ook andere gewasbeschermingsmiddelen gebruikt. Voor het eveneens representatief geachte middel Teppeki (werkzame stof: Flonicamid) wordt geen specifiek wettelijk gebruiksvoorschrift gegeven buiten de maximaal toelaatbare concentraties.

Uiteraard moet bij het gebruik van Teppeki ook worden voldaan aan de bepalingen uit het Activiteitenbesluit milieubeheer.

Basta 200

Basta 200 is een onkruidbestrijdingsmiddel dat met name wordt gebruikt bij jonge aanplanten. De werkzame stof van Basta 200 is glufosinaat-ammonium. Voor toepassingen in boomkwekerij-gewassen is een maximale dosering van 1,275 l/ha per behandeling toegestaan.[4] Het middel wordt op de bodem tussen de gewasrijen gespoten.

HF Mancozeb DG

HF Mancozeb DG wordt gebruikt als schimmelbestrijdingsmiddel. De werkzame stof van het middel is mancozeb. Indien het middel gebruikt wordt voor de appel- of perenteelt grenzend aan oppervlaktewater, dan dient voor 1 mei gebruikt te worden gemaakt van Venturi-doppen met 1-zijdige bespuiting van de laatste bomenrij richting het perceel en de ventilator stand uit. Tevens kan er ook gebruik worden gemaakt van een Wanner spuit met reflectiescherm en Venturi-doppen. Bij het spuiten na 1 mei moet er tussen de watergang en de boomgaard een aaneengesloten windsingel op

[3] Plant Research International, Driftblootstelling van omstanders en omwonenden door boomgaard bespuitingen, 609, maart 2015, herzien mei 2015

[4] Ctgb, gebruiksvoorschrift voor Basta 200, d.d. 2 mei 2014 (in bijlage 1 staan de gebruiksvoorschriften, in bijlage 2 staan de AOE, ARfD, de dermale opname specifiek voor Basta 200, de orale opname en de dampdruk).

de rand van het rijpad zijn geplaatst en er moet eenzijdig gespoten worden van de laatste bomenrij in de richting van het perceel.

De interval tussen behandelingen dient minstens 10 dagen te zijn en er zijn maximaal 4 toepassingen per teeltseizoen toegestaan. Maximaal mag er 2 kg middel per hectare worden toegepast.[5]

3.3. Samenvatting en conclusie bij dit hoofdstuk

Op grond van het geldende bestemmingsplan mag sprake zijn van een grondgebonden agrarisch bedrijf. Fruitteelt is toegestaan. Voor het realiseren van opgaande beplantingen dient vanwege de dubbelbestemmingen rekening te worden gehouden met beperkingen (aanlegvergunningenstelsel). Het bedrijf heeft geen concrete plannen kenbaar gemaakt om de bedrijfsvoering om te schakelen naar een andere teelt.

De huidige boomgaard kan als representatief voor de maximale planologische situatie worden beschouwd. De huidige situatie is dus bepalend voor de aan te houden spuitzone, ook nu uitbreiding van de boomgaard in de richting van de beoogde nieuwe woningen op grond van milieuregelgeving niet is toegestaan.

In de huidige situatie bevindt de eerste bomenrij zich op 3 meter afstand van de watergang. Vanwege de aanwezigheid van de watergang dient het fruitteeltbedrijf maatregelen te nemen die drift van gewasbeschermingsmiddelen in de watergang tegengaan. Verwijdering van de watergang is in de huidige situatie geen reële mogelijkheid.

Het gebruik van de stof Captan volgens wettelijk gebruiksvoorschrift kan daarbij als representatief voor de maximale blootstelling van de toekomstige omwonenden aan drift worden beschouwd.

Aanvullend is op verzoek van de exploitant van de boomgaard de blootstelling aan de gewasbeschermingsmiddelen Teppeki, Basta 200 en HF Mancozeb DG onderzocht hoewel deze niet als maatgevend worden beschouwd. Deze middelen zijn beoordeeld middels het Efsa model.

4. Spuitzones

4.1. Uitgangspunten bestemmingsplan

In onderhavige rapportage wordt ervan uitgegaan dat (conform het eerder vastgestelde bestemmingsplan) de aanwezigheid van de watergang tussen de boomgaard en het projectgebied specifiek bestemd wordt gehouden.

Daarnaast wordt ervan uitgegaan dat voor eventuele spuitzones planologisch wordt vastgelegd dat deze geen gebruik mogen kennen dat het gebruik van gewasbeschermingsmiddelen insluit - zie artikel 3.3.1 van het bestemmingsplan ‘Bouwlocaties Tull en ‘t Waal’ van 23 mei 2013.

[5] Ctgb, gebruiksvoorschrift voor HF Mancozeb DG, d.d.15 januari 2016.

4.2. Rapport Plant Research International 2015 – Captan

Aan de eerdere vaststelling van het bestemmingsplan zijn de resultaten van onderzoek door Plant Research International voor een locatie in de gemeente Tholen[7] ten grondslag gelegd.

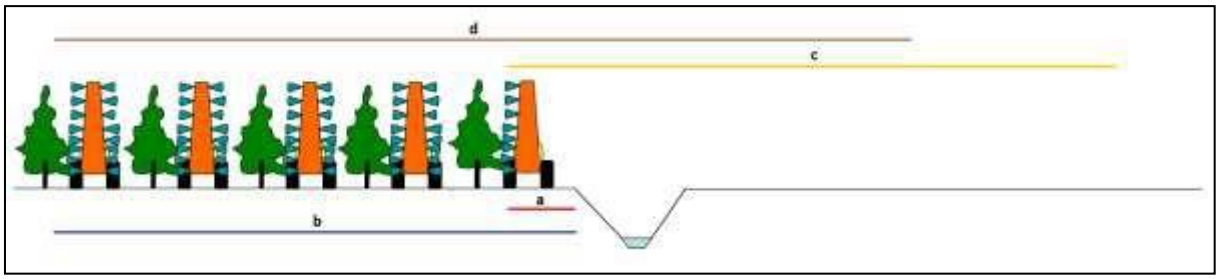
Plant Research International (PRI) heeft in maart 2015 nieuw onderzoek gepubliceerd[6] (herzien mei 2015) naar de optredende drift bij het spuiten van diverse gewasbeschermingsmiddelen. Tevens is onderzocht wat de dermale, inhalatoire en secundaire blootstellingsrisico’s zijn bij het bepalen van acceptabele breedtes van de beschermzone tussen een boomgaard en woningen. Hierbij is gekeken naar kale boom situatie en volblad situatie alsook het effect van verschillende driftreducerende spuittechnieken.

4.2.1. Captosan

In het onderzoek van PRI van maart 2015 is het gebruik van Merpan/Captosan (werkzame stof captan) met verschillende spuittechnieken onderzocht. Hierbij is overeenkomstig het wettelijk gebruiksvoorschrift een dosering van 2,5 kg/ha toegediend.

Volgens de wettelijke gebruiksvoorschriften wordt er op percelen die grenzen aan watergangen in de eerste 20 meter grenzend aan de watergang verspoten met een Venturidop. Hierbij wordt de laatste bomenrij éénzijdig in de richting van het perceel bespoten. Deze spuittechniek behoort tot de 90% driftreducerende spuittechnieken (DRT90) als genoemd in de rapportage van Plant Research International.

Bij het gebruik van DRT90 wordt in de kale boom situatie het dermale blootstellingseindpunt (AEL) voor de stof captan niet meer overschreden bij een afstand van 25 meter tot de laatste bodemrij. (zie onderstaande figuur).



Figuur: Schematisch overzicht spuitzone a: 3 meter teeltvrije zone langs sloot
b: 20 meter zone spuiten met een Venturidop
c: 25 meter zone waarin AEL nog overschreden wordt bij spuiten met Venturidop
d: 35 meter zone waarin AEL nog overschreden wordt, vanaf de laatste bomenrij waarbij standaard spuittechniek gebruikt wordt

[6] Plant Research International, Driftblootstelling van omstanders en omwonenden door boomgaard bespuitingen, 609, maart 2015, herzien mei 2015

Indien er buiten deze 20 meter tot aan de watergang gebruik wordt gemaakt van een standaard spuittechniek, dan blijkt uit de rapportage dat er een afstand van 35 meter moet worden aangehouden tot de laatste bomenrij waarbij deze standaard techniek gebruikt wordt. Dit houdt in dat vanaf de perceelgrens nog een afstand van 15 meter dient te worden aangehouden.

Er is geen overschrijding van het inhalatoire blootstellingseindpunt bij het gebruik van DRT90. Bij secundaire blootstelling (via de grond) wordt er op een afstand van 10 meter de AEL niet overschreden.

Samenvattend en concluderend kan op basis van deze onderzoeksgegevens worden geconcludeerd dat op een afstand van 25 meter uit de laatste bomenrij de AEL (dermaal, inhalatoir, depositie/secundair) niet meer wordt overschreden. De feitelijke afstand tussen boomgaard en woonbestemming bedraagt evenwel minimaal 30 meter.

4.3. Efsa-model

Op 17 oktober 2014 heeft de European food and safety authority (Efsa) een handreiking vastgesteld voor de beoordeling van blootstelling aan pesticiden. De handreiking heeft zowel betrekking op de blootstelling van medewerkers als op die van omwonenden en andere betrokkenen zoals passanten en recreanten. De Europese Commissie heeft het EFSA-model in 2015 definitief vastgesteld.

Bij de handreiking is door de Efsa een rekenmodel gepubliceerd dat kan worden gebruikt voor een beoordeling van de driftblootstelling bij het gebruik van gewasbeschermingsmiddelen (spuiten van gewassen). Het Efsa rekenmodel biedt de mogelijkheid om de maximale blootstelling te bepalen van zowel medewerkers, als omwonenden, passanten en personen die recreatief verblijven in de nabijheid van terreinen waar gewasbeschermingsmiddelen worden toegepast. De handreiking en het rekenmodel zijn tot stand gekomen op basis van bijdragen van experts uit alle Europese landen op basis van de op dat moment bekende onderzoeksgegevens en studies.

Het rekenmodel is gebaseerd op meerdere modellen en databases. Voor de omwonenden is gebruik gemaakt van BREAM[7] in het geval van landbouwgronden en van Loyd *et al*. (1987)[8] in het geval van boomgaarden. Hoewel de data van Lloyd *et al*. (1987) ouder zijn, zijn deze representatief voor de huidige situatie aangezien de metingen hebben plaatsgevonden onder de volgende omstandigheden:

- De gewasbeschermingsmiddelen worden aangebracht over de gehele boomgaard.
- Bij het spuiten van de buitenste rij zijn de spuitkoppen naar de boomgaard toe gericht.
- Er is een spuitvrije zone van minstens 3 meter van de laatste bomenrij tot aan de rand van het veld.

Tevens wordt Lloyd *et al*. (1987) in EUROPOEM[9] gebruikt vanwege de representatieve omstandigheden. EUROPOEM werd ontwikkeld om de blootstelling te beoordelen van de toepassing van gewasbeschermingsmiddelen en is ook als basis gebruikt voor het Efsa-model.

In het Efsa-model kan een boomgaard worden gemodelleerd als een vorm van ‘upward spraying’. In het model kan verder rekening gehouden worden met toepassing van driftreducerende technieken, welke in de onderhavige situatie ook verplicht zijn vanwege de aanwezige watergang. In het model kan evenwel de toepassing van een scherm of afschermende beplanting niet worden gemodelleerd. De driftblootstelling kan worden berekend op afstanden van 2 tot 10 meter. De blootstelling aan dampen wordt berekend aan de hand van Britse[10] en Duitse methoden[11].

De hand-mondblootstelling voor kinderen is gebaseerd op de Modified Californian Method[12 13] en data van de Environmental Protection Agency van de VS (2001)[14].

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[7] Gebaseerd op meerdere studies:
Butler Ellis MC, Lane AG, O’Sullivan CM, Miller PCH and Glass CR, 2010a. Bystander exposure to pesticide spray drift: new data for model development and validation Biosystems Engineering, 107, 162–168. Butler Ellis MC and Miller PCH, 2010. The Silsoe Spray Drift Model: a model of spray drift for the assessment of non-target exposures to pesticides. Biosystems Engineering, 107, 169–177.
Glass CR, Mathers JJ, Harrington P, Miller PCH, Butler Ellis C and Lane A, 2010. Generation of field data for bystander exposure and spray drift with arable sprayers. Aspects of Applied Biology, 99, 271–276.
Glass CR, Mathers JJ, Hetmanski MT, Sehnalova M and Fussell RJ, 2012. Development of techniques to measures vapour concentrations of pesticides to determine potential bystander & resident exposure. Aspects of Applied Biology, 114, 79–86.
Kennedy MC, Butler Ellis MC and Miller PCH, 2012. Probabilistic risk assessment of bystander and resident exposure to spray drift from an agricultural boom sprayer. Aspects of Applied Biology, 114, 87–90.

[8] Lloyd GA, Bell GJ, Samuels SW, Cross JV and Berry AM, 1987. Orchard sprayers: comparative operator exposure and spray drift study. Agricultural Science Service, Agricultural Development and Advisory Service, Ministry of Agriculture Fisheries and Food, UK.

[9] Van Hemmen JJ, 2008. Addendum to the TNO Report V7333: effective personal protective equipment (PPE). Default setting of PPE for registration purposes of agrochemical and biocidal pesticides. Covering the literature published in the period 2005 to early 2008. TNO Quality of Life, TNO Chemistry, Food & Chemical Risk Analysis, Chemical Exposure assessment, Zeist, The Netherlands.

[10] CRD (The Chemical Regulation Directorate, UK), 2008. Bystander Exposure Guidance.

[11] Martin S, Westphal D, Erdtmann-Vourliotis M, Dechet F, Schulze-Rosario C, Stauber F, Wicke H and Chester G, 2008. Guidance for exposure and risk evaluation for bystanders and residents exposed to plant protection products during and after application Journal für Verbraucherschutz und Lebensmittelsicherheit, 3, 272–281.

[12] Fuller R, Klonne D, Rosenheck L, Eberhart D, Worgan J and Ross J, 2001. Modified California Roller for measuring transferable residues on treated turfgrass. Bulletin of Environmental Contamination and Toxicology, 67, 787–794.

[13] Rosenheck L, Cowell J, Mueth M, Eberhart D, Klonne D, Norman C and Ross J, 2001. Determination of a standardized sampling technique for pesticide transferable turf residues. Bulletin of Environmental Contamination and Toxicology, 67, 780–786.

[14] US EPA (US Environmental Protection Agency), 2001. Science Advisory Council for Exposure, policy number 12, recommended revisions to the standard operating procedures (SOPs) for residential exposure assessments. Office of Pesticide Programs, Health Effects Division, Washington, DC, USA.

In het Efsa-model is de maximale blootstelling per jaar van kinderen onder de 3 jaar in een woonsituatie bepalend.

Het College voor toelating van gewasbeschermingsmiddelen en biociden (CTGB) is verantwoordelijk voor de toelating van gewasbeschermingsmiddelen op de Nederlandse markt. Bij de beoordeling van nieuwe toelatingen maakt het CTGB gebruik van het EFSA-model. Als onderdeel van de toelating voert het CTGB een humaan toxicologische beoordeling uit voor omwonenden en omstanders van agrarische percelen waar gewasbeschermingsmiddelen worden toegepast.

Op basis van het Efsa-rekenmodel heeft het Ctgb alle in Nederland toegelaten gewasbeschermingsmiddelen aan een herbeoordeling onderworpen. De conclusie van het Ctgb was, dat zich bij geen van de toegelaten gewasbeschermingsmiddelen een risico voordoet voor omwonenden[15]. Vanaf 1 januari 2016 worden de EUROPOEM-modellen niet meer gebruikt voor de beoordeling van gewasbeschermingsmiddelen maar het Efsa-model.

Voor de beoordeling van de onderhavige situatie is tevens gebruik gemaakt van het Efsa-rekenmodel. Hierbij is er steeds van uitgegaan dat de boomgaard niet door omwonenden zal worden betreden[16]. De uitkomsten van de modelberekening zijn bij deze rapportage gevoegd[17].

4.3.1. Captosan

Voor de invoer van de gegevens in het Efsa-model, is uitgegaan van de volgende gegevens:

- Maatgevend middel: captan
- Opwaarts spuiten
- Spuittechniek: DRT 90
- Bladsituatie: kale boom situatie
- Afbraaktermijn: 33,9 dagen[18]
- ‘Reference value non acutely toxic active substance’ (RVNAS) is de ‘Acceptable Operator Exposure Level’ (AOEL): 0,1 mg/kg bw/day[18]
- ‘Reference value acutely toxic active substance’ (RVAAS) is de ‘Acute Reference Dose’ (ARfD): 0,3 mg/kg bw/day[18]
- Dermale opname actieve stof: 10%[18]
- Orale en inhalatoire opname actieve stof: 100% (worst case - default value)
- Dampdruk: 2,1 X 10^{-4} Pa bij 50 ˚C[18]

[15] Ctgb, brief d.d. 21 oktober 2015 aan de Staatssecretaris van het ministerie IenM, nummer 20L5LO21Ot49, de achterliggende berekeningen zijn opgevraagd, maar niet verkregen.
[16] ‘Entry into treated crops’
[17] Een overzicht is toegevoegd als .pdf, maar de desbetreffende excel-bestanden behoren ook tot onderhavige rapportage.
[18] Efsa Peer review of the pesticide risk assessment of the active substance captan, 4 juni 2009 nummer 296

Voor het spuiten van captosan geldt een wettelijk gebruiksvoorschrift dat gebruik toelaat bij volledige bladval alsook in zwaardere concentraties. Concreet mag jaarlijks tot 39,2 kg/ha worden verspoten, waarvan maximaal 2 maal tot 2,5 kg/ha bij volledige bladval en daarbuiten in concentraties tot 1,8 en 2,25 kg/ha, waarbij een maximum aantal behandelingen is bepaald.

Vanwege de verschillende behandelcombinaties en concentraties van captan zijn variantberekeningen uitgevoerd op basis van het wettelijk gebruiksvoorschrift. Hierbij is onderscheid gemaakt tussen behandelingen met een hoge concentratie voor schurft en behandelingen met een lage concentratie voor schurft.

Op basis van deze uitgangspunten laat het Efsa-model geen overschrijding zien op een afstand van 10 meter. De maximale bepalende belasting voor een kind bedraagt 65,7% AEL op een afstand van 10 meter.

4.3.2. Teppeki

Voor de invoer van de gegevens in het Efsa-model, is uitgegaan van de volgende gegevens:

- Maatgevend middel: flonicamid
- Opwaarts spuiten
- Spuittechniek: DRT 90
- Bladsituatie: kale boom situatie
- Afbraaktermijn: 2,6 dagen
- ‘Reference value non acutely toxic active substance’ (RVNAS) is de ‘Acceptable Operator Exposure Level’ (AOEL): 0,025 mg/kg bw/day[19, 20]
- ‘Reference value acutely toxic active substance’ (RVAAS) is de ‘Acute Reference Dose’ (ARfD): 0,025 mg/kg bw/day[19]
- Demale opname actieve stof: 7.46% concentraat en 13% verdunning[19]
- Orale en inhalatoire opname actieve stof: 100% (worst - default value)
- Dampdruk: 2,55 X 10^{-6} Pa bij 25 ˚C[19]

Teppeki (werkzame stof 50% flonicamid), wordt gebruikt voor de bestrijding van luizen. Het gaat hierbij om een emulsie. Volgens het wettelijke toepassingsvoorschrift[20] is voor appels en peren een maximale concentratie toegelaten voor 0,14 kg/ha en mag er per seizoen maximaal 3 maal worden gespoten met een tussenliggende interval van 21 dagen. Het middel wordt in de regel toegepast in volbladsituaties, maar worst case is rekening gehouden met toepassing in de lente op een moment dat de bladeren nog in de groei zijn.

Op basis van deze uitgangspunten laat het Efsa-model geen overschrijding zien op een afstand van 10 meter. De bepalende belasting voor een kind is 8,89% AEL op een afstand van 10 meter.

[19] Efsa, Conclusion on the peer review of the pesticide risk assessment of the active substance flonicamid, 2010
[20] Ctgb 2 mei 2014

4.3.3. Basta 200

Voor de invoer van de gegevens in het Efsa-model, is uitgegaan van de volgende gegevens:

- Maatgevend middel: glufosinaat-ammonium
- Neerwaarts spuiten
- Spuittechniek: DRT 90
- Bladsituatie: niet relevant
- Afbraaktermijn: 11 dagen[21]
- ‘Reference value non acutely toxic active substance’ (RVNAS) is de ‘Acceptable Operator Exposure Level’ (AOEL): 0,0021 mg/kg bw/day[4 18 21]
- ‘Reference value acutely toxic active substance’ (RVAAS) is de ‘Acute Reference Dose’ (ARfD): 0,021 mg/kg bw/day[4 21 22]
- Demale opname actieve stof: 0,3% concentraat en 0,7% verdunning[4]
- Orale opname actieve stof: 10%[4 21]
- Inhalatoire opname actieve stof: 100% (worst case - default value)[4]
- Dampdruk: <3,1 X 10^{-5} Pa[10] bij 50 ˚C

Basta 200 wordt gebruikt ter bestrijding van onkruid. Voor toepassingen in boomkwekerij-gewassen is een maximale dosering van 1,275 l/ha per behandeling[4]. Het wordt 2 keer toegepast met een interval van 28 dagen. Gelet op een toepassing op de grond tussen de bomen zou dit middel ook handmatig kunnen worden verspoten.

Op basis van deze uitgangspunten laat het Efsa-model geen overschrijding zien op een afstand van 10 meter. De bepalende belasting voor een kind is 84,87% AEL op een afstand van 10 meter.

4.3.4. HF Mancozeb DG

Voor de invoer van de gegevens in het Efsa-model, is uitgegaan van de volgende gegevens:

- Maatgevend middel: mancozeb
- Opwaarts spuiten
- Spuittechniek: DRT 90
- Bladsituatie: volblad
- Afbraaktermijn: 1 dag[23]
- ‘Reference value non acutely toxic active substance’ (RVNAS) is de ‘Acceptable Operator Exposure Level’ (AOEL): 0,035 mg/kg bw/day[23]
- ‘Reference value acutely toxic active substance’ (RVAAS) is de ‘Acute Reference Dose’ (ARfD): 0,6 mg/kg bw/day[29]
- Dermale opname actieve stof: 0,11%[29]
- Orale en inhalatoire opname actieve stof: 100% (worst case - default value)
- Dampdruk: 1,33 X 10^{-5} Pa [23] (geen temperatuur gegeven)

[21] Efsa, Conclusion on the peer review of the pesticide risk assessment of the active substance glufosinate. 2005. Het betreft de maximale afbraaktermijn voor glufosinaat-ammonium in de grond. Deze waarde is aangehouden als representatief voor bijvoorbeeld een zandbak. Tevens betreft het de AOEL, de ARfD en de orale opname.
[22] Efsa, Reasoned opinion on the review of the existing maximum residue levels (MRLs) for glufosinate according to Article 12 of Regulation (EC). 2005. Het betreft de AOEL, ARfD en de orale en dermale blootstelling aan glufosinaat-ammonium.
[23] European Commission, Standing Committee on the Food Chain and Animal Health, Review report for the active substance mancozeb, 2009

HF Mancozeb DG wordt gebruikt als een schimmelbestrijdingsmiddel. Maximaal wordt 2 kg middel per hectare worden toegepast.[11] Het middel wordt tijdens de bloei 4 keer toegepast met een minimale interval van 10 dagen.

Op basis van deze uitgangspunten laat het Efsa-model geen overschrijding zien op een afstand van 10 meter. De bepalende belasting voor een kind is 51,5% AEL op een afstand van 10 meter.

4.4. Cumulatie

In boomgaarden worden verschillende gewasbeschermingsmiddelen gebruikt. Omwonenden zullen blootgesteld worden aan al deze middelen. Ook vindt opname plaats via reguliere etenswaren. Op basis van onderzoek is niet duidelijk of er op dit punt sprake is van cumulatieve effecten op de gezondheid.

Alhoewel dat niet kan worden uitgesloten, hebben de verschillende gewasbeschermingsmiddelen vaak een ander aangrijpingspunt op het metabolisme van een insect, een schimmel of een plant. In lijn daarmee ligt niet voor de hand dat er sprake zal zijn van (volledige) cumulatieve effecten op het menselijke organisme.

In de vastgestelde Acceptable Exposure Levels (maximaal toelaatbaar blootstellingsniveau - AEL’s) is overigens niet specifiek rekening gehouden met cumulatieve of elkaar versterkende effecten. Naar deze effecten wordt wel onderzoek gedaan, maar er is nog veel onbekend op dit vlak.

Uit de aard der zaak staat iedereen bloot aan talloze stoffen en mede om die reden wordt bij het vaststellen van AEL’s rekening gehouden met een flinke veiligheidsmarge (voorzorgbeginsel).

4.5. Verschillende modellen

Het Efsa-model ontwikkelt zich tot een Europese standaard die inmiddels ook wordt gebruikt bij beoordeling door het Ctgb. Het Ctgb beoordeelt uit de aard der zaak de toelaatbaarheid van gewasbeschermingsmiddelen en geeft voorschriften voor de veilige toepassing (schadelijkheid voor milieu, blootstelling van toepasser tot en met consument, residu in bodem, grondwater, op en in producten etc.). Echter het Efsa-model kan ook gericht worden gebruikt voor een ruimtelijke beoordeling omdat hiermee de blootstelling van omwonenden en voorbijgangers kan worden berekend op bepaalde afstanden.

De uitkomsten uit het Efsa-model laten in ieder geval zien dat bij gebruik van het PRI-model allerminst de grenzen worden opgezocht. Op basis van het Efsa-model zouden immers nog veel smallere spuitzones verdedigbaar zijn.
Vaststaat dat op basis van beide modellen de beschouwing van de werkelijke feitelijke situatie én de representatieve invulling van de maximale planologische mogelijkheden tot de conclusie leiden dat er geen bezwaren tegen deze nieuwe planologische invulling is.

5. Conclusie

In verband met een bouwplan voor de bouw van 29 grondgebonden woningen in Tull en ’t Waal is een onderzoek ingesteld naar de aan te houden ruimtelijk aanvaardbare veiligheidszone in verband met mogelijke drift vanuit de naburige laagstam boomgaard. De afstand tussen de boomgaard (eerste bomenrij) en de nieuwe woningen (tuinen) bedraagt minimaal 30 meter.

Het onderzoek heeft plaatsgevonden tegen de achtergrond dat het bestemmingsplan voor de woningen uit 2013 vernietigd is.

Overeenkomstig het door de raad van de gemeente Houten vastgestelde beleid is de maximaal mogelijke drift berekend aan de hand van het onderzoek van Plant Research International van maart 2015. Hierbij is het gebruik van de stof captan als bepalend gehanteerd. Op basis van de resultaten van dit onderzoek zou er in de onderhavige situatie een afstand van 25 meter tot de tot de laatste bomenrij moeten worden aangehouden.

De mogelijke drift is daarnaast berekend met het Efsa-model, mede nu dit model zich ontwikkelt als Europese wetenschappelijke standaard voor de blootstelling van personen aan gewasbeschermingsmiddelen bij de toepassing daarvan in hun rol als gebruiker, passant en omwonende. Er zijn hiermee meerdere gewasbeschermingsmiddelen beoordeeld welke worden toegepast in een boomgaard. Op basis van dit model wordt geen rekening meer gehouden met een overschrijding van de AEL op een afstand van 10 meter uit de boomgaard.

Op basis van deze gegevens is duidelijk dat een afstand van circa 30 meter tussen de boomgaard (eerste bomenrij) en de woonbestemming ruim voldoende is om van uit oogpunt van ruimtelijke ordening aanvaardbare afstand te spreken.

Bijlagen

1) Overzicht van alle berekeningen op basis van het Efsa-model
2) Variantberekeningen op basis van het Efsa-model voor captan
3) Berekening op basis van het Efsa-model voor flonicamid
4) Berekening op basis van het Efsa-model voor glufosinaat-ammonium
5) Berekening op basis van het Efsa-model voor mancozeb

Overzicht berekeningen op grond van Efsa-model, bufferzone 10 meter

Captan

Toepassings- Gebied	Type toepassing	Te bestrijden organisme	Dosering (middel) per toepassing	Maximale dosering (middel) per toepassing	Maximaal aantal toepassingen per teeltcyclus of per 12 maanden	Maximaal aantal kg middel per ha per 12 maanden of per teeltcyclus	Minimum interval tussen toepassingen in dagen
Appel / Peer	Gewasbehandeling	schurft	0,12% (120 g per 100 l water)	1,8 kg/ha	15 per 12 maanden	39,2 kg /ha per 12 maanden	7
			0,15 % (150 g per 100 l water)	2,25 kg/ha	10 per 12 maanden		10
		bewaarrot bewaarschurft	0,15 % (150 g per 100 l water)	1,8 kg/ha	4 per 12 maanden		7
	Gewasbehandeling na de oogst	Vruchtboomkanker	0,25 % (250 g per 100 l water)	2,5 kg/ha	2 per 12 maanden		7

Variantberekening van AEL kind bij gebruik Captoson volgens gebruiksvoorschrift met Efsa-model

Uitgaande van behandelingen met een hoge concentratie voor schurft (2,25 kg/ha)				**AEL kind**	*Uitgaande van behandelingen met een lage concentratie voor schurft (1,8 kg/ha)*			**AEL kind**
	kg/ha	aantal			kg/ha	aantal		
vruchtboomkanker	2,5	2	5 kg/ha	21,22%	2,5	2	5 kg/h	21,22%
schurft	2,25	10	22,5 kg/ha	17,31%	1,8	19	34,2 kg/h	16,30%
bewaarrot	1,8	7	12,6 kg/ha	14,10%			**39,2** kg/h	**37,51%**
			40,1 kg/ha	**52,62%**				

Berekening AEL kind - controleberekening via 1 modelberekening				*Uitgaande van grote behandelingen*			
Uitgaande van veel kleine behandelingen			**AEL kind**	kg/ha	aantal		**AEL kind**
kg/ha	aantal						
1,8	22	39,6 kg/ha	**32,92%**	2,5	16	40 kg/h	**43,32%**

Teppeki

Toepassing in	bestrijding	dosering	maximum behandelingen	veiligheidstermijn	**AEL kind**
vruchtbomen	bladluis	0,14 kg/ha	3 per 12 maanden	21 dagen	**8,89%**

Basta

Toepassing in	bestrijding	dosering	maximum behandelingen	interval	**AEL kind**
Pitvruchten	onkruid	1,275 l/ha	2 per jaar	28 dagen	**84,87%**

Mancozeb

Toepassing in	bestrijding	dosering	maximum behandelingen	interval	**AEL kind**
Appels	schurft	2 kg/ha	4 per teeltseizoen	10 dagen	**51,51%**
Peren	schurft	2 kg/ha	4 per teeltseizoen	10 dagen	**51,51%**

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 conjuction with the **Guidance on the Assessment of Exposure for Operators, Workers, Residents and Bystanders in Risk Assessment for Plant Protection Products**

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Modifications: AOEM values for 95th percentile Operator mixing/loading head exposure corrected, resident and bystander exposure for manual applications included in summary, Cell B78 in Resident exposure worksheet corrected to C22 (previously DC22)

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

Substance name	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	
Product name	Captosan voor schurft, lage dosis	
Reference value non acutely toxic active substance (RVNAS)	0,1	mg/kg bw/day
Reference value acutely toxic active substance (RVAAS)	0,3	mg/kg bw/day
Crop type	Pome fruit	
Substance properties		
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.	
Miniumum volume water for application (liquids)	1500	L/ha
Maximum application rate of active substance	1,8	kg a.s. /ha
50% Dissipation Time DT50	33,9	days
Initial Dislodgeable Foliar Residue	3	µg/cm2 of foliage/kg a.s. applied/ha
Dermal absorption of product	10,00%	
Dermal absorption of in-use dilution	10,00%	
Oral absorption of active substance	100,00%	
Inhalation absorption of active substance	100,00%	
Vapour pressure of active substance	low volatile substances having a vapour pressure of <5*10-3Pa	
Scenario		
Indoor or Outdoor application	Outdoor	
Application method	Upward spraying	
Application equipment	Vehicle-mounted-Drift Reduction	
Buffer strip	10	m
Number of applications	7	
Interval between multiple applications	7	days
Season (upward spraying orchards only)	late (dense foliage)	

Exposure assessment

Substance	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate-1,8 kg a.s. /ha	Spray dilution = 1,2 g a.s./l	Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa
Scenario	Pome fruit late (dense foliage) / Outdoor / Upward spraying / Vehicle-mounted-Drift Reduction			Buffer = 10	Number applications = 7, Application interval = 7 days
Percentage Absoprtion	Dermal for product = 10	Dermal for in use diluation = 10	Oral = 100	Inhalation = 100	
RVNAS	0,1 mg/kg bw/day		RVAAS	0,3 mg/kg bw/day	
DFR	3 µg a.s./cm2 per kg a.s./ha		DT50	33,9 days	

Operator Model		Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day		0,4811	% of RVNAS	481,07%
	Acute systemic exposure mg/kg bw/day		1,2443	% of RVAAS	414,78%
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		0,1739	% of RVNAS	173,93%
	Acute systemic exposure mg/kg bw/day		0,7269	% of RVAAS	242,29%

Worker - Searching, reaching, picking	Potential exposure mg/kg bw/day	7,6874	% of RVNAS	7687,38%
	Working clothing mg/kg bw/day	1,5375	% of RVNAS	1537,48%
	Working clothing and gloves mg/kg bw/day	0,7687	% of RVNAS	768,74%

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0,0084	% of RVNAS	8,41%
	Vapour (75th percentile) mg/kg bw/day	0,0011	% of RVNAS	1,07%
	Surface deposits (75th percentile) mg/kg bw/day	0,0046	% of RVNAS	4,62%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,1441	% of RVNAS	144,14%
	All pathways (mean) mg/kg bw/day	0,1243	% of RVNAS	124,30%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0,0046	% of RVNAS	4,64%
	Vapour (75th percentile) mg/kg bw/day	0,0002	% of RVNAS	0,23%
	Surface deposits (75th percentile) mg/kg bw/day	0,0014	% of RVNAS	1,39%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,0801	% of RVNAS	80,08%
	All pathways (mean) mg/kg bw/day	0,0679	% of RVNAS	67,94%

Bystander - child	Spray drift (95th percentile) mg/kg bw/day	0,0192	% of RVAAS	6,42%
	Vapour (95th percentile) mg/kg bw/day	0,0011	% of RVAAS	0,36%
	Surface deposits (95th percentile) mg/kg bw/day	0,0118	% of RVAAS	3,95%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,1441	% of RVAAS	48,05%
Bystander - adult	Spray drift (95th percentile) mg/kg bw/day	0,0106	% of RVAAS	3,54%
	Vapour (95th percentile) mg/kg bw/day	0,0002	% of RVAAS	0,08%
	Surface deposits (95th percentile) mg/kg bw/day	0,0037	% of RVAAS	1,24%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,0801	% of RVAAS	26,69%

Recreational Exposure	Child % of RVNAS	Adult % of RVNAS

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Operator exposure for Captosan voor schurft, lage dosis outdoor spray applications

Application rate of active substance	1,8	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	18	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Indoor or Outdoor application	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Season	late (dense foliage)		

OutdoorSoluble concentrates, emulsifiable concentrate, etc Upward sprayingVehicle-mounted-Drift Reduction

	Exposure values	µg exposure/day mixed and loaded		Reference	Comment
		75th centile	95th centile		
Mixing and loading	Hands	44948	168949	AOEM	
	Body	27208	166788	AOEM	
	Head	934	5122	AOEM	
	Protected hands (gloves)	226	3565	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	308	2633	AOEM	
	Protected head (hood and face shield)	15	290	AOEM	
	Inhalation	9	31	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
		75th centile	95th centile		
Application	Hands	32743	112262	AOEM	No data available for a drift reduction scenario
	Body	158611	150367	AOEM	
	Head	20844	127930	AOEM	
	Protected hands (gloves)	633	16550	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	1224	4045	AOEM	
	Inhalation	327	1488	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
	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)	28,8642826	10,4356128	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	0,4810714	0,1739269	
% of RVNAS	481,07%	173,93%	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	74,6607289	43,6129048	

Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	1,2443455	0,7268817	
% of RVAAS	414,78%	242,29%	

2. Longer term exposure

2.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	4494,7592268	74,9126538	*D15*i_AbsorpProduct*
Body	2720,8130503	45,3468842	*D16*i_AbsorpProduct*
Head	93,3904580	1,5565076	*D17*i_AbsorpProduct*
Inhalation	8,7492152	0,1458203	*D21*i_AbsorpInhalation*
Sum	7317,7119502	121,9618658	
With RPE/PPE (as selected above)			
Hands	4494,7592268	74,9126538	*D18*i_AbsorpProduct*
Body	30,8053318	0,5134222	*D19*i_AbsorpProduct or D15*i_AbsorpProduct*F24*
Head	93,3904580	1,5565076	*D20*i_AbsorpProduct or D17*i_AbsorpProduct*F25*
Inhalation	8,7492152	0,1458203	*D21*i_AbsorpInhalation*G25*
Sum	4627,7042317	77,1284039	
Water soluble	4627,7042317	77,1284039	*C70*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	3274,2964659	54,5716078	*D30*i_AbsorpInuse*
Body	15861,0708507	264,3511808	*D31*i_AbsorpInuse*
Head	2084,4069142	34,7401152	*D32*i_AbsorpInuse*
Inhalation	326,7963944	5,4466066	*D35*i_AbsorpInhalation*
Sum	21546,5706252	359,1095104	
With RPE/PPE (as selected above)			
Hands	3274,2964659	54,5716078	*D33*i_AbsorpInuse*
Body	122,4087618	2,0401460	*D34*i_AbsorpInuse or D31*i AbsorpInuse*F38*
Head	2084,4069142	34,7401152	*D32*i_AbsorpInuse*F39*
Inhalation	326,7963944	5,4466066	*D35*i_AbsorpInuse*G39*
Sum	5807,9085364	96,7984756	

3. Acute exposure

3.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	16894,9326611	281,5822110	*E15*i_AbsorpProduct*
Body	16678,8348163	277,9805803	*E16*i_AbsorpProduct*
Head	512,2034568	8,5367243	*E17*i_AbsorpProduct*
Inhalation	30,7615428	0,5126924	*E21*i_AbsorpInhalation*
Sum	34116,7324770	568,6122080	
With RPE/PPE (as selected above)			
Hands	16894,9326611	281,5822110	*E18*i_AbsorpProduct*
Body	263,2525006	4,3875417	*E19*i_AbsorpProduct or E16*i AbsorpProduct*F24*
Head	512,2034568	8,5367243	*E20*i_AbsorpProduct or E17*i AbsorpProduct*F25*
Inhalation	30,7615428	0,5126924	*E21*i_AbsorpInhalation*G25*
Sum	17701,1501613	295,0191694	
Water soluble	17701,1501613	295,0191694	*C104*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	11226,1930205	187,1032170	*E30*i_AbsorpInuse*
Body	15036,6989606	250,6116493	*E31*i_AbsorpInuse*
Head	12793,0030994	213,2167183	*E32*i_AbsorpInuse*
Inhalation	1488,1013309	24,8016888	*E35*i_AbsorpInhalation*
Sum	40543,9964114	675,7332735	
With RPE/PPE (as selected above)			
Hands	11226,1930205	187,1032170	*E33*i_AbsorpInuse*
Body	404,4571387	6,7409523	*E34*i_AbsorpInuse or E31*i AbsorpInuse*F38*
Head	12793,0030994	213,2167183	*E32*i_AbsorpInuse*F39*
Inhalation	1488,1013309	24,8016888	*E35*i_AbsorpInhalation*G39*
Sum	25911,7545894	431,8625765	

Operator exposure for Captosan voor schurft, lage dosis granular applications

Application rate of active substance	1,8	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	18	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	luble concentrates, emulsifiable concentrate, el		
Indoor or Outdoor application	Outdoor		**This sheet is only to be used for granular applications**
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		

	Exposure values	mg exposure/kg a.s. mixed and loaded		Reference	Comment
		75th centile	95th centile		
Mixing and loading	Hands	#N/B	#N/B	#N/B	#N/B
	Body	#N/B	#N/B	#N/B	#N/B
	Inhalation	#N/B	#N/B	#N/B	#N/B
	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
		75th centile	95th centile		
Application	Hands	#N/B	#N/B	#N/B	#N/B
	Body	#N/B	#N/B	#N/B	#N/B
	Inhalation	#N/B	#N/B	#N/B	#N/B
	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/B	#N/B	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	#N/B	#N/B	
% of RVNAS	#N/B	#N/B	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	#N/B	#N/B	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	#N/B	#N/B	
% of RVAAS	#N/B	#N/B	

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			
Hands	#N/B	#N/B	*D14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D14*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

2.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*D25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D25*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

3. Acute exposure
3.1 Mixing and loading

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

3.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E26*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

Worker exposure from residues on foliage for Captosan voor schurft, lage dosis

Crop type	Pome fruit		
Indoor or outdoor	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
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_AppRate*
Number of applications	7		*i_AppNo*
Interval between multiple applications	7	days	*i_AppInt*
Half-life of active substance	33,9	days	*d_HalflifeAS*
Multiple application factor	4,7		*d_MAF*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of the in-use dilution	10,00%		*i_AbsorpInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2	*d_DFR*
Working hours	8	hr	*d_WorkHr*
Dermal transfer coefficient - Total potential exposure	22500	cm^2/hr	*d_DermTcUCV*
Dermal transfer coefficient - arms, body and legs covered	4500	cm^2/hr	*d_DermTcCV1*
Dermal transfer coefficient - hands, arms, body and legs covered	2250	cm^2/hr	*d_DermTcCV2*
Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)	*d_InhalTcAut*
Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcCut*
Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcSort*

1. Total

	Potential exposure	Work wear - arms, body and legs covered	Working wear and gloves	Comments
Total systemic exposure (mg a.s./day)	461,2427633	92,2485527	46,1242763	
Total systemic exposure per kg body weight (mg/kg bw/day)	7,6873794	1,5374759	0,7687379	
% of RVNAS	7687,38%	1537,48%	768,74%	

2. Details

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula	Comments
Dermal - Potential	461,2427633	7,6873794	*d_DermTcUCV*d_WorkHr*i_DFR*i_MAF/1000*i_AbsorpInuse*	
Dermal - Work wear - arms, body and legs covered	92,2485527	1,5374759	*d_DermTcCV1*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Dermal - Working wear and gloves	46,1242763	0,7687379	*d_DermTcCV2*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Inhalation				Na for outdoor activities

Resident exposure for Captosan voor schurft, lage dosis

Croptype	Pome fruit		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Buffer strip	10	m	*i_Buffer*
Application rate of the product	1,8	kg a.s./ha	*i_AppRate*
Concentration of active substance (in-use dilution for liquid applications)	1,2	g a.s./l	*d_ConcAS*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10-3Pa	Pa	*i_Volat*
Concentration in air	0,001	mg/m^3	*d_AirCon*
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	*d_ReExpDur*
Exposure duration inhalation	24	hours	*d_ReExpDurInhal*
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/day/kg	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/day/kg	*d_BreathRCh*
Drift percentage on surface (75th percentile)	2,67%		
Drift percentage on surface (mean)	1,60%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
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 (75th percentile) - adult	7500	cm^2/h	*d_TcEntryAd*

Transfer coefficient for entry into treated crops (75th percentile) - child	**2250** cm^2/h	*d_TcEntryCh*
Transfer coefficient for entry into treated crops (mean) - adult	**5980** cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (mean) - child	**1794** cm^2/h	*d_TcEntryCh*

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)	0,0840849	0,0107000	0,0461819	1,4413836	1,2430480
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0084085	0,0010700	0,0046182	0,1441384	0,1243048
% of RVNAS	8,41%	1,07%	4,62%	144,14%	124,30%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops	All pathways (mean)
Total systemic exposure (mg a.s./day)	0,2782560	0,0138000	0,0832415	4,8046121	4,0766359
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0046376	0,0002300	0,0013874	0,0800769	0,0679439
% of RVNAS	4,64%	0,23%	1,39%	80,08%	67,94%

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	0,0840849	0,0084085	*((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	0,0296477	0,0029648	*(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))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	0,0108328	0,0010833	*(i_AppRate/100)*C29*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	0,0057015	0,0005701	*(i_AppRate/100)*C29*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**1,4413836**	**0,1441384**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_Turf*d_MAF*d_SalExt *d_AreaHM*d_ReFreqHM*d_ReExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,2782560**	**0,0046376**	*(C15*i_AbsorpInuse*(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)	**0,0832415**	**0,0013874**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d _ReExpDur*i_AbsorpProduct*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**4,8046121**	**0,0800769**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

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	**0,0554103**	**0,0055410**	*((C20*i_AbsorpInuse*(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	**0,0177664**	**0,0017766**	*(i_AppRate/100)*C30*d_Turf*d_ReTCCh*d _ReExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0064916**	**0,0006492**	*(i_AppRate/100)*C30*d_Turf*d_SalExt*d_ AreaHM*d_ReFreqHM*d_ReExpDur*i_Abs orpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0034166**	**0,0003417**	*(i_AppRate/100)*C30*d_DRP*d_MouthGra ss*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops				

Dermal	**1,1492632**	**0,1149263**	*(d_TcEntryMeanCh*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse))*	
Hand to mouth			*(i_AppRate/100)*1*d_Turf*d_MAF*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*	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_AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,1820760**	**0,0030346**	*"(C19*i_AbsorpInuse*(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)	**0,0498826**	**0,0008314**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**3,8308774**	**0,0638480**	*(d_TcEntryMeanAd*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Bystander exposure for Captosan voor schurft, lage dosis

Croptype	Pome fruit		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Application rate of the product	1,8	kg a.s./ha	*i_AppRate*
Buffer strip	10	m	*i_Buffer*
Concentration of active substance (in-use dilution for liquid applications)	1,2	g a.s./l	*d_ConcAS*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10-3Pa	Pa	*i_Volat*
Concentration in air	0,001	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/kg bw/day	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/kg bw/day	*d_BreathRCh*
Drift percentage on surface (90th percentile)	3,60%		
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)	**0,1924940**	**0,0107000**	**0,1183856**	**1,4413836**
Total systemic exposure per kg body weight (mg/kg bw/day)	**0,0192494**	**0,0010700**	**0,0118386**	**0,1441384**
% of RVAAS	**6,42%**	**0,36%**	**3,95%**	**48,05%**

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops
Total systemic exposure (mg a.s./day)	**0,6373200**	**0,0138000**	**0,2229340**	**4,8046121**
Total systemic exposure per kg body weight (mg/kg bw/day)	**0,0106220**	**0,0002300**	**0,0037156**	**0,0800769**
% of RVAAS	**3,54%**	**0,08%**	**1,24%**	**26,69%**

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	**0,1924940**	**0,0192494**	*((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	**0,0799487**	**0,0079949**	*(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)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0307495**	**0,0030750**	*(i_AppRate/100)*C25*d_Turf*d_SalExt*d_AreaHM*d_ByFreqHM*d_ByExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0076874**	**0,0007687**	*(i_AppRate/100)*C25*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**1,4413836**	**0,1441384**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_MAF*d_Turf*d_SalExt *d_AreaHM*d_ByFreqHM*d_ByExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,6373200**	**0,0106220**	*((C15*i_AbsorpInuse*(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_BreathRAd*d_BwAdult*	
Surface deposits (dermal)	**0,2229340**	**0,0037156**	*(i_AppRate/100)*C24*d_Turf*d_ByTCAd*d _ByExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**4,8046121**	**0,0800769**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Recreational exposure for Captosan voor schurft, lage dosis

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-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Application rate of the product	1,8	kg a.s./ha	*i_AppRate*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2	*d_DFR*
Exposure duration dermal	2	hours	*d_ReExpDur*
Light clothing adjustment factor Adult resident	18,0%		*d_ClothAF*
Drift percentage on surface	100,00%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
Ingestion rate for mouthing of grass per day	25	cm^2	*d_MouthGrass*

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	**2,2207985**	**0,2220798**	*(i_AppRate/100)*C13*d_Turf*d_ReTCCh*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF)*	
Hand to mouth	**0,8114456**	**0,0811446**	*(i_AppRate/100)*C13*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	
Object to mouth	**0,4270766**	**0,0427077**	*(i_AppRate/100)*C13*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	
Total systemic exposure	**3,4593207**	**0,3459321**		
% of RVNAS				
Adult				
Surface deposits (dermal)	**6,2353188**	**0,1039220**	*(i_AppRate/100)*C13*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*	
% of RVNAS				

d_AirConVol	Concentration in air of moderately volatile substances	0,015	mg/m^3
d_AirConNonVol	Concentration in air of low volatile substances	0,001	mg/m^3
d_AreaHM	Surface area of hands mouthed	20	cm^2
d_AreaTreated	Area treated (defined by crop type)	10	ha
d_BreathRAd	Breathing rate adult residents	0,23	m^3/day/kg
d_BreathRCh	Breathing rate child (1-3 year old) residents	1,07	m^3/day/kg
d_BwAdult	Adult body weight	60	kg
d_BwChild	Child body weight (1 to < 3 year olds)	10	kg
d_ByBreathRAd	Breathing rate adult bystander	0,04	m^3/hours/kg
d_ByBreathRCh	Breathing rate child (1-3 year old) bystander	0,19	m^3/hours/kg
d_ByExpDur	Exposure duration intense activity breathing rates	2	hours
d_ByFreqHM	Frequency of hand to mouth activity	20	events/hour
d_ByTCAd	Transfer coeff. of surface deposits-adult	14500	cm^2/hour
d_ByTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	5200	cm^2/hour
d_ClothAF	Light clothing adjustment factor resident and bystanders	18,0%	
d_ConcAs	Concentration of active substance (in-use dilution for liquid applications)	1,2	g a.s./l
d_DFR	Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2
d_DRP	Dislodgeable residues percentage transferability for object to mouth	20,0%	
d_HalflifeAS	Half-life of active substance (DT50)	34	days
d_InhalTcAut	Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)
d_InhalTcCut	Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)
d_InhalTcSort	Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)
d_MAF	Multiple application factor	4,75	
d_MouthGrass	Ingestion rate for mouthing of grass per day	25	cm^2 grass/day
d_ReExpDur	Exposure duration resident dermal	2	hours
d_ReExpDurInhal	Exposure duration resident inhalation	24	hours
d_ExpDurTreatCrop	Exposure duration for resident and bystander entry into treated crops	0,25	hours
d_ReFreqHM	Frequency of hand to mouth activity	9,5	events/hour
d_ReTCAd	Transfer coeff. of surface deposits-adult	7300	cm^2/hour
d_ReTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour
d_SalExt	Saliva extraction percentage	50,0%	
d_TcEntryAd	Transfer coefficient for entry into treated crops 75th percentile - adult	7500	cm^2/h
d_TcEntryCh	Transfer coefficient for entry into treated crops 75th percentile - child	2250	cm^2/h
d_TcEntryMeanAd	Transfer coefficient for entry into treated crops mean - adult	5980	cm^2/h
d_TcEntryMeanCh	Transfer coefficient for entry into treated crops mean - child	1794	cm^2/h
d_Turf	Turf transferable residues percentage	5,0%	
d_PctExtrapolation	For exposure value 75 percentiles above this amount linear extrapolation is performe	1,5	kg
d_head75Protection	Cooefficient to estimate head protection factor 75 th Percentile	1,79422	
d_head95Protection	Cooefficient to estimate head protection factor 95 Percentile	1,24705	
sys_KeyOperator	Variables for operator exposure lookup key	_AppMeth&i_AppEquip&	
sys_OperatorModel	Operator model	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 powderChemical resistant gloves	0,05
Granules, fine granulesChemical resistant gloves	0,05
Wettable granules, soluble granulesChemical resistant gloves	0,05
Soluble concentrates, emulsifiable concentrate, etc.Chemica	0,1
Wettable powder, soluble powderNone	1
Granules, fine granulesNone	1
Wettable granules, soluble granulesNone	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 fo	750	Field crops	50
Brassica vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Bulb vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Cane fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Field crops	10
Cereals	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Citrus fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Fruiting vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Grapes	10100	30000	Hand harvesting	8	Hand and bo	no TC available	Grapes	10
Grassland and lawns	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Golf course, turf or other sports lawns	2500	5800	Maintenance	8	Hand and bo	580	Field crops	50
Hops	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Hops	10
Leaf vegetables and fresh herbs	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Legume vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Oilfruits	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Oilseeds	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Ornamentals	5000	14000	Cutting, sorting, bundling, carrying	8	Hand and bo	1400	Field crops	10
Pome fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Root and tuber vegetables	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Stone fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10

Tree nuts	4500	22500 Searching, reaching, picking	8 Hand and bo	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 p	Ground sediments in % of the application rate calculated on the basis of percentile values (drift data acc. Rautmann)		
key_ByCropType, ay_ByCropType			
key_ByCropType	Bystander surface de	Resident surface 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
Match MixLoad	**Outdoor/Ir**	**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 granulesApplicat	Indoor	Granules, fine granules	Application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
IndoorGranules, fine granulesApplicat	Indoor	Granules, fine granules	Application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
IndoorGranules, fine granulesApplicat	Indoor	Granules, fine granules	Application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED
OutdoorGranules, fine granulesBroadc	Outdoor	Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use ol	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granulesBroadc	Outdoor	Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use ol	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granulesBroadc	Outdoor	Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granulesIn furr	Outdoor	Granules, fine granules	In furrow application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use ol	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granulesIn furr	Outdoor	Granules, fine granules	In furrow application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use ol	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granulesIn furr	Outdoor	Granules, fine granules	In furrow application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granulesManua	Outdoor	Granules, fine granules	Manual application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
OutdoorGranules, fine granulesManua	Outdoor	Granules, fine granules	Manual application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
OutdoorGranules, fine granulesManua	Outdoor	Granules, fine granules	Manual application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Match AOEM	Outdoor/I	Formulation type	Application method	Application equipment	Type of exposure	ML 75th Intercept	ML 75th Applied Amount Factor	ML 75th Senario Factor	ML 75th Percentile AOEM	ML 95th Intercept	ML 95th Applied Amount Factor	ML 95th Senario Factor	ML 95th Percentile AOEM	Application 75th Intercept	Application 75th Applied Amount Factor	Application 75th Senario Factor	Application 75th Percentile AOEM	Application 95th Intercept	Application 95th Applied Amount Factor	Application 95th Senario Factor	Application 95th Percentile AOEM
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65					88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29						88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29			6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25					88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,00	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45					1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78						1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78			4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15					1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50					12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00						12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00			3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35					12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96					26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02						26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02			2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28					26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37					8903,00				62630,00

OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00						8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00			4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50					8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,00		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80					5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00						5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00			2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81					5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00			2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00	0,00		2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	

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 conjuction with the **Guidance on the Assessment of Exposure for Operators, Workers, Residents and Bystanders in Risk Assessment for Plant Protection Products**

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Modifications: AOEM values for 95th percentile Operator mixing/loading head exposure corrected, resident and bystander exposure for manual applications included in summary, Cell B78 in Resident exposure worksheet corrected to C22 (previously DC22)

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

Substance name	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	
Product name	Captosan voor schurft, hoge dosis	
Reference value non acutely toxic active substance (RVNAS)	0,1	mg/kg bw/day
Reference value acutely toxic active substance (RVAAS)	0,3	mg/kg bw/day
Crop type	Pome fruit	
Substance properties		
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.	
Miniumum volume water for application (liquids)	1500	L/ha
Maximum application rate of active substance	2,25	kg a.s. /ha
50% Dissipation Time DT50	33,9	days
Initial Dislodgeable Foliar Residue	3	µg/cm2 of foliage/kg a.s. applied/ha
Dermal absorption of product	10,00%	
Dermal absorption of in-use dilution	10,00%	
Oral absorption of active substance	100,00%	
Inhalation absorption of active substance	100,00%	
Vapour pressure of active substance	low volatile substances having a vapour pressure of <5*10-3Pa	
Scenario		
Indoor or Outdoor application	Outdoor	
Application method	Upward spraying	
Application equipment	Vehicle-mounted-Drift Reduction	
Buffer strip	10	m
Number of applications	10	
Interval between multiple applications	10	days
Season (upward spraying orchards only)	late (dense foliage)	

Exposure assessment

Substance	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate-2,25 kg a.s. /ha	Spray dilution = 1,5 g a.s./l	Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa
Scenario	Pome fruit late (dense foliage) / Outdoor / Upward spraying / Vehicle-mounted-Drift Reduction			Buffer = 10	Number applications = 10, Application interval = 10 days
Percentage Absoprtion	Dermal for product = 10	Dermal for in use diluation = 10	Oral = 100	Inhalation = 100	
RVNAS	0,1 mg/kg bw/day		RVAAS	0,3 mg/kg bw/day	
DFR	3 µg a.s./cm2 per kg a.s./ha		DT50	33,9 days	

Operator Model		Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day		0,5907	% of RVNAS	590,66%
	Acute systemic exposure mg/kg bw/day		1,4875	% of RVAAS	495,82%
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		0,2103	% of RVNAS	210,35%
	Acute systemic exposure mg/kg bw/day		0,8915	% of RVAAS	297,17%

Worker - Searching, reaching, picking	Potential exposure mg/kg bw/day	9,5335	% of RVNAS	9533,46%
	Working clothing mg/kg bw/day	1,9067	% of RVNAS	1906,69%
	Working clothing and gloves mg/kg bw/day	0,9533	% of RVNAS	953,35%

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0,0105	% of RVNAS	10,51%
	Vapour (75th percentile) mg/kg bw/day	0,0011	% of RVNAS	1,07%
	Surface deposits (75th percentile) mg/kg bw/day	0,0057	% of RVNAS	5,73%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,1788	% of RVNAS	178,75%
	All pathways (mean) mg/kg bw/day	0,1540	% of RVNAS	153,95%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0,0058	% of RVNAS	5,80%
	Vapour (75th percentile) mg/kg bw/day	0,0002	% of RVNAS	0,23%
	Surface deposits (75th percentile) mg/kg bw/day	0,0017	% of RVNAS	1,72%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,0993	% of RVNAS	99,31%
	All pathways (mean) mg/kg bw/day	0,0842	% of RVNAS	84,23%

Bystander - child	Spray drift (95th percentile) mg/kg bw/day	0,0241	% of RVAAS	8,02%
	Vapour (95th percentile) mg/kg bw/day	0,0011	% of RVAAS	0,36%
	Surface deposits (95th percentile) mg/kg bw/day	0,0147	% of RVAAS	4,89%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,1788	% of RVAAS	59,58%
Bystander - adult	Spray drift (95th percentile) mg/kg bw/day	0,0133	% of RVAAS	4,43%
	Vapour (95th percentile) mg/kg bw/day	0,0002	% of RVAAS	0,08%
	Surface deposits (95th percentile) mg/kg bw/day	0,0046	% of RVAAS	1,54%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,0993	% of RVAAS	33,10%

Recreational Exposure	Child % of RVNAS	Adult % of RVNAS

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Operator exposure for Captosan voor schurft, hoge dosis outdoor spray application

Application rate of active substance	2,25	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	22,5	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Indoor or Outdoor application	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Season	late (dense foliage)		

OutdoorSoluble concentrates, emulsifiable concentrate, etc.Upward sprayingVehicle-mounted-Drift Reduction

	Exposure values	µg exposure/day mixed and loaded		Reference	Comment
		75th centile	95th centile		
Mixing and loading	Hands	53372	201009	AOEM	
	Body	31829	177959	AOEM	
	Head	1167	6403	AOEM	
	Protected hands (gloves)	261	4457	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	375	3291	AOEM	
	Protected head (hood and face shield)	19	362	AOEM	
	Inhalation	9	31	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
		75th centile	95th centile		
Application	Hands	39908	140327	AOEM	No data available for a drift reduction scenario
	Body	198263	187959	AOEM	
	Head	26055	159913	AOEM	
	Protected hands (gloves)	792	20687	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	1530	5056	AOEM	
	Inhalation	371	1860	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
	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)	35,4394496	12,6207890	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	0,5906575	0,2103465	
% of RVNAS	590,66%	210,35%	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	89,2480348	53,4908817	

Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	1,4874672	0,8915147	
% of RVAAS	495,82%	297,17%	

2. Longer term exposure

2.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	5337,1654740	88,9527579	*D15*i_AbsorpProduct*
Body	3182,8755453	53,0479258	*D16*i_AbsorpProduct*
Head	116,7380725	1,9456345	*D17*i_AbsorpProduct*
Inhalation	9,3499549	0,1558326	*D21*i_AbsorpInhalation*
Sum	8646,1290466	144,1021508	
With RPE/PPE (as selected above)			
Hands	5337,1654740	88,9527579	*D18*i_AbsorpProduct*
Body	37,5425717	0,6257095	*D19*i_AbsorpProduct or D15*i_AbsorpProduct*F24*
Head	116,7380725	1,9456345	*D20*i_AbsorpProduct or D17*i_AbsorpProduct*F25*
Inhalation	9,3499549	0,1558326	*D21*i_AbsorpInhalation*G25*
Sum	5500,7960730	91,6799346	
Water soluble	5500,7960730	91,6799346	*C70*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	3990,7533932	66,5125566	*D30*i_AbsorpInuse*
Body	19826,3385634	330,4389761	*D31*i_AbsorpInuse*
Head	2605,5086428	43,4251440	*D32*i_AbsorpInuse*
Inhalation	370,7199434	6,1786657	*D35*i_AbsorpInhalation*
Sum	26793,3205428	446,5553424	
With RPE/PPE (as selected above)			
Hands	3990,7533932	66,5125566	*D33*i_AbsorpInuse*
Body	153,0109523	2,5501825	*D34*i_AbsorpInuse or D31*i_AbsorpInuse*F38*
Head	2605,5086428	43,4251440	*D32*i_AbsorpInuse*F39*
Inhalation	370,7199434	6,1786657	*D35*i_AbsorpInuse*G39*
Sum	7119,9929317	118,6665489	

3. Acute exposure

3.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	20100,9430114	335,0157169	*E15*i_AbsorpProduct*
Body	17795,9164257	296,5986071	*E16*i_AbsorpProduct*
Head	640,2543209	10,6709053	*E17*i_AbsorpProduct*
Inhalation	30,9255001	0,5154250	*E21*i_AbsorpInhalation*
Sum	38568,0392582	642,8006543	
With RPE/PPE (as selected above)			
Hands	20100,9430114	335,0157169	*E18*i_AbsorpProduct*
Body	329,0656257	5,4844271	*E19*i_AbsorpProduct or E16*i_AbsorpProduct*F24*
Head	640,2543209	10,6709053	*E20*i_AbsorpProduct or E17*i_AbsorpProduct*F25*
Inhalation	30,9255001	0,5154250	*E21*i_AbsorpInhalation*G25*
Sum	21101,1884582	351,6864743	
Water soluble	21101,1884582	351,6864743	*C104*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	14032,7412756	233,8790213	*E30*i_AbsorpInuse*
Body	18795,8737008	313,2645617	*E31*i_AbsorpInuse*
Head	15991,2538742	266,5208979	*E32*i_AbsorpInuse*
Inhalation	1860,1266636	31,0021111	*E35*i_AbsorpInhalation*
Sum	50679,9955142	844,6665919	
With RPE/PPE (as selected above)			
Hands	14032,7412756	233,8790213	*E33*i_AbsorpInuse*
Body	505,5714233	8,4261904	*E34*i_AbsorpInuse or E31*i_AbsorpInuse*F38*

Head	**15991,2538742**	**266,5208979**	*E32*i_AbsorpInuse*F39*
Inhalation	**1860,1266636**	**31,0021111**	*E35*i_AbsorpInhalation*G39*
Sum	**32389,6932367**	**539,8282206**	

Operator exposure for Captosan voor schurft, hoge dosis granular applications

Application rate of active substance	2,25	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	22,5	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	luble concentrates, emulsifiable concentrate, e		
Indoor or Outdoor application	Outdoor	**This sheet is only to be used for granular applications**	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		

	Exposure values	mg exposure/kg a.s. mixed and loaded		Reference	Comment
		75th centile	95th centile		
Mixing and loading	Hands	#N/B	#N/B	#N/B	#N/B
	Body	#N/B	#N/B	#N/B	#N/B
	Inhalation	#N/B	#N/B	#N/B	#N/B
	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
		75th centile	95th centile		
Application	Hands	#N/B	#N/B	#N/B	#N/B
	Body	#N/B	#N/B	#N/B	#N/B
	Inhalation	#N/B	#N/B	#N/B	#N/B
	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/B	#N/B	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	#N/B	#N/B	
% of RVNAS	#N/B	#N/B	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	#N/B	#N/B	

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

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			
Hands	#N/B	#N/B	*D14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D14*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

2.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*D25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D25*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

3. Acute exposure
3.1 Mixing and loading

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

3.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E26*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

Worker exposure from residues on foliage for Captosan voor schurft, hoge dosis

Crop type	Pome fruit		
Indoor or outdoor	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Worker's task	Searching, reaching, picking		
Main body parts in contact with foliage	Hand and body		
Application rate of active substance	2,25	kg a.s./ha	*i_AppRate*
Number of applications	10		*i_AppNo*
Interval between multiple applications	10	days	*i_AppInt*
Half-life of active substance	33,9	days	*d_HalflifeAS*
Multiple application factor	4,7		*d_MAF*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of the in-use dilution	10,00%		*i_AbsorpInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	6,75	µg a.s./cm^2	*d_DFR*
Working hours	8	hr	*d_WorkHr*
Dermal transfer coefficient - Total potential exposure	22500	cm^2/hr	*d_DermTcUCV*
Dermal transfer coefficient - arms, body and legs covered	4500	cm^2/hr	*d_DermTcCV1*
Dermal transfer coefficient - hands, arms, body and legs covered	2250	cm^2/hr	*d_DermTcCV2*
Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)	*d_InhalTcAut*
Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcCut*
Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcSort*

1. Total

	Potential exposure	Work wear - arms, body and legs covered	Working wear and gloves	Comments
Total systemic exposure (mg a.s./day)	572,0078249	114,4015650	57,2007825	
Total systemic exposure per kg body weight (mg/kg bw/day)	9,5334637	1,9066927	0,9533464	
% of RVNAS	9533,46%	1906,69%	953,35%	

2. Details

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula	Comments
Dermal - Potential	572,0078249	9,5334637	*d_DermTcUCV*d_WorkHr*i_DFR*i_MAF/1000*i_AbsorpInuse*	
Dermal - Work wear - arms, body and legs covered	114,4015650	1,9066927	*d_DermTcCV1*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Dermal - Working wear and gloves	57,2007825	0,9533464	*d_DermTcCV2*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Inhalation				Na for outdoor activities

Resident exposure for Captosan voor schurft, hoge dosis

Croptype	Pome fruit		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Buffer strip	10	m	*i_Buffer*
Application rate of the product	2,25	kg a.s./ha	*i_AppRate*
Concentration of active substance (in-use dilution for liquid applications)	1,5	g a.s./l	*d_ConcAS*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	6,75	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10-3Pa	Pa	*i_Volat*
Concentration in air	0,001	mg/m^3	*d_AirCon*
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	*d_ReExpDur*
Exposure duration inhalation	24	hours	*d_ReExpDurInhal*
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/day/kg	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/day/kg	*d_BreathRCh*
Drift percentage on surface (75th percentile)	2,67%		
Drift percentage on surface (mean)	1,60%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
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 (75th percentile) - adult	**7500**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (75th percentile) - child	**2250**	cm^2/h	*d_TcEntryCh*
Transfer coefficient for entry into treated crops (mean) - adult	**5980**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (mean) - child	**1794**	cm^2/h	*d_TcEntryCh*

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)	0,1051061	0,0107000	0,0572723	1,7875245	1,5395361
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0105106	0,0010700	0,0057272	0,1787524	0,1539536
% of RVNAS	10,51%	1,07%	5,73%	178,75%	153,95%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops	All pathways (mean)
Total systemic exposure (mg a.s./day)	0,3478200	0,0138000	0,1032315	5,9584148	5,0540994
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0057970	0,0002300	0,0017205	0,0993069	0,0842350
% of RVNAS	5,80%	0,23%	1,72%	99,31%	84,23%

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	0,1051061	0,0105106	*((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	0,0367674	0,0036767	*(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))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	0,0134342	0,0013434	*(i_AppRate/100)*C29*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	0,0070707	0,0007071	*(i_AppRate/100)*C29*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**1,7875245**	**0,1787524**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_Turf*d_MAF*d_SalExt *d_AreaHM*d_ReFreqHM*d_ReExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,3478200**	**0,0057970**	*(C15*i_AbsorpInuse*(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)	**0,1032315**	**0,0017205**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d _ReExpDur*i_AbsorpProduct*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**5,9584148**	**0,0993069**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

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	**0,0692628**	**0,0069263**	*((C20*i_AbsorpInuse*(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	**0,0220329**	**0,0022033**	*(i_AppRate/100)*C30*d_Turf*d_ReTCCh*d _ReExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0080505**	**0,0008050**	*(i_AppRate/100)*C30*d_Turf*d_SalExt*d_ AreaHM*d_ReFreqHM*d_ReExpDur*i_Abs orpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0042371**	**0,0004237**	*(i_AppRate/100)*C30*d_DRP*d_MouthGra ss*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops				

Dermal	**1,4252528**	**0,1425253**	*(d_TcEntryMeanCh*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse))*	
Hand to mouth			*(i_AppRate/100)*1*d_Turf*d_MAF*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*iAbsorpOralInuse*	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_AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,2275950**	**0,0037933**	*"(C19*i_AbsorpInuse*(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)	**0,0618616**	**0,0010310**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**4,7508428**	**0,0791807**	*(d_TcEntryMeanAd*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Bystander exposure for Captosan voor schurft, hoge dosis

Croptype	**Pome fruit**		
Application method	**Upward spraying**		
Application equipment	**Vehicle-mounted-Drift Reduction**		*i_AppEquip*
Formulation type	**Soluble concentrates, emulsifiable concentrate, etc.**		
Application rate of the product	**2,25**	kg a.s./ha	*i_AppRate*
Buffer strip	**10**	m	*i_Buffer*
Concentration of active substance (in-use dilution for liquid applications)	**1,5**	g a.s./l	*d_ConcAS*
Dermal absorption of product	**10,00%**		*i_AbsorpProduct*
Dermal absorption of in-use dilution	**10,00%**		*i_AbsorpInuse*
Oral absorption	**100,00%**		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	**6,75**	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	**low volatile substances having a vapour pressure of <5*10-3Pa**	Pa	*i_Volat*
Concentration in air	**0,001**	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/kg bw/day	*d_BreathRAd*
Breathing rate child (1-3 year old)	**1,07**	m^3/kg bw/day	*d_BreathRCh*
Drift percentage on surface (90th percentile)	**3,60%**		
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)	0,2406175	0,0107000	0,1468153	1,7875245
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0240618	0,0010700	0,0146815	0,1787524
% of RVAAS	8,02%	0,36%	4,89%	59,58%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops
Total systemic exposure (mg a.s./day)	0,7966500	0,0138000	0,2764704	5,9584148
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0132775	0,0002300	0,0046078	0,0993069
% of RVAAS	4,43%	0,08%	1,54%	33,10%

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	**0,2406175**	**0,0240618**	*((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	**0,0991480**	**0,0099148**	*(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)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0381339**	**0,0038134**	*(i_AppRate/100)*C25*d_Turf*d_SalExt*d_AreaHM*d_ByFreqHM*d_ByExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0095335**	**0,0009533**	*(i_AppRate/100)*C25*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**1,7875245**	**0,1787524**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_MAF*d_Turf*d_SalExt *d_AreaHM*d_ByFreqHM*d_ByExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,7966500**	**0,0132775**	*((C15*i_AbsorpInuse*(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_BreathRAd*d_BwAdult*	
Surface deposits (dermal)	**0,2764704**	**0,0046078**	*(i_AppRate/100)*C24*d_Turf*d_ByTCAd*d _ByExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**5,9584148**	**0,0993069**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Recreational exposure for Captosan voor schurft, hoge dosis

Croptype	Golf course, turf or other sports lawns	This sheet is only to be used for treatment of grassland used for recreational purpo	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Application rate of the product	2,25	kg a.s./ha	*i_AppRate*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	6,75	µg a.s./cm^2	*d_DFR*
Exposure duration dermal	2	hours	*d_ReExpDur*
Light clothing adjustment factor Adult resident	18,0%		*d_ClothAF*
Drift percentage on surface	100,00%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
Ingestion rate for mouthing of grass per day	25	cm^2	*d_MouthGrass*

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	**2,7541117**	**0,2754112**	*(i_AppRate/100)*C13*d_Turf*d_ReTCCh*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF)*	
Hand to mouth	**1,0063101**	**0,1006310**	*(i_AppRate/100)*C13*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	
Object to mouth	**0,5296369**	**0,0529637**	*(i_AppRate/100)*C13*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	
Total systemic exposure	**4,2900587**	**0,4290059**		
% of RVNAS				
Adult				
Surface deposits (dermal)	**7,7326984**	**0,1288783**	*(i_AppRate/100)*C13*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*	

% of RVNAS				

d_AirConVol	Concentration in air of moderately volatile substances	0,015	mg/m^3
d_AirConNonVol	Concentration in air of low volatile substances	0,001	mg/m^3
d_AreaHM	Surface area of hands mouthed	20	cm^2
d_AreaTreated	Area treated (defined by crop type)	10	ha
d_BreathRAd	Breathing rate adult residents	0,23	m^3/day/kg
d_BreathRCh	Breathing rate child (1-3 year old) residents	1,07	m^3/day/kg
d_BwAdult	Adult body weight	60	kg
d_BwChild	Child body weight (1 to < 3 year olds)	10	kg
d_ByBreathRAd	Breathing rate adult bystander	0,04	m^3/hours/kg
d_ByBreathRCh	Breathing rate child (1-3 year old) bystander	0,19	m^3/hours/kg
d_ByExpDur	Exposure duration intense activity breathing rates	2	hours
d_ByFreqHM	Frequency of hand to mouth activity	20	events/hour
d_ByTCAd	Transfer coeff. of surface deposits-adult	14500	cm^2/hour
d_ByTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	5200	cm^2/hour
d_ClothAF	Light clothing adjustment factor resident and bystanders	18,0%	
d_ConcAs	Concentration of active substance (in-use dilution for liquid applications)	1,5	g a.s./l
d_DFR	Dislodgeable foliar residue (i_AppRate*i_DFR)	6,75	µg a.s./cm^2
d_DRP	Dislodgeable residues percentage transferability for object to mouth	20,0%	
d_HalflifeAS	Half-life of active substance (DT50)	34	days
d_InhalTcAut	Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)
d_InhalTcCut	Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)
d_InhalTcSort	Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)
d_MAF	Multiple application factor	4,71	
d_MouthGrass	Ingestion rate for mouthing of grass per day	25	cm^2 grass/day
d_ReExpDur	Exposure duration resident dermal	2	hours
d_ReExpDurInhal	Exposure duration resident inhalation	24	hours
d_ExpDurTreatCrop	Exposure duration for resident and bystander entry into treated crops	0,25	hours
d_ReFreqHM	Frequency of hand to mouth activity	9,5	events/hour
d_ReTCAd	Transfer coeff. of surface deposits-adult	7300	cm^2/hour
d_ReTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour
d_SalExt	Saliva extraction percentage	50,0%	
d_TcEntryAd	Transfer coefficient for entry into treated crops 75th percentile - adult	7500	cm^2/h
d_TcEntryCh	Transfer coefficient for entry into treated crops 75th percentile - child	2250	cm^2/h
d_TcEntryMeanAd	Transfer coefficient for entry into treated crops mean - adult	5980	cm^2/h
d_TcEntryMeanCh	Transfer coefficient for entry into treated crops mean - child	1794	cm^2/h
d_Turf	Turf transferable residues percentage	5,0%	
d_PctExtrapolation	For exposure value 75 percentiles above this amount linear extrapolation is performed	1,5	kg
d_head75ProtectionF	Cooefficient to estimate head protection factor 75 th Percentile	1,79422	
d_head95ProtectionF	Cooefficient to estimate head protection factor 95 Percentile	1,24705	
sys_KeyOperator	Variables for operator exposure lookup key	_AppMeth&i_AppEquip&	
sys_OperatorModel	Operator model	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 powderChemical resistant gloves	0,05
Granules, fine granulesChemical resistant gloves	0,05
Wettable granules, soluble granulesChemical resistant gloves	0,05
Soluble concentrates, emulsifiable concentrate, etc.Chemica	0,1
Wettable powder, soluble powderNone	1
Granules, fine granulesNone	1
Wettable granules, soluble granulesNone	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 fo	750	Field crops	50
Brassica vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Bulb vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Cane fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Field crops	10
Cereals	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Citrus fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Fruiting vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Grapes	10100	30000	Hand harvesting	8	Hand and bo	no TC available	Grapes	10
Grassland and lawns	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Golf course, turf or other sports lawns	2500	5800	Maintenance	8	Hand and bo	580	Field crops	50
Hops	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Hops	10
Leaf vegetables and fresh herbs	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Legume vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Oilfruits	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Oilseeds	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Ornamentals	5000	14000	Cutting, sorting, bundling, carrying	8	Hand and bo	1400	Field crops	10
Pome fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Root and tuber vegetables	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Stone fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10

Tree nuts	4500	22500 Searching, reaching, picking	8 Hand and bo	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 p	Ground sediments in % of the application rate calculated on the basis of percentile values (drift data acc. Rautmann)		
key_ByCropType, ay_ByCropType			
key_ByCropType	Bystander surface de	Resident surface 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
Match MixLoad	**Outdoor/Ir**	**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 granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Match AOEM	Outdoor/I	Formulation type	Application method	Application equipment	Type of exposure	ML 75th Intercept	ML 75th Applied Amount Factor	ML 75th Senario Factor	ML 75th Percentile AOEM	ML 95th Intercept	ML 95th Applied Amount Factor	ML 95th Senario Factor	ML 95th Percentile AOEM	Application 75th Intercept	Application 75th Applied Amount Factor	Application 75th Senario Factor	Application 75th Percentile AOEM	Application 95th Intercept	Application 95th Applied Amount Factor	Application 95th Senario Factor	Application 95th Percentile AOEM
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65					88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29						88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29			6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25					88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,00	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45					1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78						1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78			4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15					1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50					12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00						12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00			3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35					12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96					26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02						26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02			2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28					26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37					8903,00				62630,00

OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00						8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00			4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powd	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50					8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powd	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powd	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,00		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powd	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80					5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00						5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00			2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powd	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81					5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powd	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00			2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powd	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00	0,00		2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powd	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	

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 conjuction with the **Guidance on the Assessment of Exposure for Operators, Workers, Residents and Bystanders in Risk Assessment for Plant Protection Products**

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Modifications: AOEM values for 95th percentile Operator mixing/loading head exposure corrected, resident and bystander exposure for manual applications included in summary, Cell B78 in Resident exposure worksheet corrected to C22 (previously DC22)

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

Substance name	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	
Product name	Captosan voor schurft, lage dosis	
Reference value non acutely toxic active substance (RVNAS)	0,1	mg/kg bw/day
Reference value acutely toxic active substance (RVAAS)	0,3	mg/kg bw/day
Crop type	Pome fruit	
Substance properties		
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.	
Miniumum volume water for application (liquids)	1500	L/ha
Maximum application rate of active substance	1,8	kg a.s. /ha
50% Dissipation Time DT50	33,9	days
Initial Dislodgeable Foliar Residue	3	µg/cm2 of foliage/kg a.s. applied/ha
Dermal absorption of product	10,00%	
Dermal absorption of in-use dilution	10,00%	
Oral absorption of active substance	100,00%	
Inhalation absorption of active substance	100,00%	
Vapour pressure of active substance	low volatile substances having a vapour pressure of <5*10-3Pa	
Scenario		
Indoor or Outdoor application	Outdoor	
Application method	Upward spraying	
Application equipment	Vehicle-mounted-Drift Reduction	
Buffer strip	10	m
Number of applications	19	
Interval between multiple applications	7	days
Season (upward spraying orchards only)	late (dense foliage)	

Exposure assessment

Substance	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate-1,8 kg a.s. /ha	Spray dilution = 1,2 g a.s./l	Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa
Scenario	Pome fruit late (dense foliage) / Outdoor / Upward spraying / Vehicle-mounted-Drift Reduction			Buffer = 10	Number applications = 19, Application interval = 7 days
Percentage Absoprtion	Dermal for product = 10	Dermal for in use diluation = 10	Oral = 100	Inhalation = 100	
RVNAS	0,1 mg/kg bw/day		RVAAS	0,3 mg/kg bw/day	
DFR	3 µg a.s./cm2 per kg a.s./ha		DT50	33,9 days	

Operator Model	Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day	0,4811	% of RVNAS	481,07%
	Acute systemic exposure mg/kg bw/day	1,2443	% of RVAAS	414,78%
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	0,1739	% of RVNAS	173,93%
	Acute systemic exposure mg/kg bw/day	0,7269	% of RVAAS	242,29%

Worker - Searching, reaching, picking	Potential exposure mg/kg bw/day	11,3472	% of RVNAS	11347,18%
	Working clothing mg/kg bw/day	2,2694	% of RVNAS	2269,44%
	Working clothing and gloves mg/kg bw/day	1,1347	% of RVNAS	1134,72%

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0,0084	% of RVNAS	8,41%
	Vapour (75th percentile) mg/kg bw/day	0,0011	% of RVNAS	1,07%
	Surface deposits (75th percentile) mg/kg bw/day	0,0068	% of RVNAS	6,82%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,2128	% of RVNAS	212,76%
	All pathways (mean) mg/kg bw/day	0,1803	% of RVNAS	180,34%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0,0046	% of RVNAS	4,64%
	Vapour (75th percentile) mg/kg bw/day	0,0002	% of RVNAS	0,23%
	Surface deposits (75th percentile) mg/kg bw/day	0,0020	% of RVNAS	2,05%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,1182	% of RVNAS	118,20%
	All pathways (mean) mg/kg bw/day	0,0987	% of RVNAS	98,74%

Bystander - child	Spray drift (95th percentile) mg/kg bw/day	0,0192	% of RVAAS	6,42%
	Vapour (95th percentile) mg/kg bw/day	0,0011	% of RVAAS	0,36%
	Surface deposits (95th percentile) mg/kg bw/day	0,0175	% of RVAAS	5,82%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,2128	% of RVAAS	70,92%
Bystander - adult	Spray drift (95th percentile) mg/kg bw/day	0,0106	% of RVAAS	3,54%
	Vapour (95th percentile) mg/kg bw/day	0,0002	% of RVAAS	0,08%
	Surface deposits (95th percentile) mg/kg bw/day	0,0055	% of RVAAS	1,83%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,1182	% of RVAAS	39,40%

Recreational Exposure	Child % of RVNAS	Adult % of RVNAS

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Operator exposure for Captosan voor schurft, lage dosis outdoor spray applications

Application rate of active substance	1,8	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	18	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Indoor or Outdoor application	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Season	late (dense foliage)		

OutdoorSoluble concentrates, emulsifiable concentrate, etc.Upward sprayingVehicle-mounted-Drift Reduction

	Exposure values	µg exposure/day mixed and loaded		Reference	Comment
		75th centile	95th centile		
Mixing and loading	Hands	44948	168949	AOEM	
	Body	27208	166788	AOEM	
	Head	934	5122	AOEM	
	Protected hands (gloves)	226	3565	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	308	2633	AOEM	
	Protected head (hood and face shield)	15	290	AOEM	
	Inhalation	9	31	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
		75th centile	95th centile		
Application	Hands	32743	112262	AOEM	No data available for a drift reduction scenario
	Body	158611	150367	AOEM	
	Head	20844	127930	AOEM	
	Protected hands (gloves)	633	16550	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	1224	4045	AOEM	
	Inhalation	327	1488	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
	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)	28,8642826	10,4356128	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	0,4810714	0,1739269	
% of RVNAS	481,07%	173,93%	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	74,6607289	43,6129048	

Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	1,2443455	0,7268817	
% of RVAAS	414,78%	242,29%	

2. Longer term exposure

2.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	4494,7592268	74,9126538	*D15*i_AbsorpProduct*
Body	2720,8130503	45,3468842	*D16*i_AbsorpProduct*
Head	93,3904580	1,5565076	*D17*i_AbsorpProduct*
Inhalation	8,7492152	0,1458203	*D21*i_AbsorpInhalation*
Sum	7317,7119502	121,9618658	
With RPE/PPE (as selected above)			
Hands	4494,7592268	74,9126538	*D18*i_AbsorpProduct*
Body	30,8053318	0,5134222	*D19*i_AbsorpProduct or D15*i_AbsorpProduct*F24*
Head	93,3904580	1,5565076	*D20*i_AbsorpProduct or D17*i_AbsorpProduct*F25*
Inhalation	8,7492152	0,1458203	*D21*i_AbsorpInhalation*G25*
Sum	4627,7042317	77,1284039	
Water soluble	4627,7042317	77,1284039	*C70*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	3274,2964659	54,5716078	*D30*i_AbsorpInuse*
Body	15861,0708507	264,3511808	*D31*i_AbsorpInuse*
Head	2084,4069142	34,7401152	*D32*i_AbsorpInuse*
Inhalation	326,7963944	5,4466066	*D35*i_AbsorpInhalation*
Sum	21546,5706252	359,1095104	
With RPE/PPE (as selected above)			
Hands	3274,2964659	54,5716078	*D33*i_AbsorpInuse*
Body	122,4087618	2,0401460	*D34*i_AbsorpInuse or D31*i_AbsorpInuse*F38*
Head	2084,4069142	34,7401152	*D32*i_AbsorpInuse*F39*
Inhalation	326,7963944	5,4466066	*D35*i_AbsorpInuse*G39*
Sum	5807,9085364	96,7984756	

3. Acute exposure

3.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	16894,9326611	281,5822110	*E15*i_AbsorpProduct*
Body	16678,8348163	277,9805803	*E16*i_AbsorpProduct*
Head	512,2034568	8,5367243	*E17*i_AbsorpProduct*
Inhalation	30,7615428	0,5126924	*E21*i_AbsorpInhalation*
Sum	34116,7324770	568,6122080	
With RPE/PPE (as selected above)			
Hands	16894,9326611	281,5822110	*E18*i_AbsorpProduct*
Body	263,2525006	4,3875417	*E19*i_AbsorpProduct or E16*i_AbsorpProduct*F24*
Head	512,2034568	8,5367243	*E20*i_AbsorpProduct or E17*i_AbsorpProduct*F25*
Inhalation	30,7615428	0,5126924	*E21*i_AbsorpInhalation*G25*
Sum	17701,1501613	295,0191694	
Water soluble	17701,1501613	295,0191694	*C104*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	11226,1930205	187,1032170	*E30*i_AbsorpInuse*
Body	15036,6989606	250,6116493	*E31*i_AbsorpInuse*
Head	12793,0030994	213,2167183	*E32*i_AbsorpInuse*
Inhalation	1488,1013309	24,8016888	*E35*i_AbsorpInhalation*
Sum	40543,9964114	675,7332735	
With RPE/PPE (as selected above)			
Hands	11226,1930205	187,1032170	*E33*i_AbsorpInuse*
Body	404,4571387	6,7409523	*E34*i_AbsorpInuse or E31*i_AbsorpInuse*F38*

Head	**12793,0030994**	**213,2167183**	*E32*i_AbsorpInuse*F39*
Inhalation	**1488,1013309**	**24,8016888**	*E35*i_AbsorpInhalation*G39*
Sum	**25911,7545894**	**431,8625765**	

Operator exposure for Captosan voor schurft, lage dosis granular applications

Application rate of active substance	1,8	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	18	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	luble concentrates, emulsifiable concentrate, e		
Indoor or Outdoor application	Outdoor	**This sheet is only to be used for granular applications**	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		

Mixing and loading

Exposure values	mg exposure/kg a.s. mixed and loaded		Reference	Comment
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B
Body	#N/B	#N/B	#N/B	#N/B
Inhalation	#N/B	#N/B	#N/B	#N/B
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	

Application

Exposure values	mg exposure/kg a.s. applied		Reference	Comment
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B
Body	#N/B	#N/B	#N/B	#N/B
Inhalation	#N/B	#N/B	#N/B	#N/B
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/B	#N/B	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	#N/B	#N/B	
% of RVNAS	#N/B	#N/B	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	#N/B	#N/B	

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

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			
Hands	#N/B	#N/B	*D14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D14*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

2.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*D25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D25*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

3. Acute exposure
3.1 Mixing and loading

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

3.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E26*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

Worker exposure from residues on foliage for Captosan voor schurft, lage dosis

Crop type	Pome fruit		
Indoor or outdoor	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
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_AppRate*
Number of applications	19		*i_AppNo*
Interval between multiple applications	7	days	*i_AppInt*
Half-life of active substance	33,9	days	*d_HalflifeAS*
Multiple application factor	7,0		*d_MAF*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of the in-use dilution	10,00%		*i_AbsorpInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2	*d_DFR*
Working hours	8	hr	*d_WorkHr*
Dermal transfer coefficient - Total potential exposure	22500	cm^2/hr	*d_DermTcUCV*
Dermal transfer coefficient - arms, body and legs covered	4500	cm^2/hr	*d_DermTcCV1*
Dermal transfer coefficient - hands, arms, body and legs covered	2250	cm^2/hr	*d_DermTcCV2*
Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)	*d_InhalTcAut*
Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcCut*
Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcSort*

1. Total

	Potential exposure	Work wear - arms, body and legs covered	Working wear and gloves	Comments
Total systemic exposure (mg a.s./day)	680,8307691	136,1661538	68,0830769	
Total systemic exposure per kg body weight (mg/kg bw/day)	11,3471795	2,2694359	1,1347179	
% of RVNAS	11347,18%	2269,44%	1134,72%	

2. Details

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula	Comments
Dermal - Potential	680,8307691	11,3471795	*d_DermTcUCV*d_WorkHr*i_DFR*i_MAF/1000*i_AbsorpInuse*	

Dermal - Work wear - arms, body and legs covered	**136,1661538**	**2,2694359**	*d_DermTcCV1*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Dermal - Working wear and gloves	**68,0830769**	**1,1347179**	*d_DermTcCV2*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Inhalation				Na for outdoor activities

Resident exposure for Captosan voor schurft, lage dosis

Croptype	Pome fruit		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Buffer strip	10	m	*i_Buffer*
Application rate of the product	1,8	kg a.s./ha	*i_AppRate*
Concentration of active substance (in-use dilution for liquid applications)	1,2	g a.s./l	*d_ConcAS*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10-3Pa	Pa	*i_Volat*
Concentration in air	0,001	mg/m^3	*d_AirCon*
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	*d_ReExpDur*
Exposure duration inhalation	24	hours	*d_ReExpDurInhal*
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/day/kg	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/day/kg	*d_BreathRCh*
Drift percentage on surface (75th percentile)	2,67%		
Drift percentage on surface (mean)	1,60%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
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 (75th percentile) - adult	**7500**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (75th percentile) - child	**2250**	cm^2/h	*d_TcEntryCh*
Transfer coefficient for entry into treated crops (mean) - adult	**5980**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (mean) - child	**1794**	cm^2/h	*d_TcEntryCh*

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)	0,0840849	0,0107000	0,0681682	2,1275962	1,8033634
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0084085	0,0010700	0,0068168	0,2127596	0,1803363
% of RVNAS	8,41%	1,07%	6,82%	212,76%	180,34%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops	All pathways (mean)
Total systemic exposure (mg a.s./day)	0,2782560	0,0138000	0,1228710	7,0919872	5,9241844
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0046376	0,0002300	0,0020479	0,1181998	0,0987364
% of RVNAS	4,64%	0,23%	2,05%	118,20%	98,74%

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	0,0840849	0,0084085	*((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	0,0437623	0,0043762	*(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))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	0,0159901	0,0015990	*(i_AppRate/100)*C29*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	0,0084158	0,0008416	*(i_AppRate/100)*C29*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**2,1275962**	**0,2127596**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_Turf*d_MAF*d_SalExt *d_AreaHM*d_ReFreqHM*d_ReExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,2782560**	**0,0046376**	*(C15*i_AbsorpInuse*(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)	**0,1228710**	**0,0020479**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d _ReExpDur*i_AbsorpProduct*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**7,0919872**	**0,1181998**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

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	**0,0554103**	**0,0055410**	*((C20*i_AbsorpInuse*(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	**0,0262246**	**0,0026225**	*(i_AppRate/100)*C30*d_Turf*d_ReTCCh*d _ReExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0095821**	**0,0009582**	*(i_AppRate/100)*C30*d_Turf*d_SalExt*d_ AreaHM*d_ReFreqHM*d_ReExpDur*i_Abs orpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0050432**	**0,0005043**	*(i_AppRate/100)*C30*d_DRP*d_MouthGra ss*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops				

Dermal	**1,6964033**	**0,1696403**	*(d_TcEntryMeanCh*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse))*	
Hand to mouth			*(i_AppRate/100)*1*d_Turf*d_MAF*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*iAbsorpOralInuse*	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_AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,1820760**	**0,0030346**	*"(C19*i_AbsorpInuse*(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)	**0,0736306**	**0,0012272**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**5,6546778**	**0,0942446**	*(d_TcEntryMeanAd*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Bystander exposure for Captosan voor schurft, lage dosis

Croptype	**Pome fruit**		
Application method	**Upward spraying**		
Application equipment	**Vehicle-mounted-Drift Reduction**		*i_AppEquip*
Formulation type	**Soluble concentrates, emulsifiable concentrate, etc.**		
Application rate of the product	**1,8**	kg a.s./ha	*i_AppRate*
Buffer strip	**10**	m	*i_Buffer*
Concentration of active substance (in-use dilution for liquid applications)	**1,2**	g a.s./l	*d_ConcAS*
Dermal absorption of product	**10,00%**		*i_AbsorpProduct*
Dermal absorption of in-use dilution	**10,00%**		*i_AbsorpInuse*
Oral absorption	**100,00%**		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	**5,4**	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	**low volatile substances having a vapour pressure of <5*10-3Pa**	Pa	*i_Volat*
Concentration in air	**0,001**	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/kg bw/day	*d_BreathRAd*
Breathing rate child (1-3 year old)	**1,07**	m^3/kg bw/day	*d_BreathRCh*
Drift percentage on surface (90th percentile)	**3,60%**		
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)	0,1924940	0,0107000	0,1747466	2,1275962
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0192494	0,0010700	0,0174747	0,2127596
% of RVAAS	6,42%	0,36%	5,82%	70,92%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops
Total systemic exposure (mg a.s./day)	0,6373200	0,0138000	0,3290682	7,0919872
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0106220	0,0002300	0,0054845	0,1181998
% of RVAAS	3,54%	0,08%	1,83%	39,40%

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	**0,1924940**	**0,0192494**	*((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	**0,1180107**	**0,0118011**	*(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)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0453887**	**0,0045389**	*(i_AppRate/100)*C25*d_Turf*d_SalExt*d_AreaHM*d_ByFreqHM*d_ByExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0113472**	**0,0011347**	*(i_AppRate/100)*C25*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**2,1275962**	**0,2127596**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_MAF*d_Turf*d_SalExt *d_AreaHM*d_ByFreqHM*d_ByExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,6373200**	**0,0106220**	*((C15*i_AbsorpInuse*(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_BreathRAd*d_BwAdult*	
Surface deposits (dermal)	**0,3290682**	**0,0054845**	*(i_AppRate/100)*C24*d_Turf*d_ByTCAd*d _ByExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**7,0919872**	**0,1181998**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Recreational exposure for Captosan voor schurft, lage dosis

Croptype	Golf course, turf or other sports lawns	This sheet is only to be used for treatment of grassland used for recreational purpo	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Application rate of the product	1,8	kg a.s./ha	*i_AppRate*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2	*d_DFR*
Exposure duration dermal	2	hours	*d_ReExpDur*
Light clothing adjustment factor Adult resident	18,0%		*d_ClothAF*
Drift percentage on surface	100,00%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
Ingestion rate for mouthing of grass per day	25	cm^2	*d_MouthGrass*

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	**3,2780741**	**0,3278074**	*(i_AppRate/100)*C13*d_Turf*d_ReTCCh*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF)*	
Hand to mouth	**1,1977578**	**0,1197758**	*(i_AppRate/100)*C13*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	
Object to mouth	**0,6303989**	**0,0630399**	*(i_AppRate/100)*C13*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	
Total systemic exposure	**5,1062308**	**0,5106231**		
% of RVNAS				

Adult				
Surface deposits (dermal)	**9,2038234**	**0,1533971**	*(i_AppRate/100)*C13*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*	
% of RVNAS				

d_AirConVol	Concentration in air of moderately volatile substances	**0,015**	mg/m^3
d_AirConNonVol	Concentration in air of low volatile substances	**0,001**	mg/m^3
d_AreaHM	Surface area of hands mouthed	**20**	cm^2
d_AreaTreated	Area treated (defined by crop type)	**10**	ha
d_BreathRAd	Breathing rate adult residents	**0,23**	m^3/day/kg
d_BreathRCh	Breathing rate child (1-3 year old) residents	**1,07**	m^3/day/kg
d_BwAdult	Adult body weight	**60**	kg
d_BwChild	Child body weight (1 to < 3 year olds)	**10**	kg
d_ByBreathRAd	Breathing rate adult bystander	**0,04**	m^3/hours/kg
d_ByBreathRCh	Breathing rate child (1-3 year old) bystander	**0,19**	m^3/hours/kg
d_ByExpDur	Exposure duration intense activity breathing rates	**2**	hours
d_ByFreqHM	Frequency of hand to mouth activity	**20**	events/hour
d_ByTCAd	Transfer coeff. of surface deposits-adult	**14500**	cm^2/hour
d_ByTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	**5200**	cm^2/hour
d_ClothAF	Light clothing adjustment factor resident and bystanders	**18,0%**	
d_ConcAs	Concentration of active substance (in-use dilution for liquid applications)	**1,2**	g a.s./l
d_DFR	Dislodgeable foliar residue (i_AppRate*i_DFR)	**5,4**	µg a.s./cm^2
d_DRP	Dislodgeable residues percentage transferability for object to mouth	**20,0%**	
d_HalflifeAS	Half-life of active substance (DT50)	**34**	days
d_InhalTcAut	Inhalation transfer coefficient for automated applications	**NA**	ha/hr*10^(-3)
d_InhalTcCut	Inhalation transfer coefficient for cutting ornamentals	**NA**	ha/hr*10^(-3)
d_InhalTcSort	Inhalation transfer coefficient for sorting / bundling ornamentals	**NA**	ha/hr*10^(-3)
d_MAF	Multiple application factor	**7,00**	
d_MouthGrass	Ingestion rate for mouthing of grass per day	**25**	cm^2 grass/day
d_ReExpDur	Exposure duration resident dermal	**2**	hours
d_ReExpDurInhal	Exposure duration resident inhalation	**24**	hours
d_ExpDurTreatCrop	Exposure duration for resident and bystander entry into treated crops	**0,25**	hours
d_ReFreqHM	Frequency of hand to mouth activity	**9,5**	events/hour
d_ReTCAd	Transfer coeff. of surface deposits-adult	**7300**	cm^2/hour
d_ReTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	**2600**	cm^2/hour
d_SalExt	Saliva extraction percentage	**50,0%**	
d_TcEntryAd	Transfer coefficient for entry into treated crops 75th percentile - adult	**7500**	cm^2/h
d_TcEntryCh	Transfer coefficient for entry into treated crops 75th percentile - child	**2250**	cm^2/h
d_TcEntryMeanAd	Transfer coefficient for entry into treated crops mean - adult	**5980**	cm^2/h
d_TcEntryMeanCh	Transfer coefficient for entry into treated crops mean - child	**1794**	cm^2/h
d_Turf	Turf transferable residues percentage	**5,0%**	
d_PctExtrapolation	For exposure value 75 percentiles above this amount linear extrapolation is performed	**1,5**	kg
d_head75ProtectionF	Cooefficient to estimate head protection factor 75 th Percentile	**1,79422**	
d_head95ProtectionF	Cooefficient to estimate head protection factor 95 Percentile	**1,24705**	
sys_KeyOperator	Variables for operator exposure lookup key	**_AppMeth&i_AppEquip&**	
sys_OperatorModel	Operator model	**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 powderChemical resistant gloves	0,05
Granules, fine granulesChemical resistant gloves	0,05
Wettable granules, soluble granulesChemical resistant gloves	0,05
Soluble concentrates, emulsifiable concentrate, etc.Chemical	0,1
Wettable powder, soluble powderNone	1
Granules, fine granulesNone	1
Wettable granules, soluble granulesNone	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 for	750	Field crops	50
Brassica vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Bulb vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Cane fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Field crops	10
Cereals	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50
Citrus fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Fruiting vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Grapes	10100	30000	Hand harvesting	8	Hand and bo	no TC available f	Grapes	10
Grassland and lawns	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50
Golf course, turf or other sports lawns	2500	5800	Maintenance	8	Hand and bo	580	Field crops	50
Hops	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Hops	10
Leaf vegetables and fresh herbs	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Legume vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Oilfruits	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Oilseeds	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50

Ornamentals	5000	14000	Cutting, sorting, bundling, carrying	8	Hand and bo	1400	Field crops	10
Pome fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Root and tuber vegetables	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Stone fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Tree nuts	4500	22500	Searching, reaching, picking	8	Hand and bo	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 pe	**Ground sediments in % of the application rate calculated on the basis of percentile values (drift data acc. Rautmann)**		
key_ByCropType, ay_ByCropType			
key_ByCropType	**Bystander surface de**	**Resident surface 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
Match MixLoad	**Outdoor/Ir**	**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 granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Match AOEM	Outdoor/In	Formulation type	Application method	Application equipment	Type of exposure	ML 75th Intercept	ML 75th Applied Amount Factor	ML 75th Senario Factor	ML 75th Percentile AOEM	ML 95th Intercept	ML 95th Applied Amount Factor	ML 95th Senario Factor	ML 95th Percentile AOEM	Application 75th Intercept	Application 75th Applied Amount Factor	Application 75th Senario Factor	Application 75th Percentile AOEM	Application 95th Intercept	Application 95th Applied Amount Factor	Application 95th Senario Factor	Application 95th Percentile AOEM
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65					88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29						88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29			6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25					88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted-Drift Redu	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted-Drift Redu	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,00	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Vehicle-mounted-Drift Redu	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Vehicle-mounted-Drift Redu	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Vehicle-mounted-Drift Redu	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted-Drift Redu	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45					1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78						1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78			4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15					1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted-Drift Redu	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted-Drift Redu	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Vehicle-mounted-Drift Redu	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Vehicle-mounted-Drift Redu	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Vehicle-mounted-Drift Redu	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted-Drift Redu	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50					12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00						12,00				85,00
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00			3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35					12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted-Drift Redu	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted-Drift Redu	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Vehicle-mounted-Drift Redu	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Vehicle-mounted-Drift Redu	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Vehicle-mounted-Drift Redu	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted-Drift Redu	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96					26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02						26,00				26,00
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02			2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28					26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted-Drift Redu	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted-Drift Redu	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Vehicle-mounted-Drift Redu	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Vehicle-mounted-Drift Redu	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Vehicle-mounted-Drift Redu	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted-Drift Redu	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37					8903,00				62630,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00						8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granu	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00			4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayingOutdoor		Wettable powder, soluble powd	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50					8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Do	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Uf	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granu	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00

OutdoorWettable granules, soluble granulesUpward sprayingM	Outdoor	Wettable granules, soluble granı	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward spraying	Outdoor	Wettable powder, soluble powd	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Dc	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Up	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granı	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granı	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward spraying	Outdoor	Wettable powder, soluble powd	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Dc	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted-Drift Redı	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Up	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted-Drift Redı	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,00		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granı	Downward spraying	Vehicle-mounted-Drift Redı	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granı	Upward spraying	Vehicle-mounted-Drift Redı	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward spraying	Outdoor	Wettable powder, soluble powd	Downward spraying	Vehicle-mounted-Drift Redı	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted-Drift Redı	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Dc	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80					5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Up	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granı	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00						5,00				22,00
OutdoorWettable granules, soluble granulesUpward sprayingM	Outdoor	Wettable granules, soluble granı	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00			2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward spraying	Outdoor	Wettable powder, soluble powd	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81					5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Dc	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Up	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granı	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable granules, soluble granulesUpward sprayingM	Outdoor	Wettable granules, soluble granı	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward spraying	Outdoor	Wettable powder, soluble powd	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingMa	Outdoor	Wettable powder, soluble powd	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Dc	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Up	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00			2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granı	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granı	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward spraying	Outdoor	Wettable powder, soluble powd	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Dc	Outdoor	Soluble concentrates, emulsifiab	Downward spraying	Vehicle-mounted-Drift Redı	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.Up	Outdoor	Soluble concentrates, emulsifiab	Upward spraying	Vehicle-mounted-Drift Redı	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00	0,00		2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward sprayin	Outdoor	Wettable granules, soluble granı	Downward spraying	Vehicle-mounted-Drift Redı	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward sprayingV	Outdoor	Wettable granules, soluble granı	Upward spraying	Vehicle-mounted-Drift Redı	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward spraying	Outdoor	Wettable powder, soluble powd	Downward spraying	Vehicle-mounted-Drift Redı	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingVel	Outdoor	Wettable powder, soluble powd	Upward spraying	Vehicle-mounted-Drift Redı	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	

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 conjuction with the **Guidance on the Assessment of Exposure for Operators, Workers, Residents and Bystanders in Risk Assessment for Plant Protection Products**

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Modifications: AOEM values for 95th percentile Operator mixing/loading head exposure corrected, resident and bystander exposure for manual applications included in summary, Cell B78 in Resident exposure worksheet corrected to C22 (previously DC22)

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

Substance name	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	
Product name	Captosan totaal	
Reference value non acutely toxic active substance (RVNAS)	0,1	mg/kg bw/day
Reference value acutely toxic active substance (RVAAS)	0,3	mg/kg bw/day
Crop type	Pome fruit	
Substance properties		
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.	
Miniumum volume water for application (liquids)	1500	L/ha
Maximum application rate of active substance	2,5	kg a.s. /ha
50% Dissipation Time DT50	33,9	days
Initial Dislodgeable Foliar Residue	3	µg/cm2 of foliage/kg a.s. applied/ha
Dermal absorption of product	10,00%	
Dermal absorption of in-use dilution	10,00%	
Oral absorption of active substance	100,00%	
Inhalation absorption of active substance	100,00%	
Vapour pressure of active substance	low volatile substances having a vapour pressure of <5*10-3Pa	
Scenario		
Indoor or Outdoor application	Outdoor	
Application method	Upward spraying	
Application equipment	Vehicle-mounted-Drift Reduction	
Buffer strip	10	m
Number of applications	16	
Interval between multiple applications	7	days
Season (upward spraying orchards only)	early (without leaves)	

Exposure assessment

Substance	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate-2,5 kg a.s. /ha	Spray dilution = 1,66666666666667 g a.s./l	Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa
Scenario	Pome fruit early (without leaves) / Outdoor / Upward spraying / Vehicle-mounted-Drift Reduction			Buffer = 10	Number applications = 16, Application interval = 7 days
Percentage Absoprtion	Dermal for product = 10	Dermal for in use diluation = 10	Oral = 100	Inhalation = 100	
RVNAS	0,1 mg/kg bw/day		RVAAS	0,3 mg/kg bw/day	
DFR	3 µg a.s./cm2 per kg a.s./ha		DT50	33,9 days	

Operator Model		Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day		0,6509	% of RVNAS	650,91%
	Acute systemic exposure mg/kg bw/day		1,6204	% of RVAAS	540,12%
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		0,2301	% of RVNAS	230,15%
	Acute systemic exposure mg/kg bw/day		0,9819	% of RVAAS	327,31%

Worker - Searching, reaching, picking	Potential exposure mg/kg bw/day	15,1636	% of RVNAS	15163,55%
	Working clothing mg/kg bw/day	3,0327	% of RVNAS	3032,71%
	Working clothing and gloves mg/kg bw/day	1,5164	% of RVNAS	1516,36%

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0,0117	% of RVNAS	11,68%
	Vapour (75th percentile) mg/kg bw/day	0,0011	% of RVNAS	1,07%
	Surface deposits (75th percentile) mg/kg bw/day	0,0306	% of RVNAS	30,57%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,2843	% of RVNAS	284,32%
	All pathways (mean) mg/kg bw/day	0,2562	% of RVNAS	256,17%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0,0064	% of RVNAS	6,44%
	Vapour (75th percentile) mg/kg bw/day	0,0002	% of RVNAS	0,23%
	Surface deposits (75th percentile) mg/kg bw/day	0,0092	% of RVNAS	9,18%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,1580	% of RVNAS	157,95%
	All pathways (mean) mg/kg bw/day	0,1366	% of RVNAS	136,61%

Bystander - child	Spray drift (95th percentile) mg/kg bw/day	0,0267	% of RVAAS	8,91%
	Vapour (95th percentile) mg/kg bw/day	0,0011	% of RVAAS	0,36%
	Surface deposits (95th percentile) mg/kg bw/day	0,0766	% of RVAAS	25,54%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,2843	% of RVAAS	94,77%
Bystander - adult	Spray drift (95th percentile) mg/kg bw/day	0,0148	% of RVAAS	4,92%
	Vapour (95th percentile) mg/kg bw/day	0,0002	% of RVAAS	0,08%
	Surface deposits (95th percentile) mg/kg bw/day	0,0240	% of RVAAS	8,01%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,1580	% of RVAAS	52,65%

Recreational Exposure	Child % of RVNAS	Adult % of RVNAS

Operator exposure for Captosan totaal outdoor spray applications

Application rate of active substance	2,5	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	25	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Indoor or Outdoor application	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Season	early (without leaves)		

OutdoorSoluble concentrates, emulsifiable concentrate, etc.Upward sprayingVehicle-mounted-Drift Reduction

	Exposure values	µg exposure/day mixed and loaded		Reference	Comment
		75th centile	95th centile		
Mixing and loading	Hands	57881	218196	AOEM	
	Body	34276	183491	AOEM	
	Head	1297	7114	AOEM	
	Protected hands (gloves)	280	4952	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	412	3656	AOEM	
	Protected head (hood and face shield)	21	403	AOEM	
	Inhalation	10	31	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
		75th centile	95th centile		
Application	Hands	43816	155919	AOEM	No data available for a drift reduction scenario
	Body	220293	208843	AOEM	
	Head	28950	177681	AOEM	
	Protected hands (gloves)	880	22986	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	1700	5617	AOEM	
	Inhalation	393	2067	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
	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)	39,0543344	13,8087477	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	0,6509056	0,2301458	
% of RVNAS	650,91%	230,15%	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	97,2221291	58,9161324	

Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	1,6203688	0,9819355	
% of RVAAS	540,12%	327,31%	

2. Longer term exposure

2.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	5788,1017477	96,4683625	*D15*i_AbsorpProduct*
Body	3427,5513530	57,1258559	*D16*i_AbsorpProduct*
Head	129,7089694	2,1618162	*D17*i_AbsorpProduct*
Inhalation	9,6477701	0,1607962	*D21*i_AbsorpInhalation*
Sum	9355,0098403	155,9168307	
With RPE/PPE (as selected above)			
Hands	5788,1017477	96,4683625	*D18*i_AbsorpProduct*
Body	41,2175417	0,6869590	*D19*i_AbsorpProduct or D15*i_AbsorpProduct*F24*
Head	129,7089694	2,1618162	*D20*i_AbsorpProduct or D17*i_AbsorpProduct*F25*
Inhalation	9,6477701	0,1607962	*D21*i_AbsorpInhalation*G25*
Sum	5968,6760289	99,4779338	
Water soluble	5968,6760289	99,4779338	*C70*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	4381,5852052	73,0264201	*D30*i_AbsorpInuse*
Body	22029,2650704	367,1544178	*D31*i_AbsorpInuse*
Head	2895,0096031	48,2501601	*D32*i_AbsorpInuse*
Inhalation	393,4647186	6,5577453	*D35*i_AbsorpInhalation*
Sum	29699,3245973	494,9887433	
With RPE/PPE (as selected above)			
Hands	4381,5852052	73,0264201	*D33*i_AbsorpInuse*
Body	170,0121692	2,8335362	*D34*i_AbsorpInuse or D31*i_AbsorpInuse*F38*
Head	2895,0096031	48,2501601	*D32*i_AbsorpInuse*F39*
Inhalation	393,4647186	6,5577453	*D35*i_AbsorpInuse*G39*
Sum	7840,0716961	130,6678616	

3. Acute exposure

3.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	21819,5589469	363,6593158	*E15*i_AbsorpProduct*
Body	18349,0671644	305,8177861	*E16*i_AbsorpProduct*
Head	711,3936899	11,8565615	*E17*i_AbsorpProduct*
Inhalation	31,0032184	0,5167203	*E21*i_AbsorpInhalation*
Sum	40911,0230197	681,8503837	
With RPE/PPE (as selected above)			
Hands	21819,5589469	363,6593158	*E18*i_AbsorpProduct*
Body	365,6284730	6,0938079	*E19*i_AbsorpProduct or E16*i_AbsorpProduct*F24*
Head	711,3936899	11,8565615	*E20*i_AbsorpProduct or E17*i_AbsorpProduct*F25*
Inhalation	31,0032184	0,5167203	*E21*i_AbsorpInhalation*G25*
Sum	22927,5843283	382,1264055	
Water soluble	22927,5843283	382,1264055	*C104*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	15591,9347507	259,8655792	*E30*i_AbsorpInuse*
Body	20884,3041120	348,0717352	*E31*i_AbsorpInuse*
Head	17768,0598602	296,1343310	*E32*i_AbsorpInuse*
Inhalation	2066,8074040	34,4467901	*E35*i_AbsorpInhalation*
Sum	56311,1061269	938,5184354	
With RPE/PPE (as selected above)			
Hands	15591,9347507	259,8655792	*E33*i_AbsorpInuse*
Body	561,7460259	9,3624338	*E34*i_AbsorpInuse or E31*i_AbsorpInuse*F38*
Head	17768,0598602	296,1343310	*E32*i_AbsorpInuse*F39*
Inhalation	2066,8074040	34,4467901	*E35*i_AbsorpInhalation*G39*
Sum	35988,5480408	599,8091340	

Operator exposure for Captosan totaal granular applications

Application rate of active substance	2,5	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	25	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	luble concentrates, emulsifiable concentrate, e		
Indoor or Outdoor application	Outdoor		**This sheet is only to be used for granular applications**
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		

Mixing and loading

Exposure values	mg exposure/kg a.s. mixed and loaded		Reference	Comment
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B
Body	#N/B	#N/B	#N/B	#N/B
Inhalation	#N/B	#N/B	#N/B	#N/B
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	

Application

Exposure values	mg exposure/kg a.s. applied		Reference	Comment
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B
Body	#N/B	#N/B	#N/B	#N/B
Inhalation	#N/B	#N/B	#N/B	#N/B
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/B	#N/B	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	#N/B	#N/B	
% of RVNAS	#N/B	#N/B	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	#N/B	#N/B	

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

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			
Hands	#N/B	#N/B	*D14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D14*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

2.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*D25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D25*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

3. Acute exposure
3.1 Mixing and loading

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

3.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E26*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

Worker exposure from residues on foliage for Captosan totaal

Crop type	Pome fruit		
Indoor or outdoor	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Worker's task	Searching, reaching, picking		
Main body parts in contact with foliage	Hand and body		
Application rate of active substance	2,5	kg a.s./ha	*i_AppRate*
Number of applications	16		*i_AppNo*
Interval between multiple applications	7	days	*i_AppInt*
Half-life of active substance	33,9	days	*d_HalflifeAS*
Multiple application factor	6,7		*d_MAF*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of the in-use dilution	10,00%		*i_AbsorpInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	7,5	µg a.s./cm^2	*d_DFR*
Working hours	8	hr	*d_WorkHr*
Dermal transfer coefficient - Total potential exposure	22500	cm^2/hr	*d_DermTcUCV*
Dermal transfer coefficient - arms, body and legs covered	4500	cm^2/hr	*d_DermTcCV1*
Dermal transfer coefficient - hands, arms, body and legs covered	2250	cm^2/hr	*d_DermTcCV2*
Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)	*d_InhalTcAut*
Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcCut*
Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcSort*

1. Total

	Potential exposure	Work wear - arms, body and legs covered	Working wear and gloves	Comments
Total systemic exposure (mg a.s./day)	909,8131605	181,9626321	90,9813161	
Total systemic exposure per kg body weight (mg/kg bw/day)	15,1635527	3,0327105	1,5163553	
% of RVNAS	15163,55%	3032,71%	1516,36%	

2. Details

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula	Comments
Dermal - Potential	909,8131605	15,1635527	*d_DermTcUCV*d_WorkHr*i_DFR*i_MAF/1000*i_AbsorpInuse*	

Dermal - Work wear - arms, body and legs covered	**181,9626321**	**3,0327105**	*d_DermTcCV1*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Dermal - Working wear and gloves	**90,9813161**	**1,5163553**	*d_DermTcCV2*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Inhalation				Na for outdoor activities

Resident exposure for Captosan totaal

Croptype	Pome fruit		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Buffer strip	10	m	*i_Buffer*
Application rate of the product	2,5	kg a.s./ha	*i_AppRate*
Concentration of active substance (in-use dilution for liquid applications)	1,666666667	g a.s./l	*d_ConcAS*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	7,5	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10-3Pa	Pa	*i_Volat*
Concentration in air	0,001	mg/m^3	*d_AirCon*
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	*d_ReExpDur*
Exposure duration inhalation	24	hours	*d_ReExpDurInhal*
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/day/kg	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/day/kg	*d_BreathRCh*
Drift percentage on surface (75th percentile)	8,96%		
Drift percentage on surface (mean)	6,07%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
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 (75th percentile) - adult	**7500**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (75th percentile) - child	**2250**	cm^2/h	*d_TcEntryCh*
Transfer coefficient for entry into treated crops (mean) - adult	**5980**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (mean) - child	**1794**	cm^2/h	*d_TcEntryCh*

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)	0,1167846	0,0107000	0,3056972	2,8431661	2,5617060
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0116785	0,0010700	0,0305697	0,2843166	0,2561706
% of RVNAS	11,68%	1,07%	30,57%	284,32%	256,17%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops	All pathways (mean)
Total systemic exposure (mg a.s./day)	0,3864667	0,0138000	0,5510098	9,4772204	8,1964716
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0064411	0,0002300	0,0091835	0,1579537	0,1366079
% of RVNAS	6,44%	0,23%	9,18%	157,95%	136,61%

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	0,1167846	0,0116785	*((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	0,1962501	0,0196250	*(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))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	0,0717068	0,0071707	*(i_AppRate/100)*C29*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	0,0377404	0,0037740	*(i_AppRate/100)*C29*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**2,8431661**	**0,2843166**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_Turf*d_MAF*d_SalExt *d_AreaHM*d_ReFreqHM*d_ReExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,3864667**	**0,0064411**	*(C15*i_AbsorpInuse*(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)	**0,5510098**	**0,0091835**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d _ReExpDur*i_AbsorpProduct*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**9,4772204**	**0,1579537**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

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	**0,0769587**	**0,0076959**	*((C20*i_AbsorpInuse*(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	**0,1329507**	**0,0132951**	*(i_AppRate/100)*C30*d_Turf*d_ReTCCh*d _ReExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0485781**	**0,0048578**	*(i_AppRate/100)*C30*d_Turf*d_SalExt*d_ AreaHM*d_ReFreqHM*d_ReExpDur*i_Abs orpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0255674**	**0,0025567**	*(i_AppRate/100)*C30*d_DRP*d_MouthGra ss*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops				

Dermal	**2,2669511**	**0,2266951**	*(d_TcEntryMeanCh*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse))*	
Hand to mouth			*(i_AppRate/100)*1*d_Turf*d_MAF*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*iAbsorpOralInuse*	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_AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,2528833**	**0,0042147**	*"(C19*i_AbsorpInuse*(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)	**0,3732845**	**0,0062214**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**7,5565037**	**0,1259417**	*(d_TcEntryMeanAd*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Bystander exposure for Captosan totaal

Croptype	**Pome fruit**		
Application method	**Upward spraying**		
Application equipment	**Vehicle-mounted-Drift Reduction**		*i_AppEquip*
Formulation type	**Soluble concentrates, emulsifiable concentrate, etc.**		
Application rate of the product	**2,5**	kg a.s./ha	*i_AppRate*
Buffer strip	**10**	m	*i_Buffer*
Concentration of active substance (in-use dilution for liquid applications)	**1,666666667**	g a.s./l	*d_ConcAS*
Dermal absorption of product	**10,00%**		*i_AbsorpProduct*
Dermal absorption of in-use dilution	**10,00%**		*i_AbsorpInuse*
Oral absorption	**100,00%**		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	**7,5**	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	**low volatile substances having a vapour pressure of <5*10-3Pa**	Pa	*i_Volat*
Concentration in air	**0,001**	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/kg bw/day	*d_BreathRAd*
Breathing rate child (1-3 year old)	**1,07**	m^3/kg bw/day	*d_BreathRCh*
Drift percentage on surface (90th percentile)	**11,81%**		
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)	0,2673528	0,0107000	0,7660711	2,8431661
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0267353	0,0010700	0,0766071	0,2843166
% of RVAAS	8,91%	0,36%	25,54%	94,77%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops
Total systemic exposure (mg a.s./day)	0,8851667	0,0138000	1,4426014	9,4772204
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0147528	0,0002300	0,0240434	0,1579537
% of RVAAS	4,92%	0,08%	8,01%	52,65%

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	**0,2673528**	**0,0267353**	*((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	**0,5173467**	**0,0517347**	*(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)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,1989795**	**0,0198980**	*(i_AppRate/100)*C25*d_Turf*d_SalExt*d_AreaHM*d_ByFreqHM*d_ByExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0497449**	**0,0049745**	*(i_AppRate/100)*C25*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**2,8431661**	**0,2843166**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_MAF*d_Turf*d_SalExt *d_AreaHM*d_ByFreqHM*d_ByExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,8851667**	**0,0147528**	*((C15*i_AbsorpInuse*(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_BreathRAd*d_BwAdult*	
Surface deposits (dermal)	**1,4426014**	**0,0240434**	*(i_AppRate/100)*C24*d_Turf*d_ByTCAd*d _ByExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**9,4772204**	**0,1579537**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Recreational exposure for Captosan totaal

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-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Application rate of the product	2,5	kg a.s./ha	*i_AppRate*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	7,5	µg a.s./cm^2	*d_DFR*
Exposure duration dermal	2	hours	*d_ReExpDur*
Light clothing adjustment factor Adult resident	18,0%		*d_ClothAF*
Drift percentage on surface	100,00%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
Ingestion rate for mouthing of grass per day	25	cm^2	*d_MouthGrass*

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	4,3805819	0,4380582	*(i_AppRate/100)*C13*d_Turf*d_ReTCCh*d_ReExpDur*MAX(i_AbsorpProduct,i_Absorpinuse)*d_MAF)*	
Hand to mouth	1,6005972	0,1600597	*(i_AppRate/100)*C13*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	
Object to mouth	0,8424196	0,0842420	*(i_AppRate/100)*C13*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	
Total systemic exposure	6,8235987	0,6823599		
% of RVNAS				
Adult				

Surface deposits (dermal)	**12,2993261**	**0,2049888**	*(i_AppRate/100)*C13*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*	
% of RVNAS				

d_AirConVol	Concentration in air of moderately volatile substances	0,015	mg/m^3
d_AirConNonVol	Concentration in air of low volatile substances	0,001	mg/m^3
d_AreaHM	Surface area of hands mouthed	20	cm^2
d_AreaTreated	Area treated (defined by crop type)	10	ha
d_BreathRAd	Breathing rate adult residents	0,23	m^3/day/kg
d_BreathRCh	Breathing rate child (1-3 year old) residents	1,07	m^3/day/kg
d_BwAdult	Adult body weight	60	kg
d_BwChild	Child body weight (1 to < 3 year olds)	10	kg
d_ByBreathRAd	Breathing rate adult bystander	0,04	m^3/hours/kg
d_ByBreathRCh	Breathing rate child (1-3 year old) bystander	0,19	m^3/hours/kg
d_ByExpDur	Exposure duration intense activity breathing rates	2	hours
d_ByFreqHM	Frequency of hand to mouth activity	20	events/hour
d_ByTCAd	Transfer coeff. of surface deposits-adult	14500	cm^2/hour
d_ByTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	5200	cm^2/hour
d_ClothAF	Light clothing adjustment factor resident and bystanders	18,0%	
d_ConcAs	Concentration of active substance (in-use dilution for liquid applications)	1,666666667	g a.s./l
d_DFR	Dislodgeable foliar residue (i_AppRate*i_DFR)	7,5	µg a.s./cm^2
d_DRP	Dislodgeable residues percentage transferability for object to mouth	20,0%	
d_HalflifeAS	Half-life of active substance (DT50)	34	days
d_InhalTcAut	Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)
d_InhalTcCut	Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)
d_InhalTcSort	Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)
d_MAF	Multiple application factor	6,74	
d_MouthGrass	Ingestion rate for mouthing of grass per day	25	cm^2 grass/day
d_ReExpDur	Exposure duration resident dermal	2	hours
d_ReExpDurInhal	Exposure duration resident inhalation	24	hours
d_ExpDurTreatCrop	Exposure duration for resident and bystander entry into treated crops	0,25	hours
d_ReFreqHM	Frequency of hand to mouth activity	9,5	events/hour
d_ReTCAd	Transfer coeff. of surface deposits-adult	7300	cm^2/hour
d_ReTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour
d_SalExt	Saliva extraction percentage	50,0%	
d_TcEntryAd	Transfer coefficient for entry into treated crops 75th percentile - adult	7500	cm^2/h
d_TcEntryCh	Transfer coefficient for entry into treated crops 75th percentile - child	2250	cm^2/h
d_TcEntryMeanAd	Transfer coefficient for entry into treated crops mean - adult	5980	cm^2/h
d_TcEntryMeanCh	Transfer coefficient for entry into treated crops mean - child	1794	cm^2/h
d_Turf	Turf transferable residues percentage	5,0%	
d_PctExtrapolation	For exposure value 75 percentiles above this amount linear extrapolation is performed	1,5	kg
d_head75Protection	Cooefficient to estimate head protection factor 75 th Percentile	1,79422	
d_head95Protection	Cooefficient to estimate head protection factor 95 Percentile	1,24705	
sys_KeyOperator	Variables for operator exposure lookup key	_AppMeth&i_AppEquip&	
sys_OperatorModel	Operator model	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 powderChemical resistant gloves	0,05
Granules, fine granulesChemical resistant gloves	0,05
Wettable granules, soluble granulesChemical resistant gloves	0,05
Soluble concentrates, emulsifiable concentrate, etc.Chemical	0,1
Wettable powder, soluble powderNone	1
Granules, fine granulesNone	1
Wettable granules, soluble granulesNone	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 for	750	Field crops	50
Brassica vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Bulb vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Cane fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Field crops	10
Cereals	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50
Citrus fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Fruiting vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Grapes	10100	30000	Hand harvesting	8	Hand and bo	no TC available f	Grapes	10
Grassland and lawns	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50
Golf course, turf or other sports lawns	2500	5800	Maintenance	8	Hand and bo	580	Field crops	50
Hops	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Hops	10
Leaf vegetables and fresh herbs	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Legume vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Oilfruits	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Oilseeds	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50

Ornamentals	5000	14000	Cutting, sorting, bundling, carrying	8	Hand and bo	1400	Field crops	10
Pome fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Root and tuber vegetables	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Stone fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Tree nuts	4500	22500	Searching, reaching, picking	8	Hand and bo	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 pe	**Ground sediments in % of the application rate calculated on the basis of percentile values (drift data acc. Rautmann)**		
key_ByCropType, ay_ByCropType			
key_ByCropType	**Bystander surface de**	**Resident surface 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
Match MixLoad	**Outdoor/Ir**	**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 granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Match AOEM	Outdoor/I	Formulation type	Application method	Application equipment	Type of exposure	ML 75th Intercept	ML 75th Applied Amount Factor	ML 75th Senario Factor	ML 75th Percentile AOEM	ML 95th Intercept	ML 95th Applied Amount Factor	ML 95th Senario Factor	ML 95th Percentile AOEM	Application 75th Intercept	Application 75th Applied Amount Factor	Application 75th Senario Factor	Application 75th Percentile AOEM	Application 95th Intercept	Application 95th Applied Amount Factor	Application 95th Senario Factor	Application 95th Percentile AOEM
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65					88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29						88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29			6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25					88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,00	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45					1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78						1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78			4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15					1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50					12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00						12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00			3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35					12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96					26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02						26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02			2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28					26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37					8903,00				62630,00

OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00						8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00			4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50					8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,00		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80					5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00						5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00			2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81					5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00			2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00	0,00		2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	

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 conjuction with the **Guidance on the Assessment of Exposure for Operators, Workers, Residents and Bystanders in Risk Assessment for Plant Protection Products**

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Modifications: AOEM values for 95th percentile Operator mixing/loading head exposure corrected, resident and bystander exposure for manual applications included in summary, Cell B78 in Resident exposure worksheet corrected to C22 (previously DC22)

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

Substance name	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	
Product name	Captosan totaal	
Reference value non acutely toxic active substance (RVNAS)	0,1	mg/kg bw/day
Reference value acutely toxic active substance (RVAAS)	0,3	mg/kg bw/day
Crop type	Pome fruit	
Substance properties		
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.	
Miniumum volume water for application (liquids)	1500	L/ha
Maximum application rate of active substance	1,8	kg a.s. /ha
50% Dissipation Time DT50	33,9	days
Initial Dislodgeable Foliar Residue	3	µg/cm2 of foliage/kg a.s. applied/ha
Dermal absorption of product	10,00%	
Dermal absorption of in-use dilution	10,00%	
Oral absorption of active substance	100,00%	
Inhalation absorption of active substance	100,00%	
Vapour pressure of active substance	low volatile substances having a vapour pressure of <5*10-3Pa	
Scenario		
Indoor or Outdoor application	Outdoor	
Application method	Upward spraying	
Application equipment	Vehicle-mounted-Drift Reduction	
Buffer strip	10	m
Number of applications	22	
Interval between multiple applications	7	days
Season (upward spraying orchards only)	early (without leaves)	

Exposure assessment

Substance	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate-1,8 kg a.s. /ha	Spray dilution = 1,2 g a.s./l	Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa
Scenario	Pome fruit early (without leaves) / Outdoor / Upward spraying / Vehicle-mounted-Drift Reduction			Buffer = 10	Number applications = 22, Application interval = 7 days
Percentage Absoprtion	Dermal for product = 10	Dermal for in use diluation = 10	Oral = 100	Inhalation = 100	
RVNAS	0,1 mg/kg bw/day		RVAAS	0,3 mg/kg bw/day	
DFR	3 µg a.s./cm2 per kg a.s./ha		DT50	33,9 days	

Operator Model		Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day		0,4811	% of RVNAS	481,07%
	Acute systemic exposure mg/kg bw/day		1,2443	% of RVAAS	414,78%
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		0,1739	% of RVNAS	173,93%
	Acute systemic exposure mg/kg bw/day		0,7269	% of RVAAS	242,29%

Worker - Searching, reaching, picking	Potential exposure mg/kg bw/day	11,6267	% of RVNAS	11626,69%
	Working clothing mg/kg bw/day	2,3253	% of RVNAS	2325,34%
	Working clothing and gloves mg/kg bw/day	1,1627	% of RVNAS	1162,67%

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0,0084	% of RVNAS	8,41%
	Vapour (75th percentile) mg/kg bw/day	0,0011	% of RVNAS	1,07%
	Surface deposits (75th percentile) mg/kg bw/day	0,0234	% of RVNAS	23,44%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,2180	% of RVNAS	218,00%
	All pathways (mean) mg/kg bw/day	0,1963	% of RVNAS	196,31%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0,0046	% of RVNAS	4,64%
	Vapour (75th percentile) mg/kg bw/day	0,0002	% of RVNAS	0,23%
	Surface deposits (75th percentile) mg/kg bw/day	0,0070	% of RVNAS	7,04%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,1211	% of RVNAS	121,11%
	All pathways (mean) mg/kg bw/day	0,1046	% of RVNAS	104,60%

Bystander - child	Spray drift (95th percentile) mg/kg bw/day	0,0192	% of RVAAS	6,42%
	Vapour (95th percentile) mg/kg bw/day	0,0011	% of RVAAS	0,36%
	Surface deposits (95th percentile) mg/kg bw/day	0,0587	% of RVAAS	19,58%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,2180	% of RVAAS	72,67%
Bystander - adult	Spray drift (95th percentile) mg/kg bw/day	0,0106	% of RVAAS	3,54%
	Vapour (95th percentile) mg/kg bw/day	0,0002	% of RVAAS	0,08%
	Surface deposits (95th percentile) mg/kg bw/day	0,0184	% of RVAAS	6,15%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,1211	% of RVAAS	40,37%

Recreational Exposure	Child % of RVNAS	Adult % of RVNAS

Operator exposure for Captosan totaal outdoor spray applications

Application rate of active substance	1,8	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	18	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Indoor or Outdoor application	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Season	early (without leaves)		

OutdoorSoluble concentrates, emulsifiable concentrate, etc.Upward sprayingVehicle-mounted-Drift Reduction

	Exposure values	µg exposure/day mixed and loaded		Reference	Comment
		75th centile	95th centile		
Mixing and loading	Hands	44948	168949	AOEM	
	Body	27208	166788	AOEM	
	Head	934	5122	AOEM	
	Protected hands (gloves)	226	3565	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	308	2633	AOEM	
	Protected head (hood and face shield)	15	290	AOEM	
	Inhalation	9	31	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
		75th centile	95th centile		
Application	Hands	32743	112262	AOEM	No data available for a drift reduction scenario
	Body	158611	150367	AOEM	
	Head	20844	127930	AOEM	
	Protected hands (gloves)	633	16550	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	1224	4045	AOEM	
	Inhalation	327	1488	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
	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)	28,8642826	10,4356128	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	0,4810714	0,1739269	
% of RVNAS	481,07%	173,93%	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	74,6607289	43,6129048	

Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	1,2443455	0,7268817	
% of RVAAS	414,78%	242,29%	

2. Longer term exposure

2.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	4494,7592268	74,9126538	*D15*i_AbsorpProduct*
Body	2720,8130503	45,3468842	*D16*i_AbsorpProduct*
Head	93,3904580	1,5565076	*D17*i_AbsorpProduct*
Inhalation	8,7492152	0,1458203	*D21*i_AbsorpInhalation*
Sum	7317,7119502	121,9618658	
With RPE/PPE (as selected above)			
Hands	4494,7592268	74,9126538	*D18*i_AbsorpProduct*
Body	30,8053318	0,5134222	*D19*i_AbsorpProduct or D15*i_AbsorpProduct*F24*
Head	93,3904580	1,5565076	*D20*i_AbsorpProduct or D17*i_AbsorpProduct*F25*
Inhalation	8,7492152	0,1458203	*D21*i_AbsorpInhalation*G25*
Sum	4627,7042317	77,1284039	
Water soluble	4627,7042317	77,1284039	*C70*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	3274,2964659	54,5716078	*D30*i_AbsorpInuse*
Body	15861,0708507	264,3511808	*D31*i_AbsorpInuse*
Head	2084,4069142	34,7401152	*D32*i_AbsorpInuse*
Inhalation	326,7963944	5,4466066	*D35*i_AbsorpInhalation*
Sum	21546,5706252	359,1095104	
With RPE/PPE (as selected above)			
Hands	3274,2964659	54,5716078	*D33*i_AbsorpInuse*
Body	122,4087618	2,0401460	*D34*i_AbsorpInuse or D31*i_AbsorpInuse*F38*
Head	2084,4069142	34,7401152	*D32*i_AbsorpInuse*F39*
Inhalation	326,7963944	5,4466066	*D35*i_AbsorpInuse*G39*
Sum	5807,9085364	96,7984756	

3. Acute exposure

3.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	16894,9326611	281,5822110	*E15*i_AbsorpProduct*
Body	16678,8348163	277,9805803	*E16*i_AbsorpProduct*
Head	512,2034568	8,5367243	*E17*i_AbsorpProduct*
Inhalation	30,7615428	0,5126924	*E21*i_AbsorpInhalation*
Sum	34116,7324770	568,6122080	
With RPE/PPE (as selected above)			
Hands	16894,9326611	281,5822110	*E18*i_AbsorpProduct*
Body	263,2525006	4,3875417	*E19*i_AbsorpProduct or E16*i_AbsorpProduct*F24*
Head	512,2034568	8,5367243	*E20*i_AbsorpProduct or E17*i_AbsorpProduct*F25*
Inhalation	30,7615428	0,5126924	*E21*i_AbsorpInhalation*G25*
Sum	17701,1501613	295,0191694	
Water soluble	17701,1501613	295,0191694	*C104*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	11226,1930205	187,1032170	*E30*i_AbsorpInuse*
Body	15036,6989606	250,6116493	*E31*i_AbsorpInuse*
Head	12793,0030994	213,2167183	*E32*i_AbsorpInuse*
Inhalation	1488,1013309	24,8016888	*E35*i_AbsorpInhalation*
Sum	40543,9964114	675,7332735	
With RPE/PPE (as selected above)			
Hands	11226,1930205	187,1032170	*E33*i_AbsorpInuse*
Body	404,4571387	6,7409523	*E34*i_AbsorpInuse or E31*i_AbsorpInuse*F38*
Head	12793,0030994	213,2167183	*E32*i_AbsorpInuse*F39*
Inhalation	1488,1013309	24,8016888	*E35*i_AbsorpInhalation*G39*
Sum	25911,7545894	431,8625765	

Operator exposure for Captosan totaal granular applications

Application rate of active substance	1,8	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	18	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	luble concentrates, emulsifiable concentrate, e		
Indoor or Outdoor application	Outdoor	**This sheet is only to be used for granular applications**	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		

Mixing and loading

Exposure values	mg exposure/kg a.s. mixed and loaded		Reference	Comment
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B
Body	#N/B	#N/B	#N/B	#N/B
Inhalation	#N/B	#N/B	#N/B	#N/B
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	

Application

Exposure values	mg exposure/kg a.s. applied		Reference	Comment
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B
Body	#N/B	#N/B	#N/B	#N/B
Inhalation	#N/B	#N/B	#N/B	#N/B
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/B	#N/B	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	#N/B	#N/B	
% of RVNAS	#N/B	#N/B	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	#N/B	#N/B	

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

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			
Hands	#N/B	#N/B	*D14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D14*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

2.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*D25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D25*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

3. Acute exposure
3.1 Mixing and loading

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

3.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E26*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

Worker exposure from residues on foliage for Captosan totaal

Crop type	Pome fruit		
Indoor or outdoor	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
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_AppRate*
Number of applications	22		*i_AppNo*
Interval between multiple applications	7	days	*i_AppInt*
Half-life of active substance	33,9	days	*d_HalflifeAS*
Multiple application factor	7,2		*d_MAF*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of the in-use dilution	10,00%		*i_AbsorpInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2	*d_DFR*
Working hours	8	hr	*d_WorkHr*
Dermal transfer coefficient - Total potential exposure	22500	cm^2/hr	*d_DermTcUCV*
Dermal transfer coefficient - arms, body and legs covered	4500	cm^2/hr	*d_DermTcCV1*
Dermal transfer coefficient - hands, arms, body and legs covered	2250	cm^2/hr	*d_DermTcCV2*
Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)	*d_InhalTcAut*
Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcCut*
Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcSort*

1. Total

	Potential exposure	Work wear - arms, body and legs covered	Working wear and gloves	Comments
Total systemic exposure (mg a.s./day)	697,6016678	139,5203336	69,7601668	
Total systemic exposure per kg body weight (mg/kg bw/day)	11,6266945	2,3253389	1,1626694	
% of RVNAS	11626,69%	2325,34%	1162,67%	

2. Details

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula	Comments
Dermal - Potential	697,6016678	11,6266945	*d_DermTcUCV*d_WorkHr*i_DFR*i_MAF/1000*i_AbsorpInuse*	

Dermal - Work wear - arms, body and legs covered	**139,5203336**	**2,3253389**	*d_DermTcCV1*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Dermal - Working wear and gloves	**69,7601668**	**1,1626694**	*d_DermTcCV2*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Inhalation				Na for outdoor activities

Resident exposure for Captosan totaal

Croptype	Pome fruit		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Buffer strip	10	m	*i_Buffer*
Application rate of the product	1,8	kg a.s./ha	*i_AppRate*
Concentration of active substance (in-use dilution for liquid applications)	1,2	g a.s./l	*d_ConcAS*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10-3Pa	Pa	*i_Volat*
Concentration in air	0,001	mg/m^3	*d_AirCon*
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	*d_ReExpDur*
Exposure duration inhalation	24	hours	*d_ReExpDurInhal*
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/day/kg	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/day/kg	*d_BreathRCh*
Drift percentage on surface (75th percentile)	8,96%		
Drift percentage on surface (mean)	6,07%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
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 (75th percentile) - adult	**7500**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (75th percentile) - child	**2250**	cm^2/h	*d_TcEntryCh*
Transfer coefficient for entry into treated crops (mean) - adult	**5980**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (mean) - child	**1794**	cm^2/h	*d_TcEntryCh*

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)	0,0840849	0,0107000	0,2343942	2,1800052	1,9630927
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0084085	0,0010700	0,0234394	0,2180005	0,1963093
% of RVNAS	8,41%	1,07%	23,44%	218,00%	196,31%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops	All pathways (mean)
Total systemic exposure (mg a.s./day)	0,2782560	0,0138000	0,4224882	7,2666840	6,2760623
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0046376	0,0002300	0,0070415	0,1211114	0,1046010
% of RVNAS	4,64%	0,23%	7,04%	121,11%	104,60%

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	0,0840849	0,0084085	*((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	0,1504753	0,0150475	*(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))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	0,0549813	0,0054981	*(i_AppRate/100)*C29*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	0,0289376	0,0028938	*(i_AppRate/100)*C29*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**2,1800052**	**0,2180005**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_Turf*d_MAF*d_SalExt *d_AreaHM*d_ReFreqHM*d_ReExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,2782560**	**0,0046376**	*(C15*i_AbsorpInuse*(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)	**0,4224882**	**0,0070415**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d _ReExpDur*i_AbsorpProduct*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**7,2666840**	**0,1211114**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

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	**0,0554103**	**0,0055410**	*((C20*i_AbsorpInuse*(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	**0,1019403**	**0,0101940**	*(i_AppRate/100)*C30*d_Turf*d_ReTCCh*d _ReExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0372474**	**0,0037247**	*(i_AppRate/100)*C30*d_Turf*d_SalExt*d_ AreaHM*d_ReFreqHM*d_ReExpDur*i_Abs orpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0196039**	**0,0019604**	*(i_AppRate/100)*C30*d_DRP*d_MouthGra ss*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops				

Dermal	**1,7381908**	**0,1738191**	*(d_TcEntryMeanCh*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse))*	
Hand to mouth			*(i_AppRate/100)*1*d_Turf*d_MAF*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*iAbsorpOralInuse*	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_AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,1820760**	**0,0030346**	*"(C19*i_AbsorpInuse*(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)	**0,2862169**	**0,0047703**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**5,7939694**	**0,0965662**	*(d_TcEntryMeanAd*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Bystander exposure for Captosan totaal

Croptype	**Pome fruit**		
Application method	**Upward spraying**		
Application equipment	**Vehicle-mounted-Drift Reduction**		*i_AppEquip*
Formulation type	**Soluble concentrates, emulsifiable concentrate, etc.**		
Application rate of the product	**1,8**	kg a.s./ha	*i_AppRate*
Buffer strip	**10**	m	*i_Buffer*
Concentration of active substance (in-use dilution for liquid applications)	**1,2**	g a.s./l	*d_ConcAS*
Dermal absorption of product	**10,00%**		*i_AbsorpProduct*
Dermal absorption of in-use dilution	**10,00%**		*i_AbsorpInuse*
Oral absorption	**100,00%**		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	**5,4**	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	**low volatile substances having a vapour pressure of <5*10-3Pa**	Pa	*i_Volat*
Concentration in air	**0,001**	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/kg bw/day	*d_BreathRAd*
Breathing rate child (1-3 year old)	**1,07**	m^3/kg bw/day	*d_BreathRCh*
Drift percentage on surface (90th percentile)	**11,81%**		
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)	0,1924940	0,0107000	0,5873871	2,1800052
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0192494	0,0010700	0,0587387	0,2180005
% of RVAAS	6,42%	0,36%	19,58%	72,67%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops
Total systemic exposure (mg a.s./day)	0,6373200	0,0138000	1,1061185	7,2666840
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0106220	0,0002300	0,0184353	0,1211114
% of RVAAS	3,54%	0,08%	6,15%	40,37%

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	**0,1924940**	**0,0192494**	*((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	**0,3966770**	**0,0396677**	*(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)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,1525681**	**0,0152568**	*(i_AppRate/100)*C25*d_Turf*d_SalExt*d_AreaHM*d_ByFreqHM*d_ByExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0381420**	**0,0038142**	*(i_AppRate/100)*C25*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**2,1800052**	**0,2180005**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_MAF*d_Turf*d_SalExt *d_AreaHM*d_ByFreqHM*d_ByExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,6373200**	**0,0106220**	*((C15*i_AbsorpInuse*(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_BreathRAd*d_BwAdult*	
Surface deposits (dermal)	**1,1061185**	**0,0184353**	*(i_AppRate/100)*C24*d_Turf*d_ByTCAd*d _ByExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**7,2666840**	**0,1211114**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Recreational exposure for Captosan totaal

Croptype	Golf course, turf or other sports lawns	This sheet is only to be used for treatment of grassland used for recreational purpo	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Application rate of the product	1,8	kg a.s./ha	*i_AppRate*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2	*d_DFR*
Exposure duration dermal	2	hours	*d_ReExpDur*
Light clothing adjustment factor Adult resident	18,0%		*d_ClothAF*
Drift percentage on surface	100,00%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
Ingestion rate for mouthing of grass per day	25	cm^2	*d_MouthGrass*

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	**3,3588228**	**0,3358823**	*(i_AppRate/100)*C13*d_Turf*d_ReTCCh*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF)*	
Hand to mouth	**1,2272622**	**0,1227262**	*(i_AppRate/100)*C13*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	
Object to mouth	**0,6459275**	**0,0645927**	*(i_AppRate/100)*C13*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	
Total systemic exposure	**5,2320125**	**0,5232013**		
% of RVNAS				

Adult				
Surface deposits (dermal)	**9,4305411**	**0,1571757**	*(i_AppRate/100)*C13*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*	
% of RVNAS				

d_AirConVol	Concentration in air of moderately volatile substances	0,015	mg/m^3
d_AirConNonVol	Concentration in air of low volatile substances	0,001	mg/m^3
d_AreaHM	Surface area of hands mouthed	20	cm^2
d_AreaTreated	Area treated (defined by crop type)	10	ha
d_BreathRAd	Breathing rate adult residents	0,23	m^3/day/kg
d_BreathRCh	Breathing rate child (1-3 year old) residents	1,07	m^3/day/kg
d_BwAdult	Adult body weight	60	kg
d_BwChild	Child body weight (1 to < 3 year olds)	10	kg
d_ByBreathRAd	Breathing rate adult bystander	0,04	m^3/hours/kg
d_ByBreathRCh	Breathing rate child (1-3 year old) bystander	0,19	m^3/hours/kg
d_ByExpDur	Exposure duration intense activity breathing rates	2	hours
d_ByFreqHM	Frequency of hand to mouth activity	20	events/hour
d_ByTCAd	Transfer coeff. of surface deposits-adult	14500	cm^2/hour
d_ByTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	5200	cm^2/hour
d_ClothAF	Light clothing adjustment factor resident and bystanders	18,0%	
d_ConcAs	Concentration of active substance (in-use dilution for liquid applications)	1,2	g a.s./l
d_DFR	Dislodgeable foliar residue (i_AppRate*i_DFR)	5,4	µg a.s./cm^2
d_DRP	Dislodgeable residues percentage transferability for object to mouth	20,0%	
d_HalflifeAS	Half-life of active substance (DT50)	34	days
d_InhalTcAut	Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)
d_InhalTcCut	Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)
d_InhalTcSort	Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)
d_MAF	Multiple application factor	7,18	
d_MouthGrass	Ingestion rate for mouthing of grass per day	25	cm^2 grass/day
d_ReExpDur	Exposure duration resident dermal	2	hours
d_ReExpDurInhal	Exposure duration resident inhalation	24	hours
d_ExpDurTreatCrop	Exposure duration for resident and bystander entry into treated crops	0,25	hours
d_ReFreqHM	Frequency of hand to mouth activity	9,5	events/hour
d_ReTCAd	Transfer coeff. of surface deposits-adult	7300	cm^2/hour
d_ReTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour
d_SalExt	Saliva extraction percentage	50,0%	
d_TcEntryAd	Transfer coefficient for entry into treated crops 75th percentile - adult	7500	cm^2/h
d_TcEntryCh	Transfer coefficient for entry into treated crops 75th percentile - child	2250	cm^2/h
d_TcEntryMeanAd	Transfer coefficient for entry into treated crops mean - adult	5980	cm^2/h
d_TcEntryMeanCh	Transfer coefficient for entry into treated crops mean - child	1794	cm^2/h
d_Turf	Turf transferable residues percentage	5,0%	
d_PctExtrapolation	For exposure value 75 percentiles above this amount linear extrapolation is performed	1,5	kg
d_head75ProtectionF	Cooefficient to estimate head protection factor 75 th Percentile	1,79422	
d_head95ProtectionF	Cooefficient to estimate head protection factor 95 Percentile	1,24705	
sys_KeyOperator	Variables for operator exposure lookup key	_AppMeth&i_AppEquip&	
sys_OperatorModel	Operator model	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 powderChemical resistant gloves	0,05
Granules, fine granulesChemical resistant gloves	0,05
Wettable granules, soluble granulesChemical resistant gloves	0,05
Soluble concentrates, emulsifiable concentrate, etc.Chemical	0,1
Wettable powder, soluble powderNone	1
Granules, fine granulesNone	1
Wettable granules, soluble granulesNone	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 for	750	Field crops	50
Brassica vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Bulb vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Cane fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Field crops	10
Cereals	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50
Citrus fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Fruiting vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Grapes	10100	30000	Hand harvesting	8	Hand and bo	no TC available f	Grapes	10
Grassland and lawns	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50
Golf course, turf or other sports lawns	2500	5800	Maintenance	8	Hand and bo	580	Field crops	50
Hops	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Hops	10
Leaf vegetables and fresh herbs	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Legume vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Oilfruits	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Oilseeds	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50

Ornamentals	5000	14000	Cutting, sorting, bundling, carrying	8	Hand and bo	1400	Field crops	10
Pome fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Root and tuber vegetables	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Stone fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Tree nuts	4500	22500	Searching, reaching, picking	8	Hand and bo	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 pe	**Ground sediments in % of the application rate calculated on the basis of percentile values (drift data acc. Rautmann)**		
key_ByCropType, ay_ByCropType			
key_ByCropType	**Bystander surface de**	**Resident surface 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
Match MixLoad	**Outdoor/Ir**	**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 granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Match AOEM	Outdoor/I	Formulation type	Application method	Application equipment	Type of exposure	ML 75th Intercept	ML 75th Applied Amount Factor	ML 75th Senario Factor	ML 75th Percentile AOEM	ML 95th Intercept	ML 95th Applied Amount Factor	ML 95th Senario Factor	ML 95th Percentile AOEM	Application 75th Intercept	Application 75th Applied Amount Factor	Application 75th Senario Factor	Application 75th Percentile AOEM	Application 95th Intercept	Application 95th Applied Amount Factor	Application 95th Senario Factor	Application 95th Percentile AOEM
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65					88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29						88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29			6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25					88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,00	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45					1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78						1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78			4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15					1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50					12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00						12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00			3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35					12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96					26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02						26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02			2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28					26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37					8903,00				62630,00

OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00						8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00			4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50					8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,00		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80					5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00						5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00			2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81					5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00			2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00	0,00		2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	

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 conjuction with the **Guidance on the Assessment of Exposure for Operators, Workers, Residents and Bystanders in Risk Assessment for Plant Protection Products**

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Modifications: AOEM values for 95th percentile Operator mixing/loading head exposure corrected, resident and bystander exposure for manual applications included in summary, Cell B78 in Resident exposure worksheet corrected to C22 (previously DC22)

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

Substance name	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	
Product name	Captosan voor vruchtboomkanker	
Reference value non acutely toxic active substance (RVNAS)	0,1	mg/kg bw/day
Reference value acutely toxic active substance (RVAAS)	0,3	mg/kg bw/day
Crop type	Pome fruit	
Substance properties		
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.	
Miniumum volume water for application (liquids)	1500	L/ha
Maximum application rate of active substance	2,5	kg a.s. /ha
50% Dissipation Time DT50	33,9	days
Initial Dislodgeable Foliar Residue	3	µg/cm2 of foliage/kg a.s. applied/ha
Dermal absorption of product	10,00%	
Dermal absorption of in-use dilution	10,00%	
Oral absorption of active substance	100,00%	
Inhalation absorption of active substance	100,00%	
Vapour pressure of active substance	low volatile substances having a vapour pressure of <5*10-3Pa	
Scenario		
Indoor or Outdoor application	Outdoor	
Application method	Upward spraying	
Application equipment	Vehicle-mounted-Drift Reduction	
Buffer strip	10	m
Number of applications	2	
Interval between multiple applications	7	days
Season (upward spraying orchards only)	early (without leaves)	

Exposure assessment

Substance	N-Trichloromethylthio-4-cyclohexene-1,2-dicarboximide	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate-2,5 kg a.s. /ha	Spray dilution = 1,66666666666667 g a.s./l	Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa
Scenario	Pome fruit early (without leaves) / Outdoor / Upward spraying / Vehicle-mounted-Drift Reduction			Buffer = 10	Number applications = 2, Application interval = 7 days
Percentage Absoprtion	Dermal for product = 10	Dermal for in use diluation = 10	Oral = 100	Inhalation = 100	
RVNAS	0,1 mg/kg bw/day		RVAAS	0,3 mg/kg bw/day	
DFR	3 µg a.s./cm2 per kg a.s./ha		DT50	33,9 days	

Operator Model		Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day		0,6509	% of RVNAS	650,91%
	Acute systemic exposure mg/kg bw/day		1,6204	% of RVAAS	540,12%
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		0,2301	% of RVNAS	230,15%
	Acute systemic exposure mg/kg bw/day		0,9819	% of RVAAS	327,31%

Worker - Searching, reaching, picking	Potential exposure mg/kg bw/day	4,1999	% of RVNAS	4199,95%
	Working clothing mg/kg bw/day	0,8400	% of RVNAS	839,99%
	Working clothing and gloves mg/kg bw/day	0,4200	% of RVNAS	419,99%

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0,0117	% of RVNAS	11,68%
	Vapour (75th percentile) mg/kg bw/day	0,0011	% of RVNAS	1,07%
	Surface deposits (75th percentile) mg/kg bw/day	0,0085	% of RVNAS	8,47%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,0787	% of RVNAS	78,75%
	All pathways (mean) mg/kg bw/day	0,0773	% of RVNAS	77,29%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0,0064	% of RVNAS	6,44%
	Vapour (75th percentile) mg/kg bw/day	0,0002	% of RVNAS	0,23%
	Surface deposits (75th percentile) mg/kg bw/day	0,0025	% of RVNAS	2,54%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,0437	% of RVNAS	43,75%
	All pathways (mean) mg/kg bw/day	0,0411	% of RVNAS	41,05%

Bystander - child	Spray drift (95th percentile) mg/kg bw/day	0,0267	% of RVAAS	8,91%
	Vapour (95th percentile) mg/kg bw/day	0,0011	% of RVAAS	0,36%
	Surface deposits (95th percentile) mg/kg bw/day	0,0212	% of RVAAS	7,07%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,0787	% of RVAAS	26,25%
Bystander - adult	Spray drift (95th percentile) mg/kg bw/day	0,0148	% of RVAAS	4,92%
	Vapour (95th percentile) mg/kg bw/day	0,0002	% of RVAAS	0,08%
	Surface deposits (95th percentile) mg/kg bw/day	0,0067	% of RVAAS	2,22%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,0437	% of RVAAS	14,58%

Recreational Exposure	Child % of RVNAS	Adult % of RVNAS

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Operator exposure for Captosan voor vruchtboomkanker outdoor spray applications

Application rate of active substance	2,5	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	25	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Indoor or Outdoor application	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Season	early (without leaves)		

OutdoorSoluble concentrates, emulsifiable concentrate, etc.Upward sprayingVehicle-mounted-Drift Reduction

	Exposure values	µg exposure/day mixed and loaded		Reference	Comment
		75th centile	95th centile		
Mixing and loading	Hands	57881	218196	AOEM	
	Body	34276	183491	AOEM	
	Head	1297	7114	AOEM	
	Protected hands (gloves)	280	4952	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	412	3656	AOEM	
	Protected head (hood and face shield)	21	403	AOEM	
	Inhalation	10	31	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
		75th centile	95th centile		
Application	Hands	43816	155919	AOEM	No data available for a drift reduction scenario
	Body	220293	208843	AOEM	
	Head	28950	177681	AOEM	
	Protected hands (gloves)	880	22986	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	1700	5617	AOEM	
	Inhalation	393	2067	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
	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)	39,0543344	13,8087477	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	0,6509056	0,2301458	
% of RVNAS	650,91%	230,15%	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	97,2221291	58,9161324	

Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	1,6203688	0,9819355	
% of RVAAS	540,12%	327,31%	

2. Longer term exposure

2.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	5788,1017477	96,4683625	*D15*i_AbsorpProduct*
Body	3427,5513530	57,1258559	*D16*i_AbsorpProduct*
Head	129,7089694	2,1618162	*D17*i_AbsorpProduct*
Inhalation	9,6477701	0,1607962	*D21*i_AbsorpInhalation*
Sum	9355,0098403	155,9168307	
With RPE/PPE (as selected above)			
Hands	5788,1017477	96,4683625	*D18*i_AbsorpProduct*
Body	41,2175417	0,6869590	*D19*i_AbsorpProduct or D15*i_AbsorpProduct*F24*
Head	129,7089694	2,1618162	*D20*i_AbsorpProduct or D17*i_AbsorpProduct*F25*
Inhalation	9,6477701	0,1607962	*D21*i_AbsorpInhalation*G25*
Sum	5968,6760289	99,4779338	
Water soluble	5968,6760289	99,4779338	*C70*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	4381,5852052	73,0264201	*D30*i_AbsorpInuse*
Body	22029,2650704	367,1544178	*D31*i_AbsorpInuse*
Head	2895,0096031	48,2501601	*D32*i_AbsorpInuse*
Inhalation	393,4647186	6,5577453	*D35*i_AbsorpInhalation*
Sum	29699,3245973	494,9887433	
With RPE/PPE (as selected above)			
Hands	4381,5852052	73,0264201	*D33*i_AbsorpInuse*
Body	170,0121692	2,8335362	*D34*i_AbsorpInuse or D31*i_AbsorpInuse*F38*
Head	2895,0096031	48,2501601	*D32*i_AbsorpInuse*F39*
Inhalation	393,4647186	6,5577453	*D35*i_AbsorpInuse*G39*
Sum	7840,0716961	130,6678616	

3. Acute exposure

3.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	21819,5589469	363,6593158	*E15*i_AbsorpProduct*
Body	18349,0671644	305,8177861	*E16*i_AbsorpProduct*
Head	711,3936899	11,8565615	*E17*i_AbsorpProduct*
Inhalation	31,0032184	0,5167203	*E21*i_AbsorpInhalation*
Sum	40911,0230197	681,8503837	
With RPE/PPE (as selected above)			
Hands	21819,5589469	363,6593158	*E18*i_AbsorpProduct*
Body	365,6284730	6,0938079	*E19*i_AbsorpProduct or E16*i_AbsorpProduct*F24*
Head	711,3936899	11,8565615	*E20*i_AbsorpProduct or E17*i_AbsorpProduct*F25*
Inhalation	31,0032184	0,5167203	*E21*i_AbsorpInhalation*G25*
Sum	22927,5843283	382,1264055	
Water soluble	22927,5843283	382,1264055	*C104*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	15591,9347507	259,8655792	*E30*i_AbsorpInuse*
Body	20884,3041120	348,0717352	*E31*i_AbsorpInuse*
Head	17768,0598602	296,1343310	*E32*i_AbsorpInuse*
Inhalation	2066,8074040	34,4467901	*E35*i_AbsorpInhalation*
Sum	56311,1061269	938,5184354	
With RPE/PPE (as selected above)			
Hands	15591,9347507	259,8655792	*E33*i_AbsorpInuse*
Body	561,7460259	9,3624338	*E34*i_AbsorpInuse or E31*i_AbsorpInuse*F38*

Head	**17768,0598602**	**296,1343310**	*E32*i_AbsorpInuse*F39*
Inhalation	**2066,8074040**	**34,4467901**	*E35*i_AbsorpInhalation*G39*
Sum	**35988,5480408**	**599,8091340**	

Operator exposure for Captosan voor vruchtboomkanker granular applications

Application rate of active substance	2,5	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	25	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorInuse*
Formulation type	luble concentrates, emulsifiable concentrate, e		
Indoor or Outdoor application	Outdoor	**This sheet is only to be used for granular applications**	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		

Mixing and loading

Exposure values	mg exposure/kg a.s. mixed and loaded		Reference	Comment
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B
Body	#N/B	#N/B	#N/B	#N/B
Inhalation	#N/B	#N/B	#N/B	#N/B
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	

Application

Exposure values	mg exposure/kg a.s. applied		Reference	Comment
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B
Body	#N/B	#N/B	#N/B	#N/B
Inhalation	#N/B	#N/B	#N/B	#N/B
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/B	#N/B	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	#N/B	#N/B	
% of RVNAS	#N/B	#N/B	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	#N/B	#N/B	

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

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			
Hands	#N/B	#N/B	*D14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D14*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

2.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*D25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D25*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

3. Acute exposure
3.1 Mixing and loading

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

3.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E26*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

Worker exposure from residues on foliage for Captosan voor vruchtboomkanker

Crop type	Pome fruit		
Indoor or outdoor	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Worker's task	Searching, reaching, picking		
Main body parts in contact with foliage	Hand and body		
Application rate of active substance	2,5	kg a.s./ha	*i_AppRate*
Number of applications	2		*i_AppNo*
Interval between multiple applications	7	days	*i_AppInt*
Half-life of active substance	33,9	days	*d_HalflifeAS*
Multiple application factor	1,9		*d_MAF*
Dermal absorption of the product	10,00%		*i_AbsorpProduct*
Dermal absorption of the in-use dilution	10,00%		*i_AbsorpInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	7,5	µg a.s./cm^2	*d_DFR*
Working hours	8	hr	*d_WorkHr*
Dermal transfer coefficient - Total potential exposure	22500	cm^2/hr	*d_DermTcUCV*
Dermal transfer coefficient - arms, body and legs covered	4500	cm^2/hr	*d_DermTcCV1*
Dermal transfer coefficient - hands, arms, body and legs covered	2250	cm^2/hr	*d_DermTcCV2*
Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)	*d_InhalTcAut*
Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcCut*
Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcSort*

1. Total

	Potential exposure	Work wear - arms, body and legs covered	Working wear and gloves	Comments
Total systemic exposure (mg a.s./day)	251,9968536	50,3993707	25,1996854	
Total systemic exposure per kg body weight (mg/kg bw/day)	4,1999476	0,8399895	0,4199948	
% of RVNAS	4199,95%	839,99%	419,99%	

2. Details

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula	Comments
Dermal - Potential	251,9968536	4,1999476	*d_DermTcUCV*d_WorkHr*i_DFR*i_MAF/1000*i_AbsorpInuse*	

Dermal - Work wear - arms, body and legs covered	**50,3993707**	**0,8399895**	*d_DermTcCV1*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Dermal - Working wear and gloves	**25,1996854**	**0,4199948**	*d_DermTcCV2*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Inhalation				Na for outdoor activities

Resident exposure for Captosan voor vruchtboomkanker

Croptype	**Pome fruit**		
Application method	**Upward spraying**		
Application equipment	**Vehicle-mounted-Drift Reduction**		*i_AppEquip*
Formulation type	**Soluble concentrates, emulsifiable concentrate, etc.**		*i_FormVal*
Buffer strip	**10**	m	*i_Buffer*
Application rate of the product	**2,5**	kg a.s./ha	*i_AppRate*
Concentration of active substance (in-use dilution for liquid applications)	**1,666666667**	g a.s./l	*d_ConcAS*
Dermal absorption of product	**10,00%**		*i_AbsorpProduct*
Dermal absorption of in-use dilution	**10,00%**		*i_AbsorpInuse*
Oral absorption	**100,00%**		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	**7,5**	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	**low volatile substances having a vapour pressure of <5*10-3Pa**	Pa	*i_Volat*
Concentration in air	**0,001**	mg/m^3	*d_AirCon*
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	*d_ReExpDur*
Exposure duration inhalation	**24**	hours	*d_ReExpDurInhal*
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/day/kg	*d_BreathRAd*
Breathing rate child (1-3 year old)	**1,07**	m^3/day/kg	*d_BreathRCh*
Drift percentage on surface (75th percentile)	**8,96%**		
Drift percentage on surface (mean)	**6,07%**		
Turf transferable residues percentage	**5,00%**		*d_Turf*
Transfer coeff. of surface deposits-adult	**7300**	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	**2600**	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	**50,00%**		*d_SalExt*
Surface area of hands mouthed	**20**	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	**9,5**	events/hour	*d_ReFreqHM*
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 (75th percentile) - adult	**7500**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (75th percentile) - child	**2250**	cm^2/h	*d_TcEntryCh*
Transfer coefficient for entry into treated crops (mean) - adult	**5980**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (mean) - child	**1794**	cm^2/h	*d_TcEntryCh*

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)	0,1167846	0,0107000	0,0846709	0,7874902	0,7729116
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0116785	0,0010700	0,0084671	0,0787490	0,0772912
% of RVNAS	11,68%	1,07%	8,47%	78,75%	77,29%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops	All pathways (mean)
Total systemic exposure (mg a.s./day)	0,3864667	0,0138000	0,1526168	2,6249672	2,4630482
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0064411	0,0002300	0,0025436	0,0437495	0,0410508
% of RVNAS	6,44%	0,23%	2,54%	43,75%	41,05%

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	0,1167846	0,0116785	*((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	0,0543567	0,0054357	*(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))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	0,0198611	0,0019861	*(i_AppRate/100)*C29*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	0,0104532	0,0010453	*(i_AppRate/100)*C29*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**0,7874902**	**0,0787490**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_Turf*d_MAF*d_SalExt *d_AreaHM*d_ReFreqHM*d_ReExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,3864667**	**0,0064411**	*(C15*i_AbsorpInuse*(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)	**0,1526168**	**0,0025436**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d _ReExpDur*i_AbsorpProduct*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**2,6249672**	**0,0437495**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

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	**0,0769587**	**0,0076959**	*((C20*i_AbsorpInuse*(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	**0,0368242**	**0,0036824**	*(i_AppRate/100)*C30*d_Turf*d_ReTCCh*d _ReExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0134550**	**0,0013455**	*(i_AppRate/100)*C30*d_Turf*d_SalExt*d_ AreaHM*d_ReFreqHM*d_ReExpDur*i_Abs orpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0070816**	**0,0007082**	*(i_AppRate/100)*C30*d_DRP*d_MouthGra ss*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops				

Dermal	**0,6278922**	**0,0627892**	*(d_TcEntryMeanCh*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse))*	
Hand to mouth			*(i_AppRate/100)*1*d_Turf*d_MAF*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*iAbsorpOralInuse*	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_AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,2528833**	**0,0042147**	*"(C19*i_AbsorpInuse*(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)	**0,1033910**	**0,0017232**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**2,0929739**	**0,0348829**	*(d_TcEntryMeanAd*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Bystander exposure for Captosan voor vruchtboomkanker

Croptype	Pome fruit		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Application rate of the product	2,5	kg a.s./ha	*i_AppRate*
Buffer strip	10	m	*i_Buffer*
Concentration of active substance (in-use dilution for liquid applications)	1,666666667	g a.s./l	*d_ConcAS*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	7,5	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10-3Pa	Pa	*i_Volat*
Concentration in air	0,001	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/kg bw/day	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/kg bw/day	*d_BreathRCh*
Drift percentage on surface (90th percentile)	11,81%		
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)	0,2673528	0,0107000	0,2121837	0,7874902
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0267353	0,0010700	0,0212184	0,0787490
% of RVAAS	8,91%	0,36%	7,07%	26,25%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops
Total systemic exposure (mg a.s./day)	0,8851667	0,0138000	0,3995667	2,6249672
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0147528	0,0002300	0,0066594	0,0437495
% of RVAAS	4,92%	0,08%	2,22%	14,58%

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	0,2673528	0,0267353	*((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	**0,1432929**	**0,0143293**	*(i_AppRate/100)*C24*d_Turf*d_ByTCCh*d_ByExpDur*MAX(i_AbsorpProduct,i_Absorpl nuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0551126**	**0,0055113**	*(i_AppRate/100)*C25*d_Turf*d_SalExt*d_AreaHM*d_ByFreqHM*d_ByExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0137782**	**0,0013778**	*(i_AppRate/100)*C25*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**0,7874902**	**0,0787490**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_MAF*d_Turf*d_SalExt* d_AreaHM*d_ByFreqHM*d_ByExpDur*i_Ab sorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,8851667**	**0,0147528**	*((C15*i_AbsorpInuse*(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_BreathRAd*d_BwAdult*	
Surface deposits (dermal)	**0,3995667**	**0,0066594**	*(i_AppRate/100)*C24*d_Turf*d_ByTCAd*d _ByExpDur*MAX(i_AbsorpProduct,i_AbsorpI nuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**2,6249672**	**0,0437495**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Recreational exposure for Captosan voor vruchtboomkanker

Croptype	Golf course, turf or other sports lawns	This sheet is only to be used for treatment of grassland used for recreational purpo	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Application rate of the product	2,5	kg a.s./ha	*i_AppRate*
Dermal absorption of product	10,00%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	10,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	7,5	µg a.s./cm^2	*d_DFR*
Exposure duration dermal	2	hours	*d_ReExpDur*
Light clothing adjustment factor Adult resident	18,0%		*d_ClothAF*
Drift percentage on surface	100,00%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
Ingestion rate for mouthing of grass per day	25	cm^2	*d_MouthGrass*

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	**1,2133182**	**0,1213318**	*(i_AppRate/100)*C13*d_Turf*d_ReTCCh*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF)*	
Hand to mouth	**0,4433278**	**0,0443328**	*(i_AppRate/100)*C13*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	
Object to mouth	**0,2333304**	**0,0233330**	*(i_AppRate/100)*C13*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	
Total systemic exposure	**1,8899764**	**0,1889976**		
% of RVNAS				

Adult				
Surface deposits (dermal)	**3,4066241**	**0,0567771**	*(i_AppRate/100)*C13*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*	
% of RVNAS				

d_AirConVol	Concentration in air of moderately volatile substances	**0,015**	mg/m^3
d_AirConNonVol	Concentration in air of low volatile substances	**0,001**	mg/m^3
d_AreaHM	Surface area of hands mouthed	**20**	cm^2
d_AreaTreated	Area treated (defined by crop type)	**10**	ha
d_BreathRAd	Breathing rate adult residents	**0,23**	m^3/day/kg
d_BreathRCh	Breathing rate child (1-3 year old) residents	**1,07**	m^3/day/kg
d_BwAdult	Adult body weight	**60**	kg
d_BwChild	Child body weight (1 to < 3 year olds)	**10**	kg
d_ByBreathRAd	Breathing rate adult bystander	**0,04**	m^3/hours/kg
d_ByBreathRCh	Breathing rate child (1-3 year old) bystander	**0,19**	m^3/hours/kg
d_ByExpDur	Exposure duration intense activity breathing rates	**2**	hours
d_ByFreqHM	Frequency of hand to mouth activity	**20**	events/hour
d_ByTCAd	Transfer coeff. of surface deposits-adult	**14500**	cm^2/hour
d_ByTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	**5200**	cm^2/hour
d_ClothAF	Light clothing adjustment factor resident and bystanders	**18,0%**	
d_ConcAs	Concentration of active substance (in-use dilution for liquid applications)	**1,666666667**	g a.s./l
d_DFR	Dislodgeable foliar residue (i_AppRate*i_DFR)	**7,5**	µg a.s./cm^2
d_DRP	Dislodgeable residues percentage transferability for object to mouth	**20,0%**	
d_HalflifeAS	Half-life of active substance (DT50)	**34**	days
d_InhalTcAut	Inhalation transfer coefficient for automated applications	**NA**	ha/hr*10^(-3)
d_InhalTcCut	Inhalation transfer coefficient for cutting ornamentals	**NA**	ha/hr*10^(-3)
d_InhalTcSort	Inhalation transfer coefficient for sorting / bundling ornamentals	**NA**	ha/hr*10^(-3)
d_MAF	Multiple application factor	**1,87**	
d_MouthGrass	Ingestion rate for mouthing of grass per day	**25**	cm^2 grass/day
d_ReExpDur	Exposure duration resident dermal	**2**	hours
d_ReExpDurInhal	Exposure duration resident inhalation	**24**	hours
d_ExpDurTreatCrop	Exposure duration for resident and bystander entry into treated crops	**0,25**	hours
d_ReFreqHM	Frequency of hand to mouth activity	**9,5**	events/hour
d_ReTCAd	Transfer coeff. of surface deposits-adult	**7300**	cm^2/hour
d_ReTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	**2600**	cm^2/hour
d_SalExt	Saliva extraction percentage	**50,0%**	
d_TcEntryAd	Transfer coefficient for entry into treated crops 75th percentile - adult	**7500**	cm^2/h
d_TcEntryCh	Transfer coefficient for entry into treated crops 75th percentile - child	**2250**	cm^2/h
d_TcEntryMeanAd	Transfer coefficient for entry into treated crops mean - adult	**5980**	cm^2/h
d_TcEntryMeanCh	Transfer coefficient for entry into treated crops mean - child	**1794**	cm^2/h
d_Turf	Turf transferable residues percentage	**5,0%**	
d_PctExtrapolation	For exposure value 75 percentiles above this amount linear extrapolation is performed	**1,5**	kg
d_head75Protection	Cooefficient to estimate head protection factor 75 th Percentile	**1,79422**	
d_head95Protection	Cooefficient to estimate head protection factor 95 Percentile	**1,24705**	
sys_KeyOperator	Variables for operator exposure lookup key	**_AppMeth&i_AppEquip&**	
sys_OperatorModel	Operator model	**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 powderChemical resistant gloves	0,05
Granules, fine granulesChemical resistant gloves	0,05
Wettable granules, soluble granulesChemical resistant gloves	0,05
Soluble concentrates, emulsifiable concentrate, etc.Chemical	0,1
Wettable powder, soluble powderNone	1
Granules, fine granulesNone	1
Wettable granules, soluble granulesNone	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 for	750	Field crops	50
Brassica vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Bulb vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Cane fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Field crops	10
Cereals	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50
Citrus fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Fruiting vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Grapes	10100	30000	Hand harvesting	8	Hand and bo	no TC available f	Grapes	10
Grassland and lawns	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50
Golf course, turf or other sports lawns	2500	5800	Maintenance	8	Hand and bo	580	Field crops	50
Hops	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Hops	10
Leaf vegetables and fresh herbs	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Legume vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Oilfruits	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Oilseeds	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50

Ornamentals	5000	14000	Cutting, sorting, bundling, carrying	8	Hand and bo	1400	Field crops	10
Pome fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Root and tuber vegetables	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Stone fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Tree nuts	4500	22500	Searching, reaching, picking	8	Hand and bo	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 pe	**Ground sediments in % of the application rate calculated on the basis of percentile values (drift data acc. Rautmann)**		
key_ByCropType, ay_ByCropType			
key_ByCropType	**Bystander surface de**	**Resident surface 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
Match MixLoad	**Outdoor/Ir**	**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 granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Match AOEM	Outdoor/I	Formulation type	Application method	Application equipment	Type of exposure	ML 75th Intercept	ML 75th Applied Amount Factor	ML 75th Senario Factor	ML 75th Percentile AOEM	ML 95th Intercept	ML 95th Applied Amount Factor	ML 95th Senario Factor	ML 95th Percentile AOEM	Application 75th Intercept	Application 75th Applied Amount Factor	Application 75th Senario Factor	Application 75th Percentile AOEM	Application 95th Intercept	Application 95th Applied Amount Factor	Application 95th Senario Factor	Application 95th Percentile AOEM
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65					88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29						88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29			6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25					88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,00	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45					1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78						1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78			4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15					1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50					12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00						12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00			3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35					12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96					26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02						26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02			2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28					26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37					8903,00				62630,00

OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00						8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00			4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50					8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,00		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80					5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00						5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00			2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81					5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00			2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00	0,00		2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	

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 conjuction with the **Guidance on the Assessment of Exposure for Operators, Workers, Residents and Bystanders in Risk Assessment for Plant Protection Products**

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Modifications: AOEM values for 95th percentile Operator mixing/loading head exposure corrected, resident and bystander exposure for manual applications included in summary, Cell B78 in Resident exposure worksheet corrected to C22 (previously DC22)

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

Substance name	N-cyanomethyl-4-(trifluoromethyl) nicotinamide	
Product name	Teppeki	
Reference value non acutely toxic active substance (RVNAS)	0,025	mg/kg bw/day
Reference value acutely toxic active substance (RVAAS)	0,025	mg/kg bw/day
Crop type	Pome fruit	
Substance properties		
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.	
Miniumum volume water for application (liquids)	1500	L/ha
Maximum application rate of active substance	0,14	kg a.s. /ha
50% Dissipation Time DT50	2,6	days
Initial Dislodgeable Foliar Residue	3	µg/cm2 of foliage/kg a.s. applied/ha
Dermal absorption of product	7,46%	
Dermal absorption of in-use dilution	13,00%	
Oral absorption of active substance	100,00%	
Inhalation absorption of active substance	100,00%	
Vapour pressure of active substance	low volatile substances having a vapour pressure of <5*10-3Pa	
Scenario		
Indoor or Outdoor application	Outdoor	
Application method	Upward spraying	
Application equipment	Vehicle-mounted-Drift Reduction	
Buffer strip	10	m
Number of applications	3	
Interval between multiple applications	21	days
Season (upward spraying orchards only)	early (without leaves)	

Exposure assessment

Substance	N-cyanomethyl-4-(trifluoromethyl) nicotinamide	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate-0,14 kg a.s. /ha	Spray dilution = 0,0933333333333333 g a.s./l	Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa
Scenario	Pome fruit early (without leaves) / Outdoor / Upward spraying / Vehicle-mounted-Drift			Buffer = 10	Number applications = 3, Application interval = 21 days
Percentage Absoprtion	Dermal for product = 7,46	Dermal for in use diluation = 13	Oral = 100	Inhalation = 100	
RVNAS	0,025 mg/kg bw/day		RVAAS	0,025 mg/kg bw/day	
DFR	3 µg a.s./cm2 per kg a.s./ha		DT50	2,6 days	

Operator Model		Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day		0,0525	% of RVNAS	209,99%
	Acute systemic exposure mg/kg bw/day		0,1962	% of RVAAS	784,89%
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		0,0204	% of RVNAS	81,58%
	Acute systemic exposure mg/kg bw/day		0,0731	% of RVAAS	292,29%

Worker - Searching, reaching, picking	Potential exposure mg/kg bw/day	0,1644	% of RVNAS	657,64%
	Working clothing mg/kg bw/day	0,0329	% of RVNAS	131,53%
	Working clothing and gloves mg/kg bw/day	0,0164	% of RVNAS	65,76%

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0,0008	% of RVNAS	3,39%
	Vapour (75th percentile) mg/kg bw/day	0,0011	% of RVNAS	4,28%
	Surface deposits (75th percentile) mg/kg bw/day	0,0003	% of RVNAS	1,22%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,0031	% of RVNAS	12,33%
	All pathways (mean) mg/kg bw/day	0,0043	% of RVNAS	17,17%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0,0005	% of RVNAS	1,87%
	Vapour (75th percentile) mg/kg bw/day	0,0002	% of RVNAS	0,92%
	Surface deposits (75th percentile) mg/kg bw/day	0,0001	% of RVNAS	0,40%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,0017	% of RVNAS	6,85%
	All pathways (mean) mg/kg bw/day	0,0020	% of RVNAS	7,88%

Bystander - child	Spray drift (95th percentile) mg/kg bw/day	0,0019	% of RVAAS	7,77%
	Vapour (95th percentile) mg/kg bw/day	0,0011	% of RVAAS	4,28%
	Surface deposits (95th percentile) mg/kg bw/day	0,0008	% of RVAAS	3,07%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,0031	% of RVAAS	12,33%
Bystander - adult	Spray drift (95th percentile) mg/kg bw/day	0,0011	% of RVAAS	4,29%
	Vapour (95th percentile) mg/kg bw/day	0,0002	% of RVAAS	0,92%
	Surface deposits (95th percentile) mg/kg bw/day	0,0003	% of RVAAS	1,04%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,0017	% of RVAAS	6,85%

Recreational Exposure	Child % of RVNAS	Adult % of RVNAS

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Operator exposure for Teppeki outdoor spray applications

Application rate of active substance	0,14	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	1,4	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	7,46%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	13,00%		*i_AbsorInuse*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Indoor or Outdoor application	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Season	early (without leaves)		

OutdoorSoluble concentrates, emulsifiable concentrate, etc.Upward sprayingVehicle-mounted-Drift Reduction

	Exposure values	µg exposure/day mixed and loaded		Reference	Comment
		75th centile	95th centile		
Mixing and loading	Hands	6293	23126	AOEM	
	Body	4519	79421	AOEM	
	Head	73	398	AOEM	
	Protected hands (gloves)	43	277	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	32	205	AOEM	
	Protected head (hood and face shield)	1	23	AOEM	
	Inhalation	4	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
		75th centile	95th centile		
Application	Hands	3401	8731	AOEM	No data available for a drift reduction scenario
	Body	12336	11695	AOEM	
	Head	1621	9950	AOEM	
	Protected hands (gloves)	49	1287	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	95	315	AOEM	
	Inhalation	77	116	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
	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)	3,1498263	1,2237403	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	0,0524971	0,0203957	
% of RVNAS	209,99%	81,58%	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	11,7734025	4,3844201	

Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	0,1962234	0,0730737	
% of RVAAS	784,89%	292,29%	

2. Longer term exposure

2.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	469,4534912	7,8242249	*D15*i_AbsorpProduct*
Body	337,1216218	5,6186937	*D16*i_AbsorpProduct*
Head	5,4187219	0,0903120	*D17*i_AbsorpProduct*
Inhalation	4,0915485	0,0681925	*D21*i_AbsorpInhalation*
Sum	816,0853835	13,6014231	
With RPE/PPE (as selected above)			
Hands	469,4534912	7,8242249	*D18*i_AbsorpProduct*
Body	2,3891991	0,0398200	*D19*i_AbsorpProduct or D15*i_AbsorpProduct*F24*
Head	5,4187219	0,0903120	*D20*i_AbsorpProduct or D17*i_AbsorpProduct*F25*
Inhalation	4,0915485	0,0681925	*D21*i_AbsorpInhalation*G25*
Sum	481,3529607	8,0225493	
Water soluble	481,3529607	8,0225493	*C70*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	442,0845226	7,3680754	*D30*i_AbsorpInuse*
Body	1603,7304971	26,7288416	*D31*i_AbsorpInuse*
Head	210,7566991	3,5126117	*D32*i_AbsorpInuse*
Inhalation	77,1692464	1,2861541	*D35*i_AbsorpInhalation*
Sum	2333,7409653	38,8956828	
With RPE/PPE (as selected above)			
Hands	442,0845226	7,3680754	*D33*i_AbsorpInuse*
Body	12,3768859	0,2062814	*D34*i_AbsorpInuse or D31*i_AbsorpInuse*F38*
Head	210,7566991	3,5126117	*D32*i_AbsorpInuse*F39*
Inhalation	77,1692464	1,2861541	*D35*i_AbsorpInuse*G39*
Sum	742,3873541	12,3731226	

3. Acute exposure

3.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	1725,2366356	28,7539439	*E15*i_AbsorpProduct*
Body	5924,7747472	98,7462458	*E16*i_AbsorpProduct*
Head	29,7191828	0,4953197	*E17*i_AbsorpProduct*
Inhalation	28,9458130	0,4824302	*E21*i_AbsorpInhalation*
Sum	7708,6763786	128,4779396	
With RPE/PPE (as selected above)			
Hands	1725,2366356	28,7539439	*E18*i_AbsorpProduct*
Body	15,2744951	0,2545749	*E19*i_AbsorpProduct or E16*i_AbsorpProduct*F24*
Head	29,7191828	0,4953197	*E20*i_AbsorpProduct or E17*i_AbsorpProduct*F25*
Inhalation	28,9458130	0,4824302	*E21*i_AbsorpInhalation*G25*
Sum	1799,1761265	29,9862688	
Water soluble	1799,1761265	29,9862688	*C104*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	1135,0928498	18,9182142	*E30*i_AbsorpInuse*
Body	1520,3773394	25,3396223	*E31*i_AbsorpInuse*
Head	1293,5147578	21,5585793	*E32*i_AbsorpInuse*
Inhalation	115,7412146	1,9290202	*E35*i_AbsorpInhalation*
Sum	4064,7261617	67,7454360	
With RPE/PPE (as selected above)			
Hands	1135,0928498	18,9182142	*E33*i_AbsorpInuse*
Body	40,8951107	0,6815852	*E34*i_AbsorpInuse or E31*i_AbsorpInuse*F38*

Head	**1293,5147578**	**21,5585793**	*E32*i_AbsorpInuse*F39*
Inhalation	**115,7412146**	**1,9290202**	*E35*i_AbsorpInhalation*G39*
Sum	**2585,2439330**	**43,0873989**	

Operator exposure for Teppeki granular applications

Application rate of active substance	0,14	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	1,4	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	7,46%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	13,00%		*i_AbsorInuse*
Formulation type	luble concentrates, emulsifiable concentrate, e		
Indoor or Outdoor application	Outdoor	**This sheet is only to be used for granular applications**	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		

Mixing and loading

Exposure values	mg exposure/kg a.s. mixed and loaded		Reference	Comment
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B
Body	#N/B	#N/B	#N/B	#N/B
Inhalation	#N/B	#N/B	#N/B	#N/B
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
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B

Application	Body	#N/B	#N/B	#N/B	#N/B
	Inhalation	#N/B	#N/B	#N/B	#N/B
	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/B	#N/B	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	#N/B	#N/B	
% of RVNAS	#N/B	#N/B	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	#N/B	#N/B	

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

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			
Hands	#N/B	#N/B	*D14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D14*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

2.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*D25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D25*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

3. Acute exposure

3.1 Mixing and loading

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without			
Hands	**#N/B**	**#N/B**	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	**#N/B**	**#N/B**	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	**#N/B**	**#N/B**	*E16*i_AmoutAS*i_AbsorpInhalation*
Sum	**#N/B**	**#N/B**	
With RPE/PPE (as selected above)			
Hands	**#N/B**	**#N/B**	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	**#N/B**	**#N/B**	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	**#N/B**	**#N/B**	*E16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	**#N/B**	**#N/B**	

3.2

Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	**#N/B**	**#N/B**	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	**#N/B**	**#N/B**	*E25*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	**#N/B**	**#N/B**	*E26*i_AmoutAS*i_AbsorpInhalation*
Sum	**#N/B**	**#N/B**	
With RPE/PPE (as selected above)			
Hands	**#N/B**	**#N/B**	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	**#N/B**	**#N/B**	*E26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	**#N/B**	**#N/B**	*E27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	**#N/B**	**#N/B**	

Worker exposure from residues on foliage for Teppeki

Crop type	Pome fruit		
Indoor or outdoor	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Worker's task	Searching, reaching, picking		
Main body parts in contact with foliage	Hand and body		
Application rate of active substance	0,14	kg a.s./ha	*i_AppRate*
Number of applications	3		*i_AppNo*
Interval between multiple applications	21	days	*i_AppInt*
Half-life of active substance	2,6	days	*d_HalflifeAS*
Multiple application factor	1,0		*d_MAF*
Dermal absorption of the product	7,46%		*i_AbsorpProduct*
Dermal absorption of the in-use dilution	13,00%		*i_AbsorpInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	0,42	µg a.s./cm^2	*d_DFR*
Working hours	8	hr	*d_WorkHr*
Dermal transfer coefficient - Total potential exposure	22500	cm^2/hr	*d_DermTcUCV*
Dermal transfer coefficient - arms, body and legs covered	4500	cm^2/hr	*d_DermTcCV1*
Dermal transfer coefficient - hands, arms, body and legs covered	2250	cm^2/hr	*d_DermTcCV2*
Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)	*d_InhalTcAut*
Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcCut*
Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcSort*

1. Total

	Potential exposure	Work wear - arms, body and legs covered	Working wear and gloves	Comments
Total systemic exposure (mg a.s./day)	9,8645321	1,9729064	0,9864532	
Total systemic exposure per kg body weight (mg/kg bw/day)	0,1644089	0,0328818	0,0164409	
% of RVNAS	657,64%	131,53%	65,76%	

2. Details

	Systemic exposure		Formula	Comments
	[mg a.s. /day]	[mg a.s./kg bw/day]		

Dermal - Potential	**9,8645321**	**0,1644089**	*d_DermTcUCV*d_WorkHr*i_DFR*i_MAF/1000*i_AbsorpInuse*	
Dermal - Work wear - arms, body and legs covered	**1,9729064**	**0,0328818**	*d_DermTcCV1*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Dermal - Working wear and gloves	**0,9864532**	**0,0164409**	*d_DermTcCV2*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Inhalation				Na for outdoor activities

Resident exposure for Teppeki

Croptype	**Pome fruit**		
Application method	**Upward spraying**		
Application equipment	**Vehicle-mounted-Drift Reduction**		*i_AppEquip*
Formulation type	**Soluble concentrates, emulsifiable concentrate, etc.**		*i_FormVal*
Buffer strip	**10**	m	*i_Buffer*
Application rate of the product	**0,14**	kg a.s./ha	*i_AppRate*
Concentration of active substance (in-use dilution for liquid applications)	**0,093333333**	g a.s./l	*d_ConcAS*
Dermal absorption of product	**7,46%**		*i_AbsorpProduct*
Dermal absorption of in-use dilution	**13,00%**		*i_AbsorpInuse*
Oral absorption	**100,00%**		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	**0,42**	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	**low volatile substances having a vapour pressure of <5*10-3Pa**	Pa	*i_Volat*
Concentration in air	**0,001**	mg/m^3	*d_AirCon*
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	*d_ReExpDur*
Exposure duration inhalation	**24**	hours	*d_ReExpDurInhal*
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/day/kg	*d_BreathRAd*
Breathing rate child (1-3 year old)	**1,07**	m^3/day/kg	*d_BreathRCh*
Drift percentage on surface (75th percentile)	**8,96%**		
Drift percentage on surface (mean)	**6,07%**		
Turf transferable residues percentage	**5,00%**		*d_Turf*
Transfer coeff. of surface deposits-adult	**7300**	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	**2600**	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	**50,00%**		*d_SalExt*
Surface area of hands mouthed	**20**	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	**9,5**	events/hour	*d_ReFreqHM*
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 (75th percentile) - adult	**7500**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (75th percentile) - child	**2250**	cm^2/h	*d_TcEntryCh*
Transfer coefficient for entry into treated crops (mean) - adult	**5980**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (mean) - child	**1794**	cm^2/h	*d_TcEntryCh*

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)	0,0084789	0,0107000	0,0030406	0,0308267	0,0429230
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0008479	0,0010700	0,0003041	0,0030827	0,0042923
% of RVNAS	3,39%	4,28%	1,22%	12,33%	17,17%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops	All pathways (mean)
Total systemic exposure (mg a.s./day)	0,0281054	0,0138000	0,0059743	0,1027555	0,1181638
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0004684	0,0002300	0,0000996	0,0017126	0,0019694
% of RVNAS	1,87%	0,92%	0,40%	6,85%	7,88%

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	0,0084789	0,0008479	*((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	0,0021278	0,0002128	*(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))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	0,0005981	0,0000598	*(i_AppRate/100)*C29*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	0,0003148	0,0000315	*(i_AppRate/100)*C29*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**0,0308267**	**0,0030827**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_Turf*d_MAF*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*	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_AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,0281054**	**0,0004684**	*(C15*i_AbsorpInuse*(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)	**0,0059743**	**0,0000996**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d_ReExpDur*i_AbsorpInuse*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**0,1027555**	**0,0017126**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse)*	

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	**0,0055840**	**0,0005584**	*((C20*i_AbsorpInuse*(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	**0,0014415**	**0,0001442**	*(i_AppRate/100)*C30*d_Turf*d_ReTCCh*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0004052**	**0,0000405**	*(i_AppRate/100)*C30*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0002132**	**0,0000213**	*(i_AppRate/100)*C30*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops				

Dermal	**0,0245791**	**0,0024579**	*(d_TcEntryMeanCh*0.25*d_DFR*d_MAF)/ 1000*MAX(i_AbsorpProduct,i_AbsorpInuse))*	
Hand to mouth			*(i_AppRate/100)*1*d_Turf*d_MAF*d_SalE xt*d_AreaHM*d_ReFreqHM*d_ReExpDur* i_AbsorpOralInuse*	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_AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,0183861**	**0,0003064**	*"(C19*i_AbsorpInuse*(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)	**0,0040473**	**0,0000675**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d _ReExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip = "Vehicle- mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**0,0819304**	**0,0013655**	*(d_TcEntryMeanAd*0.25*d_DFR*d_MAF)/ 1000*MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Bystander exposure for Teppeki

Croptype	Pome fruit		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Application rate of the product	0,14	kg a.s./ha	*i_AppRate*
Buffer strip	10	m	*i_Buffer*
Concentration of active substance (in-use dilution for liquid applications)	0,093333333	g a.s./l	*d_ConcAS*
Dermal absorption of product	7,46%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	13,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	0,42	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10-3Pa	Pa	*i_Volat*
Concentration in air	0,001	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/kg bw/day	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/kg bw/day	*d_BreathRCh*
Drift percentage on surface (90th percentile)	11,81%		
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)	**0,0194145**	**0,0107000**	**0,0076837**	**0,0308267**
Total systemic exposure per kg body weight (mg/kg bw/day)	**0,0019415**	**0,0010700**	**0,0007684**	**0,0030827**
% of RVAAS	**7,77%**	**4,28%**	**3,07%**	**12,33%**

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops
Total systemic exposure (mg a.s./day)	**0,0643785**	**0,0138000**	**0,0156412**	**0,1027555**
Total systemic exposure per kg body weight (mg/kg bw/day)	**0,0010730**	**0,0002300**	**0,0002607**	**0,0017126**
% of RVAAS	**4,29%**	**0,92%**	**1,04%**	**6,85%**

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	**0,0194145**	**0,0019415**	*((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	**0,0056093**	**0,0005609**	*(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)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0016595**	**0,0001660**	*(i_AppRate/100)*C25*d_Turf*d_SalExt*d_AreaHM*d_ByFreqHM*d_ByExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0004149**	**0,0000415**	*(i_AppRate/100)*C25*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**0,0308267**	**0,0030827**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000 *MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_MAF*d_Turf*d_SalExt *d_AreaHM*d_ByFreqHM*d_ByExpDur*i_ AbsorpOralInuse*	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 _AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,0643785**	**0,0010730**	*((C15*i_AbsorpInuse*(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_BreathRAd*d_BwAdult*	
Surface deposits (dermal)	**0,0156412**	**0,0002607**	*(i_AppRate/100)*C24*d_Turf*d_ByTCAd* *d_ByExpDur*MAX(i_AbsorpProduct,i_Abso rpInuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**0,1027555**	**0,0017126**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000 *MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Recreational exposure for Teppeki

Croptype	Golf course, turf or other sports lawns	This sheet is only to be used for treatment of grassland used for recreational purpo	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Application rate of the product	0,14	kg a.s./ha	*i_AppRate*
Dermal absorption of product	7,46%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	13,00%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	0,42	µg a.s./cm^2	*d_DFR*
Exposure duration dermal	2	hours	*d_ReExpDur*
Light clothing adjustment factor Adult resident	18,0%		*d_ClothAF*
Drift percentage on surface	100,00%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
Ingestion rate for mouthing of grass per day	25	cm^2	*d_MouthGrass*

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	0,0474959	0,0047496	*(i_AppRate/100)*C13*d_Turf*d_ReTCCh*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF)*	
Hand to mouth	0,0133494	0,0013349	*(i_AppRate/100)*C13*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	
Object to mouth	0,0070260	0,0007026	*(i_AppRate/100)*C13*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	
Total systemic exposure	0,0678714	0,0067871		

% of RVNAS				
Adult				
Surface deposits (dermal)	**0,1333539**	**0,0022226**	*(i_AppRate/100)*C13*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*	
% of RVNAS				

d_AirConVol	Concentration in air of moderately volatile substances	0,015	mg/m^3
d_AirConNonVol	Concentration in air of low volatile substances	0,001	mg/m^3
d_AreaHM	Surface area of hands mouthed	20	cm^2
d_AreaTreated	Area treated (defined by crop type)	10	ha
d_BreathRAd	Breathing rate adult residents	0,23	m^3/day/kg
d_BreathRCh	Breathing rate child (1-3 year old) residents	1,07	m^3/day/kg
d_BwAdult	Adult body weight	60	kg
d_BwChild	Child body weight (1 to < 3 year olds)	10	kg
d_ByBreathRAd	Breathing rate adult bystander	0,04	m^3/hours/kg
d_ByBreathRCh	Breathing rate child (1-3 year old) bystander	0,19	m^3/hours/kg
d_ByExpDur	Exposure duration intense activity breathing rates	2	hours
d_ByFreqHM	Frequency of hand to mouth activity	20	events/hour
d_ByTCAd	Transfer coeff. of surface deposits-adult	14500	cm^2/hour
d_ByTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	5200	cm^2/hour
d_ClothAF	Light clothing adjustment factor resident and bystanders	18,0%	
d_ConcAs	Concentration of active substance (in-use dilution for liquid applications)	0,093333333	g a.s./l
d_DFR	Dislodgeable foliar residue (i_AppRate*i_DFR)	0,42	µg a.s./cm^2
d_DRP	Dislodgeable residues percentage transferability for object to mouth	20,0%	
d_HalflifeAS	Half-life of active substance (DT50)	3	days
d_InhalTcAut	Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)
d_InhalTcCut	Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)
d_InhalTcSort	Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)
d_MAF	Multiple application factor	1,00	
d_MouthGrass	Ingestion rate for mouthing of grass per day	25	cm^2 grass/day
d_ReExpDur	Exposure duration resident dermal	2	hours
d_ReExpDurInhal	Exposure duration resident inhalation	24	hours
d_ExpDurTreatCrop	Exposure duration for resident and bystander entry into treated crops	0,25	hours
d_ReFreqHM	Frequency of hand to mouth activity	9,5	events/hour
d_ReTCAd	Transfer coeff. of surface deposits-adult	7300	cm^2/hour
d_ReTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour
d_SalExt	Saliva extraction percentage	50,0%	
d_TcEntryAd	Transfer coefficient for entry into treated crops 75th percentile - adult	7500	cm^2/h
d_TcEntryCh	Transfer coefficient for entry into treated crops 75th percentile - child	2250	cm^2/h
d_TcEntryMeanAd	Transfer coefficient for entry into treated crops mean - adult	5980	cm^2/h
d_TcEntryMeanCh	Transfer coefficient for entry into treated crops mean - child	1794	cm^2/h
d_Turf	Turf transferable residues percentage	5,0%	
d_PctExtrapolation	For exposure value 75 percentiles above this amount linear extrapolation is performed	1,5	kg
d_head75ProtectionF	Cooefficient to estimate head protection factor 75 th Percentile	1,79422	
d_head95ProtectionF	Cooefficient to estimate head protection factor 95 Percentile	1,24705	
sys_KeyOperator	Variables for operator exposure lookup key	_AppMeth&i_AppEquip&	
sys_OperatorModel	Operator model	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 powderChemical resistant gloves	0,05
Granules, fine granulesChemical resistant gloves	0,05
Wettable granules, soluble granulesChemical resistant glove	0,05
Soluble concentrates, emulsifiable concentrate, etc.Chemica	0,1
Wettable powder, soluble powderNone	1
Granules, fine granulesNone	1
Wettable granules, soluble granulesNone	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 fo	750	Field crops	50
Brassica vegetables	2500	5800	Reaching, picking	8	Hand and bc	580	Field crops	50
Bulb vegetables	2500	5800	Reaching, picking	8	Hand and bc	580	Field crops	50
Cane fruit	4500	22500	Searching, reaching, picking	8	Hand and bc	2250	Field crops	10
Cereals	1400	12500	Inspection, irrigation	2	Hand and bc	no TC available	Field crops	50
Citrus fruit	4500	22500	Searching, reaching, picking	8	Hand and bc	2250	Fruit crops	10
Fruiting vegetables	2500	5800	Reaching, picking	8	Hand and bc	580	Field crops	50
Grapes	10100	30000	Hand harvesting	8	Hand and bc	no TC available	Grapes	10
Grassland and lawns	1400	12500	Inspection, irrigation	2	Hand and bc	no TC available	Field crops	50
Golf course, turf or other sports lawns	2500	5800	Maintenance	8	Hand and bc	580	Field crops	50
Hops	1400	12500	Inspection, irrigation	2	Hand and bc	no TC available	Hops	10
Leaf vegetables and fresh herbs	2500	5800	Reaching, picking	8	Hand and bc	580	Field crops	50
Legume vegetables	2500	5800	Reaching, picking	8	Hand and bc	580	Field crops	50
Oilfruits	4500	22500	Searching, reaching, picking	8	Hand and bc	2250	Fruit crops	10
Oilseeds	1400	12500	Inspection, irrigation	2	Hand and bc	no TC available	Field crops	50

Ornamentals	5000	14000	Cutting, sorting, bundling, carrying	8	Hand and bc	1400	Field crops	10
Pome fruit	4500	22500	Searching, reaching, picking	8	Hand and bc	2250	Fruit crops	10
Root and tuber vegetables	1400	12500	Inspection, irrigation	2	Hand and bc	no TC available	Field crops	50
Stone fruit	4500	22500	Searching, reaching, picking	8	Hand and bc	2250	Fruit crops	10
Tree nuts	4500	22500	Searching, reaching, picking	8	Hand and bc	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 p	**Ground sediments in % of the application rate calculated on the basis of percentile values (drift data acc. Rautmann)**		
key_ByCropType, ay_ByCropType			
key_ByCropType	**Bystander surface de**	**Resident surface 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
Match MixLoad	**Outdoor/In**	**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 granulesApplicat	Indoor	Granules, fine granules	Application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value or	PHED
IndoorGranules, fine granulesApplicat	Indoor	Granules, fine granules	Application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value or	PHED
IndoorGranules, fine granulesApplicat	Indoor	Granules, fine granules	Application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED
OutdoorGranules, fine granulesBroadc	Outdoor	Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use o	PHED	0,0047	0,0151	Exposure value or	PHED
OutdoorGranules, fine granulesBroadc	Outdoor	Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use o	PHED	0,0004	0,0013	Exposure value or	PHED
OutdoorGranules, fine granulesBroadc	Outdoor	Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granulesIn furr	Outdoor	Granules, fine granules	In furrow application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use o	PHED	0,0047	0,0151	Exposure value or	PHED
OutdoorGranules, fine granulesIn furr	Outdoor	Granules, fine granules	In furrow application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use o	PHED	0,0004	0,0013	Exposure value or	PHED
OutdoorGranules, fine granulesIn furr	Outdoor	Granules, fine granules	In furrow application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granulesManu	Outdoor	Granules, fine granules	Manual application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value or	PHED
OutdoorGranules, fine granulesManu	Outdoor	Granules, fine granules	Manual application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value or	PHED
OutdoorGranules, fine granulesManu	Outdoor	Granules, fine granules	Manual application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Match AOEM	Outdoor/In	Formulation type	Application method	Application equipment	Type of exposure	ML 75th Intercept	ML 75th Applied Amount Factor	ML 75th Senario Factor	ML 75th Percentile AOEM	ML 95th Intercept	ML 95th Applied Amount Factor	ML 95th Senario Factor	ML 95th Percentile AOEM	Application 75th Intercept	Application 75th Applied Amount Factor	Application 75th Senario Factor	Application 75th Percentile AOEM	Application 95th Intercept	Application 95th Applied Amount Factor	Application 95th Senario Factor	Application 95th Percentile AOEM
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65					88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29						88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29			6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25					88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,00	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45					1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78						1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78			4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15					1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50					12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00						12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00			3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35					12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96					26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02						26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02			2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28					26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37					8903,00				62630,00

OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00						8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00			4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50					8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,00		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80					5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00						5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00			2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81					5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00			2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00	0,00		2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	

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 conjuction with the **Guidance on the Assessment of Exposure for Operators, Workers, Residents and Bystanders in Risk Assessment for Plant Protection Products**

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Modifications: AOEM values for 95th percentile Operator mixing/loading head exposure corrected, resident and bystander exposure for manual applications included in summary, Cell B78 in Resident exposure worksheet corrected to C22 (previously DC22)

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

Substance name	Glufonisaat-Ammonium	
Product name	Basta 200	
Reference value non acutely toxic active substance (RVNAS)	0,0021	mg/kg bw/day
Reference value acutely toxic active substance (RVAAS)	0,021	mg/kg bw/day
Crop type	Pome fruit	
Substance properties		
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.	
Miniumum volume water for application (liquids)	150	L/ha
Maximum application rate of active substance	1,275	kg a.s. /ha
50% Dissipation Time DT50	11	days
Initial Dislodgeable Foliar Residue	3	µg/cm2 of foliage/kg a.s. applied/ha
Dermal absorption of product	0,30%	
Dermal absorption of in-use dilution	0,70%	
Oral absorption of active substance	10,00%	
Inhalation absorption of active substance	100,00%	
Vapour pressure of active substance	low volatile substances having a vapour pressure of <5*10-3Pa	
Scenario		
Indoor or Outdoor application	Outdoor	
Application method	Downward spraying	
Application equipment	Vehicle-mounted-Drift Reduction	
Buffer strip	10	m
Number of applications	2	
Interval between multiple applications	28	days
Season (upward spraying orchards only)	not relevant	

Exposure assessment

Substance	Glufonisaat-Ammonium	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate-1,275 kg a.s. /ha	Spray dilution = 8,5 g a.s./l	Vapour pressure = low volatile substances having a vapour pressure of <5*10-3Pa
Scenario	Pome fruit / Outdoor / Downward spraying / Vehicle-mounted-Drift Reduction			Buffer = 10	Number applications = 2, Application interval = 28 days
Percentage Absoprtion	Dermal for product = 0,3	Dermal for in use diluation = 0,7	Oral = 10	Inhalation = 100	
RVNAS	0,0021 mg/kg bw/day		RVAAS	0,021 mg/kg bw/day	
DFR	3 µg a.s./cm2 per kg a.s./ha		DT50	11 days	

Operator Model		Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day		0,0090	% of RVNAS	429,04%
	Acute systemic exposure mg/kg bw/day		0,0249	% of RVAAS	118,34%
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		0,0047	% of RVNAS	223,24%
	Acute systemic exposure mg/kg bw/day		0,0133	% of RVAAS	63,13%

Worker - Searching, reaching, picking	Potential exposure mg/kg bw/day	0,0941	% of RVNAS	4480,20%
	Working clothing mg/kg bw/day	0,0188	% of RVNAS	896,04%
	Working clothing and gloves mg/kg bw/day	0,0094	% of RVNAS	448,02%

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0,0005	% of RVNAS	23,50%
	Vapour (75th percentile) mg/kg bw/day	0,0011	% of RVNAS	50,95%
	Surface deposits (75th percentile) mg/kg bw/day	0,0002	% of RVNAS	10,42%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,0018	% of RVNAS	84,00%
	All pathways (mean) mg/kg bw/day	0,0029	% of RVNAS	138,83%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0,0001	% of RVNAS	4,25%
	Vapour (75th percentile) mg/kg bw/day	0,0002	% of RVNAS	10,95%
	Surface deposits (75th percentile) mg/kg bw/day	0,0001	% of RVNAS	2,71%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,0010	% of RVNAS	46,67%
	All pathways (mean) mg/kg bw/day	0,0011	% of RVNAS	52,36%

Bystander - child	Spray drift (95th percentile) mg/kg bw/day	0,0013	% of RVAAS	6,04%
	Vapour (95th percentile) mg/kg bw/day	0,0011	% of RVAAS	5,10%
	Surface deposits (95th percentile) mg/kg bw/day	0,0005	% of RVAAS	2,58%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,0018	% of RVAAS	8,40%
Bystander - adult	Spray drift (95th percentile) mg/kg bw/day	0,0002	% of RVAAS	1,09%
	Vapour (95th percentile) mg/kg bw/day	0,0002	% of RVAAS	1,10%
	Surface deposits (95th percentile) mg/kg bw/day	0,0001	% of RVAAS	0,71%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,0010	% of RVAAS	4,67%

Recreational Exposure	Child % of RVNAS	Adult % of RVNAS

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Operator exposure for Basta 200 outdoor spray applications

Application rate of active substance	1,275	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	12,75	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	0,30%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	0,70%		*i_AbsorInuse*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Indoor or Outdoor application	Outdoor		
Application method	Downward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Season	not relevant		

OutdoorSoluble concentrates, emulsifiable concentrate, etc.Downward sprayingVehicle-mounted-Drift Reduction

	Exposure values	µg exposure/day mixed and loaded		Reference	Comment
		75th centile	95th centile		
Mixing and loading	Hands	34468	129164	AOEM	
	Body	21351	150889	AOEM	
	Head	662	3628	AOEM	
	Protected hands (gloves)	181	2525	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	227	1865	AOEM	
	Protected head (hood and face shield)	11	205	AOEM	
	Inhalation	8	31	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
		75th centile	95th centile		
Application	Hands	20659	24183	AOEM	Small area equipment and drift reduction cannot be selected together - drift reduction has not been applied
	Body	28345	35917	AOEM	
	Head	170	1992	AOEM	
	Protected hands (gloves)	87	29	AOEM	
	Protected body (workwear or protective garment and sturdy footwear)	354	419	AOEM	
	Inhalation	19	175	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
	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)	0,5405855	0,2812783	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	0,0090098	0,0046880	
% of RVNAS	429,04%	223,24%	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	1,4910293	0,7954712	

Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	**0,0248505**	**0,0132579**	
% of RVAAS	**118,34%**	**63,13%**	

2. Longer term exposure

2.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	**103,4037193**	**1,7233953**	*D15*i_AbsorpProduct*
Body	**64,0541878**	**1,0675698**	*D16*i_AbsorpProduct*
Head	**1,9845472**	**0,0330758**	*D17*i_AbsorpProduct*
Inhalation	**7,8958671**	**0,1315978**	*D21*i_AbsorpInhalation*
Sum	**177,3383215**	**2,9556387**	
With RPE/PPE (as selected above)			
Hands	**103,4037193**	**1,7233953**	*D18*i_AbsorpProduct*
Body	**0,6807730**	**0,0113462**	*D19*i_AbsorpProduct or D15*i_AbsorpProduct*F24*
Head	**1,9845472**	**0,0330758**	*D20*i_AbsorpProduct or D17*i_AbsorpProduct*F25*
Inhalation	**7,8958671**	**0,1315978**	*D21*i_AbsorpInhalation*G25*
Sum	**113,9649067**	**1,8994151**	
Water soluble	**113,9649067**	**1,8994151**	*C70*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	**144,6141582**	**2,4102360**	*D30*i_AbsorpInuse*
Body	**198,4151808**	**3,3069197**	*D31*i_AbsorpInuse*
Head	**1,1879564**	**0,0197993**	*D32*i_AbsorpInuse*
Inhalation	**19,0299157**	**0,3171653**	*D35*i_AbsorpInhalation*
Sum	**363,2472111**	**6,0541202**	
With RPE/PPE (as selected above)			
Hands	**144,6141582**	**2,4102360**	*D33*i_AbsorpInuse*
Body	**2,4813175**	**0,0413553**	*D34*i_AbsorpInuse or D31*i_AbsorpInuse*F38*
Head	**1,1879564**	**0,0197993**	*D32*i_AbsorpInuse*F39*
Inhalation	**19,0299157**	**0,3171653**	*D35*i_AbsorpInuse*G39*
Sum	**167,3133478**	**2,7885558**	

3. Acute exposure

3.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	**387,4929149**	**6,4582152**	*E15*i_AbsorpProduct*
Body	**452,6655746**	**7,5444262**	*E16*i_AbsorpProduct*
Head	**10,8843235**	**0,1814054**	*E17*i_AbsorpProduct*
Inhalation	**30,5098753**	**0,5084979**	*E21*i_AbsorpInhalation*
Sum	**881,5526882**	**14,6925448**	
With RPE/PPE (as selected above)			
Hands	**387,4929149**	**6,4582152**	*E18*i_AbsorpProduct*
Body	**5,5941156**	**0,0932353**	*E19*i_AbsorpProduct or E16*i_AbsorpProduct*F24*
Head	**10,8843235**	**0,1814054**	*E20*i_AbsorpProduct or E17*i_AbsorpProduct*F25*
Inhalation	**30,5098753**	**0,5084979**	*E21*i_AbsorpInhalation*G25*
Sum	**434,4812293**	**7,2413538**	
Water soluble	**434,4812293**	**7,2413538**	*C104*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	**169,2809670**	**2,8213494**	*E30*i_AbsorpInuse*
Body	**251,4189807**	**4,1903163**	*E31*i_AbsorpInuse*
Head	**13,9452355**	**0,2324206**	*E32*i_AbsorpInuse*
Inhalation	**174,8314353**	**2,9138573**	*E35*i_AbsorpInhalation*
Sum	**609,4766184**	**10,1579436**	
With RPE/PPE (as selected above)			
Hands	**169,2809670**	**2,8213494**	*E33*i_AbsorpInuse*
Body	**2,9322937**	**0,0488716**	*E34*i_AbsorpInuse or E31*i_AbsorpInuse*F38*

Head	**13,9452355**	**0,2324206**	*E32*i_AbsorpInuse*F39*
Inhalation	**174,8314353**	**2,9138573**	*E35*i_AbsorpInhalation*G39*
Sum	**360,9899315**	**6,0164989**	

Operator exposure for Basta 200 granular applications

Application rate of active substance	1,275	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	12,75	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	0,30%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	0,70%		*i_AbsorInuse*
Formulation type	luble concentrates, emulsifiable concentrate, e		
Indoor or Outdoor application	Outdoor	**This sheet is only to be used for granular applications**	
Application method	Downward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		

	Exposure values	mg exposure/kg a.s. mixed and loaded		Reference	Comment
		75th centile	95th centile		
Mixing and loading	Hands	#N/B	#N/B	#N/B	#N/B
	Body	#N/B	#N/B	#N/B	#N/B
	Inhalation	#N/B	#N/B	#N/B	#N/B
	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
		75th centile	95th centile		
Application	Hands	#N/B	#N/B	#N/B	#N/B
	Body	#N/B	#N/B	#N/B	#N/B
	Inhalation	#N/B	#N/B	#N/B	#N/B
	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/B	#N/B	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	#N/B	#N/B	
% of RVNAS	#N/B	#N/B	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	#N/B	#N/B	

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

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			
Hands	#N/B	#N/B	*D14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D14*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

2.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*D25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D25*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

3. Acute exposure
3.1 Mixing and loading

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

3.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E26*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

Worker exposure from residues on foliage for Basta 200

Crop type	Pome fruit		
Indoor or outdoor	Outdoor		
Application method	Downward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Worker's task	Searching, reaching, picking		
Main body parts in contact with foliage	Hand and body		
Application rate of active substance	1,275	kg a.s./ha	*i_AppRate*
Number of applications	2		*i_AppNo*
Interval between multiple applications	28	days	*i_AppInt*
Half-life of active substance	11	days	*d_HalflifeAS*
Multiple application factor	1,2		*d_MAF*
Dermal absorption of the product	0,30%		*i_AbsorpProduct*
Dermal absorption of the in-use dilution	0,70%		*i_AbsorpInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	3,825	µg a.s./cm^2	*d_DFR*
Working hours	8	hr	*d_WorkHr*
Dermal transfer coefficient - Total potential exposure	22500	cm^2/hr	*d_DermTcUCV*
Dermal transfer coefficient - arms, body and legs covered	4500	cm^2/hr	*d_DermTcCV1*
Dermal transfer coefficient - hands, arms, body and legs covered	2250	cm^2/hr	*d_DermTcCV2*
Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)	*d_InhalTcAut*
Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcCut*
Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcSort*

1. Total

	Potential exposure	Work wear - arms, body and legs covered	Working wear and gloves	Comments
Total systemic exposure (mg a.s./day)	5,6450508	1,1290102	0,5645051	
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0940842	0,0188168	0,0094084	
% of RVNAS	4480,20%	896,04%	448,02%	

2. Details

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula	Comments
Dermal - Potential	5,6450508	0,0940842	*d_DermTcUCV*d_WorkHr*i_DFR*i_MAF/1000*i_AbsorpInuse*	

Dermal - Work wear - arms, body and legs covered	**1,1290102**	**0,0188168**	*d_DermTcCV1*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Dermal - Working wear and gloves	**0,5645051**	**0,0094084**	*d_DermTcCV2*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Inhalation				Na for outdoor activities

Resident exposure for Basta 200

Croptype	Pome fruit		
Application method	Downward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Buffer strip	10	m	*i_Buffer*
Application rate of the product	1,275	kg a.s./ha	*i_AppRate*
Concentration of active substance (in-use dilution for liquid applications)	8,5	g a.s./l	*d_ConcAS*
Dermal absorption of product	0,30%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	0,70%		*i_AbsorpInuse*
Oral absorption	10,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	3,825	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10-3Pa	Pa	*i_Volat*
Concentration in air	0,001	mg/m^3	*d_AirCon*
Resident dermal spray drift exposure 75th percentile - adult	0,20385	ml spray dilution/person	
Resident dermal spray drift exposure 75th percentile - child	0,17965	ml spray dilution/person	
Resident inhal. spray drift exposure 75th percentile - adult	0,00009	ml spray dilution/person	
Resident inhal. spray drift exposure 75th percentile - child	0,00013	ml spray dilution/person	
Resident dermal spray drift exposure mean - adult	0,10973	ml spray dilution/person	
Resident dermal spray drift exposure mean - child	0,1	ml spray dilution/person	
Resident inhal. spray drift exposure mean - adult	0,00007	ml spray dilution/person	
Resident inhal. spray drift exposure mean - child	0,00011	ml spray dilution/person	
Exposure duration dermal	2	hours	*d_ReExpDur*
Exposure duration inhalation	24	hours	*d_ReExpDurInhal*
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/day/kg	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/day/kg	*d_BreathRCh*
Drift percentage on surface (75th percentile)	8,96%		
Drift percentage on surface (mean)	6,07%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
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 (75th percentile) - adult	**7500**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (75th percentile) - child	**2250**	cm^2/h	*d_TcEntryCh*
Transfer coefficient for entry into treated crops (mean) - adult	**5980**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (mean) - child	**1794**	cm^2/h	*d_TcEntryCh*

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)	0,0049351	0,0107000	0,0021878	0,0176408	0,0291547
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0004935	0,0010700	0,0002188	0,0017641	0,0029155
% of RVNAS	23,50%	50,95%	10,42%	84,00%	138,83%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops	All pathways (mean)
Total systemic exposure (mg a.s./day)	0,0053554	0,0138000	0,0034188	0,0588026	0,0659757
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0000893	0,0002300	0,0000570	0,0009800	0,0010996
% of RVNAS	4,25%	10,95%	2,71%	46,67%	52,36%

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	0,0049351	0,0004935	*((C16*i_AbsorpInuse*(1-d_ClothAF))+C18)*d_ConcAS*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Vapour	0,0107000	0,0010700	*d_AirCon*d_BreathRCh*d_BwChild*	
Surface deposits				
Dermal	0,0012177	0,0001218	*(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))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	0,0006356	0,0000636	*(i_AppRate/100)*C29*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	0,0003345	0,0000335	*(i_AppRate/100)*C29*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**0,0176408**	**0,0017641**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_Turf*d_MAF*d_SalExt *d_AreaHM*d_ReFreqHM*d_ReExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,0053554**	**0,0000893**	*(C15*i_AbsorpInuse*(1- d_ClothAF))+C17)*d_ConcAS*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Vapour	**0,0138000**	**0,0002300**	*d_AirCon*d_BreathRAd*d_BwAdult*	
Surface deposits (dermal)	**0,0034188**	**0,0000570**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d _ReExpDur*i_AbsorpInuse*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**0,0588026**	**0,0009800**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

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	**0,0029070**	**0,0002907**	*((C20*i_AbsorpInuse*(1- d_ClothAF))+C22)*d_ConcAS*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Vapour	**0,0107000**	**0,0010700**	*d_AirCon*d_BreathRCh*d_BwChild*	
Surface deposits				
Dermal	**0,0008249**	**0,0000825**	*(i_AppRate/100)*C30*d_Turf*d_ReTCCh*d _ReExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0004306**	**0,0000431**	*(i_AppRate/100)*C30*d_Turf*d_SalExt*d_ AreaHM*d_ReFreqHM*d_ReExpDur*i_Abs orpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0002266**	**0,0000227**	*(i_AppRate/100)*C30*d_DRP*d_MouthGra ss*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops				

Dermal	**0,0140656**	**0,0014066**	*(d_TcEntryMeanCh*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse))*	
Hand to mouth			*(i_AppRate/100)*1*d_Turf*d_MAF*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*iAbsorpOralInuse*	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_AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,0029744**	**0,0000496**	*"(C19*i_AbsorpInuse*(1-d_ClothAF))+C21)*d_ConcAS"*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Vapour	**0,0138000**	**0,0002300**	*d_AirCon*d_BreathRAd*d_BwAdult*	
Surface deposits (dermal)	**0,0023161**	**0,0000386**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**0,0468853**	**0,0007814**	*(d_TcEntryMeanAd*0.25*d_DFR*d_MAF)/1000*MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Bystander exposure for Basta 200

Croptype	Pome fruit		
Application method	Downward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Application rate of the product	1,275	kg a.s./ha	*i_AppRate*
Buffer strip	10	m	*i_Buffer*
Concentration of active substance (in-use dilution for liquid applications)	8,5	g a.s./l	*d_ConcAS*
Dermal absorption of product	0,30%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	0,70%		*i_AbsorpInuse*
Oral absorption	10,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	3,825	µg a.s./cm^2	*d_DFR*
Vapour pressure of in-use dilution	low volatile substances having a vapour pressure of <5*10-3Pa	Pa	*i_Volat*
Concentration in air	0,001	mg/m^3	*d_AirCon*
Bystander dermal spray drift exposure - adult	0,47594	ml spray dilution/person	
Bystander dermal spray drift exposure - child	0,38739	ml spray dilution/person	
Bystander inhal. spray drift exposure - adult	0,00051	ml spray dilution/person	
Bystander inhal. spray drift exposure - child	0,00076	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/kg bw/day	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/kg bw/day	*d_BreathRCh*
Drift percentage on surface (90th percentile)	11,81%		
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)	0,0126804	0,0107000	0,0054146	0,0176408
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0012680	0,0010700	0,0005415	0,0017641
% of RVAAS	6,04%	5,10%	2,58%	8,40%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops
Total systemic exposure (mg a.s./day)	0,0137781	0,0138000	0,0089508	0,0588026
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0002296	0,0002300	0,0001492	0,0009800
% of RVAAS	1,09%	1,10%	0,71%	4,67%

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	**0,0126804**	**0,0012680**	*((C16*i_AbsorpInuse*(1-d_ClothAF))+C18)*d_ConcAS")*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Vapour	**0,0107000**	**0,0010700**	*d_AirCon*d_BreathRCh*d_BwChild*	
Surface deposits				
Dermal	**0,0032099**	**0,0003210**	*(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)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0017637**	**0,0001764**	*(i_AppRate/100)*C25*d_Turf*d_SalExt*d_AreaHM*d_ByFreqHM*d_ByExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0004409**	**0,0000441**	*(i_AppRate/100)*C25*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**0,0176408**	**0,0017641**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_MAF*d_Turf*d_SalExt *d_AreaHM*d_ByFreqHM*d_ByExpDur*i_ AbsorpOralInuse*	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_ AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,0137781**	**0,0002296**	*((C15*i_AbsorpInuse*(1- d_ClothAF)t)+C17)*d_ConcAS*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Vapour	**0,0138000**	**0,0002300**	*d_AirCon*d_BreathRAd*d_BwAdult*	
Surface deposits (dermal)	**0,0089508**	**0,0001492**	*(i_AppRate/100)*C24*d_Turf*d_ByTCAd*d _ByExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**0,0588026**	**0,0009800**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Recreational exposure for Basta 200

Croptype	Golf course, turf or other sports lawns	This sheet is only to be used for treatment of grassland used for recreational purpo	
Application method	Downward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Application rate of the product	1,275	kg a.s./ha	*i_AppRate*
Dermal absorption of product	0,30%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	0,70%		*i_AbsorpInuse*
Oral absorption	10,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	3,825	µg a.s./cm^2	*d_DFR*
Exposure duration dermal	2	hours	*d_ReExpDur*
Light clothing adjustment factor Adult resident	18,0%		*d_ClothAF*
Drift percentage on surface	100,00%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
Ingestion rate for mouthing of grass per day	25	cm^2	*d_MouthGrass*

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	0,0271799	0,0027180	*(i_AppRate/100)*C13*d_Turf*d_ReTCCh*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF)*	
Hand to mouth	0,0141873	0,0014187	*(i_AppRate/100)*C13*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	
Object to mouth	0,0074670	0,0007467	*(i_AppRate/100)*C13*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	
Total systemic exposure	0,0488342	0,0048834		
% of RVNAS				

Adult				
Surface deposits (dermal)	**0,0763127**	**0,0012719**	*(i_AppRate/100)*C13*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*	
% of RVNAS				

d_AirConVol	Concentration in air of moderately volatile substances	0,015	mg/m^3
d_AirConNonVol	Concentration in air of low volatile substances	0,001	mg/m^3
d_AreaHM	Surface area of hands mouthed	20	cm^2
d_AreaTreated	Area treated (defined by crop type)	10	ha
d_BreathRAd	Breathing rate adult residents	0,23	m^3/day/kg
d_BreathRCh	Breathing rate child (1-3 year old) residents	1,07	m^3/day/kg
d_BwAdult	Adult body weight	60	kg
d_BwChild	Child body weight (1 to < 3 year olds)	10	kg
d_ByBreathRAd	Breathing rate adult bystander	0,04	m^3/hours/kg
d_ByBreathRCh	Breathing rate child (1-3 year old) bystander	0,19	m^3/hours/kg
d_ByExpDur	Exposure duration intense activity breathing rates	2	hours
d_ByFreqHM	Frequency of hand to mouth activity	20	events/hour
d_ByTCAd	Transfer coeff. of surface deposits-adult	14500	cm^2/hour
d_ByTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	5200	cm^2/hour
d_ClothAF	Light clothing adjustment factor resident and bystanders	18,0%	
d_ConcAs	Concentration of active substance (in-use dilution for liquid applications)	8,5	g a.s./l
d_DFR	Dislodgeable foliar residue (i_AppRate*i_DFR)	3,825	µg a.s./cm^2
d_DRP	Dislodgeable residues percentage transferability for object to mouth	20,0%	
d_HalflifeAS	Half-life of active substance (DT50)	11	days
d_InhalTcAut	Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)
d_InhalTcCut	Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)
d_InhalTcSort	Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)
d_MAF	Multiple application factor	1,17	
d_MouthGrass	Ingestion rate for mouthing of grass per day	25	cm^2 grass/day
d_ReExpDur	Exposure duration resident dermal	2	hours
d_ReExpDurInhal	Exposure duration resident inhalation	24	hours
d_ExpDurTreatCrop	Exposure duration for resident and bystander entry into treated crops	0,25	hours
d_ReFreqHM	Frequency of hand to mouth activity	9,5	events/hour
d_ReTCAd	Transfer coeff. of surface deposits-adult	7300	cm^2/hour
d_ReTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour
d_SalExt	Saliva extraction percentage	50,0%	
d_TcEntryAd	Transfer coefficient for entry into treated crops 75th percentile - adult	7500	cm^2/h
d_TcEntryCh	Transfer coefficient for entry into treated crops 75th percentile - child	2250	cm^2/h
d_TcEntryMeanAd	Transfer coefficient for entry into treated crops mean - adult	5980	cm^2/h
d_TcEntryMeanCh	Transfer coefficient for entry into treated crops mean - child	1794	cm^2/h
d_Turf	Turf transferable residues percentage	5,0%	
d_PctExtrapolation	For exposure value 75 percentiles above this amount linear extrapolation is performed	1,5	kg
d_head75Protection	Cooefficient to estimate head protection factor 75 th Percentile	1,79422	
d_head95Protection	Cooefficient to estimate head protection factor 95 Percentile	1,24705	
sys_KeyOperator	Variables for operator exposure lookup key	_AppMeth&i_AppEquip&	
sys_OperatorModel	Operator model	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 powderChemical resistant gloves	0,05
Granules, fine granulesChemical resistant gloves	0,05
Wettable granules, soluble granulesChemical resistant gloves	0,05
Soluble concentrates, emulsifiable concentrate, etc.Chemical	0,1
Wettable powder, soluble powderNone	1
Granules, fine granulesNone	1
Wettable granules, soluble granulesNone	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 for	750	Field crops	50
Brassica vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Bulb vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Cane fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Field crops	10
Cereals	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50
Citrus fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Fruiting vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Grapes	10100	30000	Hand harvesting	8	Hand and bo	no TC available f	Grapes	10
Grassland and lawns	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50
Golf course, turf or other sports lawns	2500	5800	Maintenance	8	Hand and bo	580	Field crops	50
Hops	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Hops	10
Leaf vegetables and fresh herbs	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Legume vegetables	2500	5800	Reaching, picking	8	Hand and bo	580	Field crops	50
Oilfruits	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Oilseeds	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available f	Field crops	50

Ornamentals	5000	14000	Cutting, sorting, bundling, carrying	8	Hand and bo	1400	Field crops	10
Pome fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Root and tuber vegetables	1400	12500	Inspection, irrigation	2	Hand and bo	no TC available	Field crops	50
Stone fruit	4500	22500	Searching, reaching, picking	8	Hand and bo	2250	Fruit crops	10
Tree nuts	4500	22500	Searching, reaching, picking	8	Hand and bo	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 pe	**Ground sediments in % of the application rate calculated on the basis of percentile values (drift data acc. Rautmann)**		
key_ByCropType, ay_ByCropType			
key_ByCropType	**Bystander surface de**	**Resident surface 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
Match MixLoad	**Outdoor/Ir**	**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 granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
IndoorGranules, fine granules	Applicat	Indoor Granules, fine granules	Application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	Broadc	Outdoor Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use of	PHED	0,0047	0,0151	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use of	PHED	0,0004	0,0013	Exposure value ori	PHED
OutdoorGranules, fine granules	In furr	Outdoor Granules, fine granules	In furrow application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value ori	PHED
OutdoorGranules, fine granules	Manua	Outdoor Granules, fine granules	Manual application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Match AOEM	Outdoor/I	Formulation type	Application method	Application equipment	Type of exposure	ML 75th Intercept	ML 75th Applied Amount Factor	ML 75th Senario Factor	ML 75th Percentile AOEM	ML 95th Intercept	ML 95th Applied Amount Factor	ML 95th Senario Factor	ML 95th Percentile AOEM	Application 75th Intercept	Application 75th Applied Amount Factor	Application 75th Senario Factor	Application 75th Percentile AOEM	Application 95th Intercept	Application 95th Applied Amount Factor	Application 95th Senario Factor	Application 95th Percentile AOEM
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65					88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29						88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29			6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25					88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,00	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45					1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78						1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78			4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15					1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50					12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00						12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00			3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35					12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96					26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02						26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02			2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28					26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.L	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.[	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37					8903,00				62630,00

OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00						8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00			4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50					8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,00		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80					5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00						5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00			2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81					5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00			2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00	0,00		2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward spray	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingV	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	

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 conjuction with the **Guidance on the Assessment of Exposure for Operators, Workers, Residents and Bystanders in Risk Assessment for Plant Protection Products**

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Modifications: AOEM values for 95th percentile Operator mixing/loading head exposure corrected, resident and bystander exposure for manual applications included in summary, Cell B78 in Resident exposure worksheet corrected to C22 (previously DC22)

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

Substance name	Mancozeb	
Product name	HF Mancozeb DG	
Reference value non acutely toxic active substance (RVNAS)	0,035	mg/kg bw/day
Reference value acutely toxic active substance (RVAAS)	0,6	mg/kg bw/day
Crop type	Pome fruit	
Substance properties		
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.	
Miniumum volume water for application (liquids)	200	L/ha
Maximum application rate of active substance	2	kg a.s. /ha
50% Dissipation Time DT50	1	days
Initial Dislodgeable Foliar Residue	3	µg/cm2 of foliage/kg a.s. applied/ha
Dermal absorption of product	0,11%	
Dermal absorption of in-use dilution	0,11%	
Oral absorption of active substance	100,00%	
Inhalation absorption of active substance	100,00%	
Vapour pressure of active substance	moderately volatile substances with a vapour pressure between 5*10-3Pa and 10-2Pa	
Scenario		
Indoor or Outdoor application	Outdoor	
Application method	Upward spraying	
Application equipment	Vehicle-mounted-Drift Reduction	
Buffer strip	10	m
Number of applications	4	
Interval between multiple applications	10	days
Season (upward spraying orchards only)	late (dense foliage)	

Exposure assessment

Substance	Mancozeb	Formulation = Soluble concentrates, emulsifiable concentrate, etc.	Application rate-2 kg a.s. /ha	Spray dilution = 10 g a.s./l	Vapour pressure = moderately volatile substances with a vapour pressure between 5*10-
Scenario	Pome fruit late (dense foliage) / Outdoor / Upward spraying / Vehicle-mounted-Drift Reduction			Buffer = 10	Number applications = 4, Application interval = 10 days
Percentage Absoprtion	Dermal for product = 0,11	Dermal for in use diluation = 0,11	Oral = 100	Inhalation = 100	
RVNAS	0,035 mg/kg bw/day		RVAAS	0,6 mg/kg bw/day	
DFR	3 µg a.s./cm2 per kg a.s./ha		DT50	1 days	

Operator Model		Mixing, loading and application AOEM			
Potential exposure	Longer term systemic exposure mg/kg bw/day		0,0117	% of RVNAS	33,42%
	Acute systemic exposure mg/kg bw/day		0,0426	% of RVAAS	7,11%
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		0,0080	% of RVNAS	22,74%
	Acute systemic exposure mg/kg bw/day		0,0366	% of RVAAS	6,09%

Worker - Searching, reaching, picking	Potential exposure mg/kg bw/day	0,0198	% of RVNAS	56,63%
	Working clothing mg/kg bw/day	0,0040	% of RVNAS	11,33%
	Working clothing and gloves mg/kg bw/day	0,0020	% of RVNAS	5,66%

Resident - child	Spray drift (75th percentile) mg/kg bw/day	0,0016	% of RVNAS	4,52%
	Vapour (75th percentile) mg/kg bw/day	0,0161	% of RVNAS	45,86%
	Surface deposits (75th percentile) mg/kg bw/day	0,0004	% of RVNAS	1,13%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,0004	% of RVNAS	1,06%
	All pathways (mean) mg/kg bw/day	0,0177	% of RVNAS	50,71%
Resident - adult	Spray drift (75th percentile) mg/kg bw/day	0,0006	% of RVNAS	1,71%
	Vapour (75th percentile) mg/kg bw/day	0,0035	% of RVNAS	9,86%
	Surface deposits (75th percentile) mg/kg bw/day	0,0000	% of RVNAS	0,01%
	Entry into treated crops (75th percentile) mg/kg bw/day	0,0002	% of RVNAS	0,59%
	All pathways (mean) mg/kg bw/day	0,0040	% of RVNAS	11,53%

Bystander - child	Spray drift (95th percentile) mg/kg bw/day	0,0035	% of RVAAS	0,58%
	Vapour (95th percentile) mg/kg bw/day	0,0161	% of RVAAS	2,68%
	Surface deposits (95th percentile) mg/kg bw/day	0,0009	% of RVAAS	0,15%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,0004	% of RVAAS	0,06%
Bystander - adult	Spray drift (95th percentile) mg/kg bw/day	0,0013	% of RVAAS	0,22%
	Vapour (95th percentile) mg/kg bw/day	0,0035	% of RVAAS	0,58%
	Surface deposits (95th percentile) mg/kg bw/day	0,0000	% of RVAAS	0,00%
	Entry into treated crops (95th percentile) mg/kg bw/day	0,0002	% of RVAAS	0,03%

Recreational Exposure	Child % of RVNAS	Adult % of RVNAS

Exposure assessment

Latest version: 30 Mar 2015 - Version produced to support guidance document published 23/10/2014

Operator exposure for HF Mancozeb DG outdoor spray applications

Application rate of active substance	2	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	20	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	0,11%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	0,11%		*i_AbsorInuse*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Indoor or Outdoor application	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Season	late (dense foliage)		

OutdoorSoluble concentrates, emulsifiable concentrate, etc.Upward sprayingVehicle-mounted-Drift Reduction

Mixing and loading

Exposure values	µg exposure/day mixed and loaded		Reference	Comment
	75th centile	95th centile		
Hands	48745	183394	AOEM	
Body	29300	171973	AOEM	
Head	1038	5691	AOEM	
Protected hands (gloves)	242	3961	AOEM	
Protected body (workwear or protective garment and sturdy footwear)	338	2925	AOEM	
Protected head (hood and face shield)	17	322	AOEM	
Inhalation	9	31	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	

Application

Exposure values	µg exposure/day applied		Reference	Comment
	75th centile	95th centile		
Hands	35950	124735	AOEM	No data available for a drift reduction scenario
Body	176234	167074	AOEM	
Head	23160	142144	AOEM	
Protected hands (gloves)	704	18389	AOEM	
Protected body (workwear or protective garment and sturdy footwear)	1360	4494	AOEM	
Inhalation	347	1653	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
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)	0,7017433	0,4775242	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	0,0116957	0,0079587	
% of RVNAS	33,42%	22,74%	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	2,5587986	2,1940077	

Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	0,0426466	0,0365668	
% of RVAAS	7,11%	6,09%	

2. Longer term exposure

2.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	53,6197280	0,8936621	*D15*i_AbsorpProduct*
Body	32,2296582	0,5371610	*D16*i_AbsorpProduct*
Head	1,1414389	0,0190240	*D17*i_AbsorpProduct*
Inhalation	9,0278956	0,1504649	*D21*i_AbsorpInhalation*
Sum	96,0187207	1,6003120	
With RPE/PPE (as selected above)			
Hands	53,6197280	0,8936621	*D18*i_AbsorpProduct*
Body	0,3720289	0,0062005	*D19*i_AbsorpProduct or D15*i_AbsorpProduct*F24*
Head	1,1414389	0,0190240	*D20*i_AbsorpProduct or D17*i_AbsorpProduct*F25*
Inhalation	9,0278956	0,1504649	*D21*i_AbsorpInhalation*G25*
Sum	64,1610914	1,0693515	
Water soluble	64,1610914	1,0693515	*C70*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	39,5445879	0,6590765	*D30*i_AbsorpInuse*
Body	193,8575326	3,2309589	*D31*i_AbsorpInuse*
Head	25,4760845	0,4246014	*D32*i_AbsorpInuse*
Inhalation	346,8463288	5,7807721	*D35*i_AbsorpInhalation*
Sum	605,7245338	10,0954089	
With RPE/PPE (as selected above)			
Hands	39,5445879	0,6590765	*D33*i_AbsorpInuse*
Body	1,4961071	0,0249351	*D34*i_AbsorpInuse or D31*i_AbsorpInuse*F38*
Head	25,4760845	0,4246014	*D32*i_AbsorpInuse*F39*
Inhalation	346,8463288	5,7807721	*D35*i_AbsorpInuse*G39*
Sum	413,3631083	6,8893851	

3. Acute exposure

3.1 Mixing and loading

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	201,7338076	3,3622301	*E15*i_AbsorpProduct*
Body	189,1698962	3,1528316	*E16*i_AbsorpProduct*
Head	6,2602645	0,1043377	*E17*i_AbsorpProduct*
Inhalation	30,8388491	0,5139808	*E21*i_AbsorpInhalation*
Sum	428,0028174	7,1333803	
With RPE/PPE (as selected above)			
Hands	201,7338076	3,3622301	*E18*i_AbsorpProduct*
Body	3,2175306	0,0536255	*E19*i_AbsorpProduct or E16*i_AbsorpProduct*F24*
Head	6,2602645	0,1043377	*E20*i_AbsorpProduct or E17*i_AbsorpProduct*F25*
Inhalation	30,8388491	0,5139808	*E21*i_AbsorpInhalation*G25*
Sum	242,0504517	4,0341742	
Water soluble	242,0504517	4,0341742	*C104*F26*

2.2 Application

	Systemic exposure [µg a.s. /day]	Systemic exposure [µg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	137,2090258	2,2868171	*E30*i_AbsorpInuse*
Body	183,7818762	3,0630313	*E31*i_AbsorpInuse*
Head	156,3589268	2,6059821	*E32*i_AbsorpInuse*
Inhalation	1653,4459232	27,5574321	*E35*i_AbsorpInhalation*
Sum	2130,7957520	35,5132625	
With RPE/PPE (as selected above)			
Hands	137,2090258	2,2868171	*E33*i_AbsorpInuse*
Body	4,9433650	0,0823894	*E34*i_AbsorpInuse or E31*i_AbsorpInuse*F38*
Head	156,3589268	2,6059821	*E32*i_AbsorpInuse*F39*
Inhalation	1653,4459232	27,5574321	*E35*i_AbsorpInhalation*G39*
Sum	1951,9572408	32,5326207	

Operator exposure for HF Mancozeb DG granular applications

Application rate of active substance	2	kg a.s./ha	*i_AppRate*
Assumed area treated	10	ha/day	*d_AreaTreated*
Amount of active substance applied	20	kg a.s./day	*i_AmoutAS*
Dermal absorption of the product	0,11%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	0,11%		*i_AbsorInuse*
Formulation type	luble concentrates, emulsifiable concentrate, e		
Indoor or Outdoor application	Outdoor	This sheet is only to be used for granular applications	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		

Mixing and loading

Exposure values	mg exposure/kg a.s. mixed and loaded		Reference	Comment
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B
Body	#N/B	#N/B	#N/B	#N/B
Inhalation	#N/B	#N/B	#N/B	#N/B
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	

Application

Exposure values	mg exposure/kg a.s. applied		Reference	Comment
	75th centile	95th centile		
Hands	#N/B	#N/B	#N/B	#N/B
Body	#N/B	#N/B	#N/B	#N/B
Inhalation	#N/B	#N/B	#N/B	#N/B
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/B	#N/B	
Total systemic exposure from mixing, loading and application per kg body weight (mg/kg bw/day)	#N/B	#N/B	
% of RVNAS	#N/B	#N/B	
Acute			
Total systemic exposure from mixing, loading and application (mg a.s./day)	#N/B	#N/B	

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

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			
Hands	#N/B	#N/B	*D14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D14*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*D15*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*D16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

2.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*D25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*D25*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*D26*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*D27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

3. Acute exposure
3.1 Mixing and loading

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E14*100*i_AmoutAS*i_AbsorpProduct*
Body	#N/B	#N/B	*E15*100*i_AmoutAS*i_AbsorpProduct*
Inhalation	#N/B	#N/B	*E16*i_AmoutAS*i_AbsorpInhalation*F20*
Sum	#N/B	#N/B	

3.2
Application

	Systemic exposure [mg a.s. /day]	Systemic exposure [mg a.s./kg bw/day]	Formula
Without RPE/PPE			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E26*i_AmoutAS*i_AbsorpInhalation*
Sum	#N/B	#N/B	
With RPE/PPE (as selected above)			
Hands	#N/B	#N/B	*E25*100*i_AmoutAS*i_AbsorpInuse*
Body	#N/B	#N/B	*E26*100*i_AmoutAS*i_AbsorpInuse*
Inhalation	#N/B	#N/B	*E27*i_AmoutAS*i_AbsorpInhalation*F31*
Sum	#N/B	#N/B	

Worker exposure from residues on foliage for HF Mancozeb DG

Crop type	Pome fruit		
Indoor or outdoor	Outdoor		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		
Worker's task	Searching, reaching, picking		
Main body parts in contact with foliage	Hand and body		
Application rate of active substance	2	kg a.s./ha	*i_AppRate*
Number of applications	4		*i_AppNo*
Interval between multiple applications	10	days	*i_AppInt*
Half-life of active substance	1	days	*d_HalflifeAS*
Multiple application factor	1,0		*d_MAF*
Dermal absorption of the product	0,11%		*i_AbsorpProduct*
Dermal absorption of the in-use dilution	0,11%		*i_AbsorpInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	6	µg a.s./cm^2	*d_DFR*
Working hours	8	hr	*d_WorkHr*
Dermal transfer coefficient - Total potential exposure	22500	cm^2/hr	*d_DermTcUCV*
Dermal transfer coefficient - arms, body and legs covered	4500	cm^2/hr	*d_DermTcCV1*
Dermal transfer coefficient - hands, arms, body and legs covered	2250	cm^2/hr	*d_DermTcCV2*
Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)	*d_InhalTcAut*
Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcCut*
Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)	*d_InhalTcSort*

1. Total

	Potential exposure	Work wear - arms, body and legs covered	Working wear and gloves	Comments
Total systemic exposure (mg a.s./day)	1,1891613	0,2378323	0,1189161	
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0198194	0,0039639	0,0019819	
% of RVNAS	56,63%	11,33%	5,66%	

2. Details

	Systemic exposure [mg a.s. /day]	[mg a.s./kg bw/day]	Formula	Comments

Dermal - Potential	**1,1891613**	**0,0198194**	*d_DermTcUCV*d_WorkHr*i_DFR*i_MAF/1000*i_AbsorpInuse*	
Dermal - Work wear - arms, body and legs covered	**0,2378323**	**0,0039639**	*d_DermTcCV1*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Dermal - Working wear and gloves	**0,1189161**	**0,0019819**	*d_DermTcCV2*d_WorkHr*d_DFR*d_MAF/1000*i_AbsorpInuse*	
Inhalation				Na for outdoor activities

Resident exposure for HF Mancozeb DG

Croptype	Pome fruit		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Buffer strip	10	m	*i_Buffer*
Application rate of the product	2	kg a.s./ha	*i_AppRate*
Concentration of active substance (in-use dilution for liquid applications)	10	g a.s./l	*d_ConcAS*
Dermal absorption of product	0,11%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	0,11%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	6	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*
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	*d_ReExpDur*
Exposure duration inhalation	24	hours	*d_ReExpDurInhal*
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/day/kg	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/day/kg	*d_BreathRCh*
Drift percentage on surface (75th percentile)	2,67%		
Drift percentage on surface (mean)	1,60%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
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 (75th percentile) - adult	**7500**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (75th percentile) - child	**2250**	cm^2/h	*d_TcEntryCh*
Transfer coefficient for entry into treated crops (mean) - adult	**5980**	cm^2/h	*d_TcEntryAd*
Transfer coefficient for entry into treated crops (mean) - child	**1794**	cm^2/h	*d_TcEntryCh*

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)	0,0158348	0,1605000	0,0039517	0,0037161	0,1774893
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0015835	0,0160500	0,0003952	0,0003716	0,0177489
% of RVNAS	4,52%	45,86%	1,13%	1,06%	50,71%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops	All pathways (mean)
Total systemic exposure (mg a.s./day)	0,0358913	0,2070000	0,0002146	0,0123871	0,2421021
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0005982	0,0034500	0,0000036	0,0002065	0,0040350
% of RVNAS	1,71%	9,86%	0,01%	0,59%	11,53%

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	0,0158348	0,0015835	*((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	0,1605000	0,0160500	*d_AirCon*d_BreathRCh*d_BwChild*	
Surface deposits				
Dermal	0,0000764	0,0000076	*(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))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	0,0025390	0,0002539	*(i_AppRate/100)*C29*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	0,0013363	0,0001336	*(i_AppRate/100)*C29*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**0,0037161**	**0,0003716**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_Turf*d_MAF*d_SalExt *d_AreaHM*d_ReFreqHM*d_ReExpDur*i_ AbsorpOralInuse*	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 _AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,0358913**	**0,0005982**	*(C15*i_AbsorpInuse*(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)	**0,0002146**	**0,0000036**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d _ReExpDur*i_AbsorpProduct*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**0,0123871**	**0,0002065**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000* MAX(i_AbsorpProduct,i_AbsorpInuse)*	

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	**0,0116583**	**0,0011658**	*((C20*i_AbsorpInuse*(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	**0,0000458**	**0,0000046**	*(i_AppRate/100)*C30*d_Turf*d_ReTCCh*d _ReExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip = "Vehicle-mounted-Drift Reduction",0.5,1))*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0015215**	**0,0001521**	*(i_AppRate/100)*C30*d_Turf*d_SalExt*d_ AreaHM*d_ReFreqHM*d_ReExpDur*i_Abs orpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0008008**	**0,0000801**	*(i_AppRate/100)*C30*d_DRP*d_MouthGr ass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops				

Dermal	**0,0029630**	**0,0002963**	*(d_TcEntryMeanCh*0.25*d_DFR*d_MAF)/ 1000*MAX(i_AbsorpProduct,i_AbsorpInuse))*	
Hand to mouth			*(i_AppRate/100)*1*d_Turf*d_MAF*d_SalE xt*d_AreaHM*d_ReFreqHM*d_ReExpDur* i_AbsorpOralInuse*	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_AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,0250968**	**0,0004183**	*"(C19*i_AbsorpInuse*(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)	**0,0001286**	**0,0000021**	*(i_AppRate/100)*C30*d_Turf*d_ReTCAd*d _ReExpDur*MAX(i_AbsorpProduct,i_Absor pInuse)*d_MAF*IF(i_AppEquip = "Vehicle- mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**0,0098766**	**0,0001646**	*(d_TcEntryMeanAd*0.25*d_DFR*d_MAF)/ 1000*MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Bystander exposure for HF Mancozeb DG

Croptype	Pome fruit		
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		
Application rate of the product	2	kg a.s./ha	*i_AppRate*
Buffer strip	10	m	*i_Buffer*
Concentration of active substance (in-use dilution for liquid applications)	10	g a.s./l	*d_ConcAS*
Dermal absorption of product	0,11%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	0,11%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	6	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/kg bw/day	*d_BreathRAd*
Breathing rate child (1-3 year old)	1,07	m^3/kg bw/day	*d_BreathRCh*
Drift percentage on surface (90th percentile)	3,60%		
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)	0,0348704	0,1605000	0,0092149	0,0037161
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0034870	0,0160500	0,0009215	0,0003716
% of RVAAS	0,58%	2,68%	0,15%	0,06%

1.2 Adult

	Spray drift	Vapour	Surface deposits	Entry into treated crops
Total systemic exposure (mg a.s./day)	0,0801790	0,2070000	0,0005748	0,0123871
Total systemic exposure per kg body weight (mg/kg bw/day)	0,0013363	0,0034500	0,0000096	0,0002065
% of RVAAS	0,22%	0,58%	0,00%	0,03%

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	**0,0348704**	**0,0034870**	*((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	**0,1605000**	**0,0160500**	*d_AirCon*d_BreathRCh*d_BwChild*	
Surface deposits				
Dermal	**0,0002061**	**0,0000206**	*(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)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Hand to mouth	**0,0072070**	**0,0007207**	*(i_AppRate/100)*C25*d_Turf*d_SalExt*d_AreaHM*d_ByFreqHM*d_ByExpDur*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Object to mouth	**0,0018018**	**0,0001802**	*(i_AppRate/100)*C25*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	Since drift reducing nozzles are selected a 50% reduction factor has been applied

Entry into treated crops				
Dermal	**0,0037161**	**0,0003716**	*(d_TcEntryCh*0.25*d_DFR*d_MAF)/1000 *MAX(i_AbsorpProduct,i_AbsorpInuse)*	
Hand to mouth			*(i_AppRate/100)*d_MAF*d_Turf*d_SalExt *d_AreaHM*d_ByFreqHM*d_ByExpDur*i_ AbsorpOralInuse*	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 _AbsorpOralInuse*d_MAF*	Considered only for application on grassland and lawns and for application on golf course, turf or other sports lawns.
Adult				
Spray drift	**0,0801790**	**0,0013363**	*((C15*i_AbsorpInuse*(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	**0,2070000**	**0,0034500**	*d_AirCon*d_BreathRAd*d_BwAdult*	
Surface deposits (dermal)	**0,0005748**	**0,0000096**	*(i_AppRate/100)*C24*d_Turf*d_ByTCAd* *d_ByExpDur*MAX(i_AbsorpProduct,i_Absorp Inuse)*d_MAF*IF(i_AppEquip="Vehicle-mounted-Drift Reduction",0.5,1)*	Since drift reducing nozzles are selected a 50% reduction factor has been applied
Entry into treated crops (dermal)	**0,0123871**	**0,0002065**	*(d_TcEntryAd*0.25*d_DFR*d_MAF)/1000 *MAX(i_AbsorpProduct,i_AbsorpInuse)*	

Recreational exposure for HF Mancozeb DG

Croptype	Golf course, turf or other sports lawns	This sheet is only to be used for treatment of grassland used for recreational purpo	
Application method	Upward spraying		
Application equipment	Vehicle-mounted-Drift Reduction		*i_AppEquip*
Formulation type	Soluble concentrates, emulsifiable concentrate, etc.		*i_FormVal*
Application rate of the product	2	kg a.s./ha	*i_AppRate*
Dermal absorption of product	0,11%		*i_AbsorpProduct*
Dermal absorption of in-use dilution	0,11%		*i_AbsorpInuse*
Oral absorption	100,00%		*i_AbsorpOralInuse*
Dislodgeable foliar residue (i_AppRate*i_DFR)	6	µg a.s./cm^2	*d_DFR*
Exposure duration dermal	2	hours	*d_ReExpDur*
Light clothing adjustment factor Adult resident	18,0%		*d_ClothAF*
Drift percentage on surface	100,00%		
Turf transferable residues percentage	5,00%		*d_Turf*
Transfer coeff. of surface deposits-adult	7300	cm^2/hour	*d_ReTCAd*
Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour	*d_ReTCCh*
Saliva extraction percentage	50,00%		*d_SalExt*
Surface area of hands mouthed	20	cm^2	*d_AreaHM*
Frequency of hand to mouth activity	9,5	events/hour	*d_ReFreqHM*
Ingestion rate for mouthing of grass per day	25	cm^2	*d_MouthGrass*

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	0,0057256	0,0005726	*(i_AppRate/100)*C13*d_Turf*d_ReTCCh*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF)*	
Hand to mouth	0,1901857	0,0190186	*(i_AppRate/100)*C13*d_Turf*d_SalExt*d_AreaHM*d_ReFreqHM*d_ReExpDur*i_AbsorpOralInuse*d_MAF*	
Object to mouth	0,1000978	0,0100098	*(i_AppRate/100)*C13*d_DRP*d_MouthGrass*i_AbsorpOralInuse*d_MAF*	
Total systemic exposure	0,2960091	0,0296009		

% of RVNAS				
Adult				
Surface deposits (dermal)	**0,0160757**	**0,0002679**	*(i_AppRate/100)*C13*d_Turf*d_ReTCAd*d_ReExpDur*MAX(i_AbsorpProduct,i_AbsorpInuse)*d_MAF*	
% of RVNAS				

d_AirConVol	Concentration in air of moderately volatile substances	0,015	mg/m^3
d_AirConNonVol	Concentration in air of low volatile substances	0,001	mg/m^3
d_AreaHM	Surface area of hands mouthed	20	cm^2
d_AreaTreated	Area treated (defined by crop type)	10	ha
d_BreathRAd	Breathing rate adult residents	0,23	m^3/day/kg
d_BreathRCh	Breathing rate child (1-3 year old) residents	1,07	m^3/day/kg
d_BwAdult	Adult body weight	60	kg
d_BwChild	Child body weight (1 to < 3 year olds)	10	kg
d_ByBreathRAd	Breathing rate adult bystander	0,04	m^3/hours/kg
d_ByBreathRCh	Breathing rate child (1-3 year old) bystander	0,19	m^3/hours/kg
d_ByExpDur	Exposure duration intense activity breathing rates	2	hours
d_ByFreqHM	Frequency of hand to mouth activity	20	events/hour
d_ByTCAd	Transfer coeff. of surface deposits-adult	14500	cm^2/hour
d_ByTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	5200	cm^2/hour
d_ClothAF	Light clothing adjustment factor resident and bystanders	18,0%	
d_ConcAs	Concentration of active substance (in-use dilution for liquid applications)	10	g a.s./l
d_DFR	Dislodgeable foliar residue (i_AppRate*i_DFR)	6	µg a.s./cm^2
d_DRP	Dislodgeable residues percentage transferability for object to mouth	20,0%	
d_HalflifeAS	Half-life of active substance (DT50)	1	days
d_InhalTcAut	Inhalation transfer coefficient for automated applications	NA	ha/hr*10^(-3)
d_InhalTcCut	Inhalation transfer coefficient for cutting ornamentals	NA	ha/hr*10^(-3)
d_InhalTcSort	Inhalation transfer coefficient for sorting / bundling ornamentals	NA	ha/hr*10^(-3)
d_MAF	Multiple application factor	1,00	
d_MouthGrass	Ingestion rate for mouthing of grass per day	25	cm^2 grass/day
d_ReExpDur	Exposure duration resident dermal	2	hours
d_ReExpDurInhal	Exposure duration resident inhalation	24	hours
d_ExpDurTreatCrop	Exposure duration for resident and bystander entry into treated crops	0,25	hours
d_ReFreqHM	Frequency of hand to mouth activity	9,5	events/hour
d_ReTCAd	Transfer coeff. of surface deposits-adult	7300	cm^2/hour
d_ReTCCh	Transfer coeff. of surface deposits-child (1-3 year old)	2600	cm^2/hour
d_SalExt	Saliva extraction percentage	50,0%	
d_TcEntryAd	Transfer coefficient for entry into treated crops 75th percentile - adult	7500	cm^2/h
d_TcEntryCh	Transfer coefficient for entry into treated crops 75th percentile - child	2250	cm^2/h
d_TcEntryMeanAd	Transfer coefficient for entry into treated crops mean - adult	5980	cm^2/h
d_TcEntryMeanCh	Transfer coefficient for entry into treated crops mean - child	1794	cm^2/h
d_Turf	Turf transferable residues percentage	5,0%	
d_PctExtrapolation	For exposure value 75 percentiles above this amount linear extrapolation is performed	1,5	kg
d_head75ProtectionF	Cooefficient to estimate head protection factor 75 th Percentile	1,79422	
d_head95ProtectionF	Cooefficient to estimate head protection factor 95 Percentile	1,24705	
sys_KeyOperator	Variables for operator exposure lookup key	_AppMeth&i_AppEquip&	
sys_OperatorModel	Operator model	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 powderChemical resistant gloves	0,05
Granules, fine granulesChemical resistant gloves	0,05
Wettable granules, soluble granulesChemical resistant glove	0,05
Soluble concentrates, emulsifiable concentrate, etc.Chemica	0,1
Wettable powder, soluble powderNone	1
Granules, fine granulesNone	1
Wettable granules, soluble granulesNone	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 fo	750	Field crops	50
Brassica vegetables	2500	5800	Reaching, picking	8	Hand and bc	580	Field crops	50
Bulb vegetables	2500	5800	Reaching, picking	8	Hand and bc	580	Field crops	50
Cane fruit	4500	22500	Searching, reaching, picking	8	Hand and bc	2250	Field crops	10
Cereals	1400	12500	Inspection, irrigation	2	Hand and bc	no TC available	Field crops	50
Citrus fruit	4500	22500	Searching, reaching, picking	8	Hand and bc	2250	Fruit crops	10
Fruiting vegetables	2500	5800	Reaching, picking	8	Hand and bc	580	Field crops	50
Grapes	10100	30000	Hand harvesting	8	Hand and bc	no TC available	Grapes	10
Grassland and lawns	1400	12500	Inspection, irrigation	2	Hand and bc	no TC available	Field crops	50
Golf course, turf or other sports lawns	2500	5800	Maintenance	8	Hand and bc	580	Field crops	50
Hops	1400	12500	Inspection, irrigation	2	Hand and bc	no TC available	Hops	10
Leaf vegetables and fresh herbs	2500	5800	Reaching, picking	8	Hand and bc	580	Field crops	50
Legume vegetables	2500	5800	Reaching, picking	8	Hand and bc	580	Field crops	50
Oilfruits	4500	22500	Searching, reaching, picking	8	Hand and bc	2250	Fruit crops	10
Oilseeds	1400	12500	Inspection, irrigation	2	Hand and bc	no TC available	Field crops	50

Ornamentals	5000	14000	Cutting, sorting, bundling, carrying	8	Hand and bc	1400	Field crops	10
Pome fruit	4500	22500	Searching, reaching, picking	8	Hand and bc	2250	Fruit crops	10
Root and tuber vegetables	1400	12500	Inspection, irrigation	2	Hand and bc	no TC available	Field crops	50
Stone fruit	4500	22500	Searching, reaching, picking	8	Hand and bc	2250	Fruit crops	10
Tree nuts	4500	22500	Searching, reaching, picking	8	Hand and bc	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 p	**Ground sediments in % of the application rate calculated on the basis of percentile values (drift data acc. Rautmann)**		
key_ByCropType, ay_ByCropType			
key_ByCropType	**Bystander surface de**	**Resident surface 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
Match MixLoad	**Outdoor/In**	**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 granulesApplicat	Indoor	Granules, fine granules	Application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value or	PHED
IndoorGranules, fine granulesApplicat	Indoor	Granules, fine granules	Application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value or	PHED
IndoorGranules, fine granulesApplicat	Indoor	Granules, fine granules	Application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED
OutdoorGranules, fine granulesBroadc	Outdoor	Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use o	PHED	0,0047	0,0151	Exposure value or	PHED
OutdoorGranules, fine granulesBroadc	Outdoor	Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use o	PHED	0,0004	0,0013	Exposure value or	PHED
OutdoorGranules, fine granulesBroadc	Outdoor	Granules, fine granules	Broadcast application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granulesIn furr	Outdoor	Granules, fine granules	In furrow application of granules	Vehicle-mounted	Body	0,0162	0,0427	Exposure value originally included use o	PHED	0,0047	0,0151	Exposure value or	PHED
OutdoorGranules, fine granulesIn furr	Outdoor	Granules, fine granules	In furrow application of granules	Vehicle-mounted	Hands	0,0015	0,0069	Exposure value originally included use o	PHED	0,0004	0,0013	Exposure value or	PHED
OutdoorGranules, fine granulesIn furr	Outdoor	Granules, fine granules	In furrow application of granules	Vehicle-mounted	Inhalation	0,0208	0,0784		PHED	0,0012	0,0045		PHED
OutdoorGranules, fine granulesManu	Outdoor	Granules, fine granules	Manual application of granules	Manual	Body			Value for application is for combination of m	PHED	68,8708	253,4433	Exposure value or	PHED
OutdoorGranules, fine granulesManu	Outdoor	Granules, fine granules	Manual application of granules	Manual	Hands			Value for application is for combination of m	PHED	28,5320	94,3636	Exposure value or	PHED
OutdoorGranules, fine granulesManu	Outdoor	Granules, fine granules	Manual application of granules	Manual	Inhalation			Value for application is for combination of m	PHED	0,4677	1,5251		PHED

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
Match AOEM	Outdoor/In	Formulation type	Application method	Application equipment	Type of exposure	ML 75th Intercept	ML 75th Applied Amount Factor	ML 75th Senario Factor	ML 75th Percentile AOEM	ML 95th Intercept	ML 95th Applied Amount Factor	ML 95th Senario Factor	ML 95th Percentile AOEM	Application 75th Intercept	Application 75th Applied Amount Factor	Application 75th Senario Factor	Application 75th Percentile AOEM	Application 95th Intercept	Application 95th Applied Amount Factor	Application 95th Senario Factor	Application 95th Percentile AOEM
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65					88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Body	3,09	0,70	0,46		4,21	0,29	0,65		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29						88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Body	3,09	0,70			4,21	0,29			6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25					88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Body	3,09	0,70	1,83		4,21	0,29	1,25		6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Body				803,00				2787,00				88868,00				137007,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Body				803,00				2787,00	6,08	0,16	-1,29		6,34	0,01	-1,09	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	0,46		4,21	0,29	0,65		3,47	1,00	0,48		3,92	1,00	0,00	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70			4,21	0,29			3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		2,54	1,00	0,81		1,94	1,00	1,51	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Body	3,09	0,70	1,83		4,21	0,29	1,25		3,47	1,00	0,48		3,92	1,00	0,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45					1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Hands	3,12	0,77	0,57		3,80	0,78	0,45		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78						1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Hands	3,12	0,77			3,80	0,78			4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15					1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Hands	3,12	0,77	1,27		3,80	0,78	1,15		4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Hands				9495,00				25482,00				1544,00				4213,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Hands				9495,00				25482,00	4,26	0,84	-0,83		4,41	0,77	-0,47	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	0,57		3,80	0,78	0,45		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77			3,80	0,78			3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		2,84	1,00	0,37		2,96	0,73	0,61	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Hands	3,12	0,77	1,27		3,80	0,78	1,15		3,12	0,89	0,28		3,32	1,00	0,48	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50					12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Head	-0,98	1,00	0,90		0,70	1,00	0,50		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00						12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Head	-0,98	1,00			0,70	1,00			3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35					12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Head	-0,98	1,00	1,28		0,70	1,00	0,35		3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Head				5,00				11,00				12,00				85,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Head				5,00				11,00	3,27	0,32	-1,09		3,50	0,33	-0,59	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	0,90		0,70	1,00	0,50		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00			0,70	1,00			1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		0,24	1,00	0,88		1,16	1,00	1,03	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Head	-0,98	1,00	1,28		0,70	1,00	0,35		1,17	1,00	1,89		2,29	1,00	1,56	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96					26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02						26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30			2,41	0,02			2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28					26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Hand held	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable granules, soluble granulesUpward spraying	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Manual-Knapsack	Inhalation				25,00				26,00				26,00				26,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble pow	Upward spraying	Manual-Knapsack	Inhalation				25,00				26,00	2,17	0,83	-0,26		2,52	0,60	-0,26	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	-1,00		2,41	0,02	-0,96		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30			2,41	0,02			0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble pow	Downward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,72	0,50	0,01		1,27	0,58	0,33	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble pow	Upward spraying	Vehicle-mounted-Drift Red	Inhalation	1,57	0,30	1,76		2,41	0,02	1,28		0,99	0,57	0,82		1,32	1,00	0,60	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37					8903,00				62630,00

OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00						8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward sprayingI	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89			1,79	1,00			4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50					8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable granules, soluble granulesUpward sprayingI	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Body				25,00				103,00				8903,00				62630,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Body				25,00				103,00	4,65		-1,64		5,27		-1,99	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	0,11		1,79	1,00	0,37		1,83	1,00	0,00		2,21	1,00	0,15	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89			1,79	1,00			1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		0,74	1,00	0,70		0,47	1,00	1,05	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Body	1,27	0,89	1,76		1,79	1,00	1,50		1,83	1,00	0,23		2,21	1,00	0,15	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80					5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00						5,00				22,00
OutdoorWettable granules, soluble granulesUpward sprayingI	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65			1,50	1,00			2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81					5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Hand held	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable granules, soluble granulesUpward sprayingI	Outdoor	Wettable granules, soluble gran	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Manual-Knapsack	Protected Hands				18,00				164,00				5,00				22,00
OutdoorWettable powder, soluble powderUpward sprayingM	Outdoor	Wettable powder, soluble powc	Upward spraying	Manual-Knapsack	Protected Hands				18,00				164,00	2,26	1,00	-0,88		2,61	1,00	-0,51	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00			2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.D	Outdoor	Soluble concentrates, emulsifial	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorSoluble concentrates, emulsifiable concentrate, etc.U	Outdoor	Soluble concentrates, emulsifial	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	0,32		1,50	1,00	0,80		1,55	1,00	0,00		2,88	1,00	0,08	
OutdoorWettable granules, soluble granulesDownward sprayi	Outdoor	Wettable granules, soluble gran	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable granules, soluble granulesUpward spraying'	Outdoor	Wettable granules, soluble gran	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65			1,50	1,00			1,55	1,00			2,88	1,00	0,08	
OutdoorWettable powder, soluble powderDownward sprayin	Outdoor	Wettable powder, soluble powc	Downward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		0,23	0,54	1,11		-0,46	0,12	1,79	
OutdoorWettable powder, soluble powderUpward sprayingVe	Outdoor	Wettable powder, soluble powc	Upward spraying	Vehicle-mounted-Drift Red	Protected Hands	1,22	0,65	1,74		1,50	1,00	1,81		1,55	1,00			2,88	1,00	0,08	