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## ANNEX: NEW TAB ENTRIES STARTING FROM WG-II-2018 ....................... 70
Important note for version 2.1 – please read

TAB v.2.1 is published as an intermediate release while in parallel a TAB database is developed. The database is planned to be published in Q1 2020, it will include the release data of the specific TAB entry as well as its validity in regard to timelines for active substance approval and product authorisation.

Due to the ongoing developments, there is currently only a limited possibility to alter the numbering of the existing TAB entries, on the other hand there was a certain time pressure to publish new entries. Therefore, exceptionally in this version, new TAB entries have been collected in a separate Annex at the end of this document. Revised existing entries have been changed in the existing text; for transparency and traceability reasons the version number of the revised entry was highlighted in red writing in the existing entry. In the future database the new entries will be included in the respective chapters of the main text.

Preface

The Technical Agreements for Biocides (TAB) intends to provide in a concise format the general agreements of the Working Group (WG) which have not yet been included in any other BPR related guidance documents.

This document is intended to cover the technical/scientific WG agreements that have general relevance and to create a general database of questions where an agreement has already been reached. Only agreements of general relevance have been included.

The TAB is publicly available on the ECHA website and on the public S-CIRCABC Interest Group1.

The answers presented in the document are those agreed by the WG. They are not the official view of ECHA, nor are they legally binding. It is not an authoritative source of information, and when in doubt, the original documents cited should always be consulted. The main sources for the TAB are the adopted minutes of the WG, and in all cases, a reference is given to the WG meeting or the Technical Meeting (TM) where the agreement was reached.

Starting from TAB Version 2.0 there is a separate document for each WG and version numbers are included in the second row of each entry. Entries included in versions 1.0 to 1.3 are referred to as “Version 1”.

Changes made in a TAB entry are marked as “Included in Version x, updated in Version y.y”.

Procedure

TAB does not require a formal endorsement by the Biocidal Products Committee or the WG because the document records agreements made at the WG and included in their minutes. It

1 https://webgate.ec.europa.eu/s-circabc/w/browse/65ed457b-535f-41e5-a559-aa8b168d1558
is a living document that will be updated over time. Any suggestions on the need to change the content can be sent at any time to BPC-WGs@echa.europa.eu.

The text will be updated regularly by uploading a revised version in the Newsgroups of the BPC-WG S-CIRCABC site for a commenting period of 4 weeks for the WG members. After the commenting period, ECHA will revise the TAB if necessary, and publish it on the ECHA website. The procedure does not involve discussions at the WG. However, the TAB entry may be discussed at the WG if necessary.
1 Effect and Hazard Assessment

ENV 1 Are additional studies with plants required for the evaluation of the active substance if the information available from the DAR submitted under the pesticides EU framework (Directive 91/414/EEC/Regulation EC 1107/2009) indicates that plants are not the most sensitive taxonomic group?
Version 1 (TM IV 2007)
If information submitted under the pesticides EU framework indicates that plants are not the most sensitive taxonomic group, there is no need to require a new study with plants for the evaluation of the active substance.

ENV 2 Should both the experimentally derived and estimated BCF value be included in the CAR?
Version 1 (TM IV 2008)
Both, the estimated (applying QSARs recommended in the TGD) and the experimental results for the BCF values should be presented in the CAR.

ENV 3 How to perform effects assessment and PNEC derivation for metabolites when no experimental data is available on the ecotoxicity of the metabolite, and instead, the toxicity is estimated by using QSAR or read-across?
Version 1 (WG-I-2016, WG-II-2016)
In the absence of experimental data, the ecotoxicity of relevant metabolite could possibly be estimated with QSAR analysis and/or read-across. Only QSARs valid for the molecular structure of the metabolite should be used. Based on the results of the QSAR estimation or read-across, the following could be concluded:
- The available QSAR and/or data for read across do not allow for reliable determination of ecotoxicity endpoints for the metabolite. Experimental data on ecotoxicity should be generated for the metabolite(s) under investigation.
- The ecotoxicity of the metabolite is equal to the ecotoxicity of the parent compound and the PNEC of the parent substance can be used as an estimate for the PNEC of the metabolite.
- The metabolite is more toxic than the parent compound by a factor of x (eg. 5 or 10). The PNEC of the metabolite can be derived from the available data on the parent substance by applying the corresponding factor to the PNEC of the parent.
- The metabolite is less toxic than the parent compound, and it can be assumed that the PNEC for metabolites is covered by the PNEC of the parent substance.

Based on the substance properties, the different options for the evaluation should be considered according to the guidance provided in BPR IV B v.1.0 Section 3.10 (Effect assessment for rapidly degrading substances). For further guidance on the use of QSARs and read-across consult REACH Guidance R.6: QSARs and grouping of chemicals (https://echa.europa.eu/documents/10162/13632/information_requirements_r6_en.pdf/77f49f81-b76d-40ab-8513-4f3a533b6ac9).
ENV 4 Which active substance constituents should be considered in the PBT assessment and risk assessment (including constituents of plant extract material or other UVCB substance)?

Version 1 (WG-IV-2016)

A PBT assessment should be conducted for each constituent occurring in the active substance in a concentration ≥0.1% (w/w), in accordance with REACH R.11 guidance.

A risk assessment should be conducted for each constituent occurring in the active substance in a concentration ≥5% (w/w). This trigger is based on the lower trigger value for relevant metabolites.

A risk assessment should be performed for each constituent occurring in the active substance in a concentration <5% (w/w), when the PBT assessment at screening level following the R.11 guidance, shows that this constituent fulfils at least two of the three PBT criteria.
2 Exposure assessment

2.1 General items

ENV 5 Can the persistence categories in soil from the PPP be used in the CAR?
Version 1 (TM III 2005)
The PPP categories on the categorisation of persistence in soil shall not be used in the CAR, neither other categories, for example on mobility.

ENV 6 Calculation of PEC in sediment – consideration of suspended matter
Version 1 (WG-IV-2015)
It was agreed at WG-IV-2015 that the adsorption to suspended matter should be considered when calculating the PEC value for sediment based on the PEC_{surface-water} also for strong adsorbing substances and metals.

ENV 7 Aggregated exposure assessment
Version 1 (WG-III-2014, WG-III-2016)
A quantitative aggregated exposure assessment should be performed covering all relevant PTs with identical emission routes at the approval stage of the active substance.
The focus should be on uses with release via the STP. Both a tonnage and consumption based approach should be performed. The most critical one is leading the conclusions.
At WG-III-2016 it was further specified that always as a first step, an evaluation on the need to conduct an aggregated exposure assessment should be performed (and reflected in the CAR), based on the decision tree available in the CAR template.

ENV 8 Can a PEC/PNEC$\geq$1 be accepted as long as the corresponding PEC value is within the natural background concentration for a specific substance?
Version 1 (WG-V-2016)
The WG agreed that the decision should be made case by case as it depends on the type of substance and the type of use. In general, the decision should be well explained and the recommendation provided in the CAR should be followed for the product authorisation.

ENV 9 Use of the model SimpleTreat 4.0 for biocides
Which version of SimpleTreat should be used to calculate the fate of a chemical in the STP?
For active substance CARs submitted to ECHA (and consecutive product authorisation after approval of the active substance), SimpleTreat 4.0 shall be applied at the latest six months after the decision at WG-I-2017 (25-07-2017).
For product authorisation SimpleTreat 4.0 shall be applied 2 years after the WG-conclusion (25-01-2019).

**Should degradation rates be temperature corrected?**
When using the default values for degradation rates for the STP (guidance BPR IV B v.1.0, Table 6) depending on biodegradability (outcomes of ready and inherent biodegradability tests), no temperature correction should be performed. However, if results from other degradation tests are used as input parameter (e.g., OECD 303 or OECD 314), the degradation rate should be corrected to the environmental standard temperature (288.15K) of the STP by Simple Treat.

**What are the default operational parameters for SimpleTreat 4.0?**
For the environmental risk assessment of biocides the operational mode of the STP has to be set to “municipal”. The default operational parameters are a BOD-load per person of 60 g/person/d in raw sewage, a sludge loading rate (SLR) of 0.1 kg BOD/kg MLSS/d and a concentration of suspended solids (Css) in the effluent of 30 mg/L. The values for BOD and SLR are integrated as default values in SimpleTreat 4.0. The value forCss needs to be changed manually by the user to 30 mg/L in the “Mode of operation”-tab of SimpleTreat 4.0. The other default operational parameters for a municipal STP should not be changed.

**How to transfer SimpleTreat 4.0 output to EUSES?**
Until SimpleTreat 4.0 will be integrated in EUSES, a workaround is required in order to transfer the results of SimpleTreat 4.0 to EUSES. Details are provided in the embedded document, in which section 1.3 describes the steps to be followed for transfer:

https://echa.europa.eu/documents/10162/23316520/env9_en.docx/e915cd38-eb0d-beb5-ad08-79807d0e54fd

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**ENV 10 Exposure assessment of metabolites in the terrestrial compartment**

Version 2.0 (AHEE-1, WG-V-2016, WG-III-2017)

According to the BPR guidance on Volume IV. Part A - Information Requirements (v 1.1, Chapter 1.6) in general, an environmental risk assessment for the relevant compartments needs to be performed for all major metabolites. A quantitative assessment should be performed on a case-by-case basis. The following document is harmonizing the quantitative risk assessment of relevant metabolites in the terrestrial compartments for indirect exposure via sewage sludge application, including groundwater refinement with FOCUS PEARL:

https://webgate.ec.europa.eu/s-circabc/sd/d/69d402f0-5d05-4d1b-8616-562487b9e63d/ENV%2010
**ENV 11** Sorption onto suspended matter for calculation of PECsurface water (via run off)

Version 2.0 (WG-IV-2017)

Sorption onto suspended matter can be considered in the calculation of PECsurface water (via run off).

\[
C_{\text{local, water}} = \frac{PEC_{\text{porewater}}}{\left(1 + K_{p, susp} \cdot SUSP_{\text{water}} \cdot 10^{-6}\right) \cdot \text{DILUTION}}
\]

**Explanation of symbols:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration of the substance in the soil’s porewater</td>
<td>PECporewater</td>
<td></td>
<td>mg/L</td>
<td>Vol. IV Part B+C, v2.0 - equation 70</td>
</tr>
<tr>
<td>Solids-water partition coefficient of suspended matter</td>
<td>Kp, susp</td>
<td></td>
<td>L/kg</td>
<td>Vol. IV Part B+C, v2.0 - equation 26</td>
</tr>
<tr>
<td>Concentration of suspended matter in the river</td>
<td>SUSPwater</td>
<td>15</td>
<td>mg/L</td>
<td></td>
</tr>
<tr>
<td>Dilution factor</td>
<td>DILUTION</td>
<td>10</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Local concentration in surface water</td>
<td>C_{local, water}</td>
<td></td>
<td>mg/L</td>
<td></td>
</tr>
</tbody>
</table>

**2.2 Degradation**

**ENV 12** When should indirect photolysis be considered?


Indirect photolysis is generally not included in the risk assessment due to lack of harmonised guidelines, but direct photolysis is used to identify relevant metabolites and to judge whether the rate of direct photochemical transformation may contribute to the overall decline of a chemical.

Please refer also to Vol. IV Part A (Guidance on information requirements), chapter 10.1.1.1.

**ENV 13** Which DT_{50} value is to be used when multiple study results are available? (worst case value vs. geometric mean)

Version 1 (TM IV 2007, TM IV 2012)

If up to three DT_{50}-values from different water-sediment or soil systems are available, the worst case value will be used whereas when more than three DT_{50}-values for the respective compartment are available then the geometric mean will be used.
**ENV 14**  Can a water-sediment simulation study be considered instead of a STP simulation test, for the refinement of exposure of non-biodegradable substances?

Version 1 (TM I 2008)

A water-sediment simulation study can be considered as an alternative to a STP simulation test. The resulting DT$_{50}$ value (biodegradation in water phase, not dissipation) from this test can be used as a worst-case value for degradation in the STP.

The opposite is not acceptable, i.e. using the DT$_{50}$ value from a STP simulation test as a substitute for degradation in a water-sediment system.

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**ENV 15**  Is the request of simulation studies for not readily biodegradable substances necessary for exposed environmental compartments in order to check inclusion criteria for Union listing and detect relevant metabolites, or shall studies only be requested if a risk is identified?


The need for simulation studies with respect to the inclusion in the Union list of approved active substances is in principle exposure driven. However, with regard to assessment of the exclusion- and substitution criteria (Art. 5 and Art. 10 of the BPR), simulation tests may be required. It is further stated in Vol. IV Part A (Information requirements, chapter 4.2.5: “If a substance is not readily biodegradable and either not vB or not classified as B or T, it may not be necessary to conduct simulation studies for the indirectly exposed environmental compartments [...] As soon as there is new information and this result in the substance being considered as B or T [...], it may become necessary to perform a P assessment. For the environmental risk assessment in the indirectly exposed compartments, the first tier assessment can be performed without the need for simulation studies [...] Additional simulation studies in indirectly exposed compartments may be useful to refine the first tier risk assessment.”

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**ENV 16**  May different soil DT50 values for substances where degradation is pH dependent be used for PECsoil and PECgw assessment?

Version 2.0 (WG-III-2017)

It is acceptable to use different soil DT50 values for PECsoil and PECgw assessment, taking into account the pH dependant degradation as outlined in FOCUS guidance:

2: the worst case (highest) DT50 is used to calculate the 1st tier PECsoil. Whereas the geometric mean DT50 values, calculated for acidic and alkaline soils respectively, is used for higher tier groundwater modelling.

This approach can be followed on a case by case basis, provided that the data package of a substance would allow such an approach.

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ENV 17  **Should photolysis metabolites be identified in case the active substance under evaluation is readily biodegradable?**

Version 1 (TM IV 2008)

The identification of photolysis metabolites can be waived when the biodegradation rate is faster than the photodegradation rate. However, it must be checked that:
1. The biodegradation rates are actually faster than the photodegradation rate.
2. That both rates are expressed using a comparable endpoint (mineralization or primary degradation).
3. That the metabolites formed during photolysis tests remained below 50% and were not persistent.

Other information such as exposure of the water compartment, or adsorption might be considered.

ENV 18  **How shall the results of an STP simulation study in the environmental exposure assessment be used?**

Version 1 (TM IV 2010)

The level of elimination in the STP simulation test can be directly used quantitatively in the exposure assessment and there is no need to revert to the use of the default rate constants from the TGD e.g. for substances that are inherently biodegradable.

2.3  **Groundwater**

ENV 19  **What groundwater concentration limits should be applied to single biocide active substance, metabolites and mixtures (e.g. when the active substance is defined as a mixture block)?**

Version 1 (TM IV 2011, TM IV 2012, TM I 2013)

For single biocidal active substances the limit of 0.1 µg/l should always be applied in groundwater. This is an absolute trigger, and no risk assessment or relevance assessment of active substance concentrations above this limit is ever possible. The 0.1 µg/l should also be applied to all metabolites in a tiered assessment scheme. Any metabolites predicted to occur above the 0.1 µg/l should be assessed with regards to their relevance according to Vol. IV Part A (Information Requirements), Section 1.6. Where a metabolite is determined to

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Note that for some substances a lower limit than 0.1µg/l may be set on the basis of, for example, toxicological data. In these situations, the 0.1µg/l limit should be replaced with the lower toxicological limit when applying the guidance above.
be relevant according to this guidance, the 0.1 µg/l or a lower concentration due to its toxicological properties, must be strictly applied just as it is for a biocide active substance (i.e. no risk assessment of a relevant metabolite above 0.1 µg/l is ever possible). For metabolites shown to be non-relevant, a final drinking water risk assessment may be required to demonstrate the acceptability of non-relevant metabolite concentrations above the 0.1 µg/l.

The 0.1 µg/l limit should also apply to all individual fractions of a biocidal active substance mixture or mixture block, when these individual fractions are separately quantified with regard to groundwater contamination potential. Additionally, for a mixture or block group of biocide active substances, the higher 0.5 µg/l limit should apply to the total mixture concentration predicted in groundwater. For mixtures of metabolites formed from active substance mixture or mixture blocks, the same approach as applied to individual metabolites should apply. The 0.1 µg/l limit (for individual metabolites) and the 0.5 µg/l (for total metabolite mixture concentrations) should both be applied at the first tier. Where either of these limits is exceeded, the guidance provided in Vol. IV Part A, Section 1.6 on relevance of metabolites should be applied.

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**Cut off criteria for groundwater assessment of biocides**

Version 1 (WG–II-2014)

The document was developed by UK and endorsed at WG-II-2014.


**Threshold values for groundwater assessment**

Version 1 (WG-IV-2016)

For the groundwater assessment, the threshold concentrations as referred to in Annex VI of the BPR (point 68) for parent and metabolites apply.

**Freundlich adsorption coefficient to be used in FOCUS models**


The FOCUS models require the Freundlich adsorption isotherm ($K_F$ and $n$) in order to determine sorption to soil of the active substance. For the selection of the non-linearity constant ($n$), the following three scenarios should be considered:

1) The Applicant performs a full OECD 106 batch sorption study (Determination of Freundlich adsorption isotherms (Tier 3)) at five concentrations covering preferably two orders of magnitude and derives reliable

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4 According to the TM I 2013 discussion, DE and DK express some reservations, regarding the final drinking water risk assessment for metabolites.
1/n values. Here, the arithmetic mean of the empiric 1/n values should be used in the FOCUS model.

2) The Applicant performs only the screening stage experiment of OECD 106, investigating sorption at a single concentration. Here, a default 1/n of 1 is to be used in any FOCUS modelling. This more conservative value is needed because of the lack of data on the relationship between the substance’s sorption and concentration.

3) The Applicant attempts to perform a full OECD 106 batch sorption study at multiple concentrations but it proves impossible to derive reliable n values. Here, a default 1/n of 0.9 is to be used in any FOCUS modelling. This value takes account of the Applicant’s effort to derive empiric data for the relationship between the substance’s sorption and concentration.

This is in line with the approach applied for plant protection products (PPP). If the PPP guidance changes in the future, resulting in a change of the default value for the Freundlich adsorption coefficient, this TAB entry will be changed accordingly.

### ENV 23

**What parameter setting should be applied to FOCUS groundwater scenarios (PEARL) when they are used in biocide exposure assessments**


**Molar activation energy:**

In case of using FOCUS PEARL version 4.4.4 the value for “Molar activation energy” in the TRANSFORMATION tab of the substance parameters should remain at the default value of 65.4 kJ.mol\(^{-1}\) as biodegradation processes in soil are modelled. This value corresponds to the Q10 value of 2.58 assuming a daily temperature correction in FOCUS models in accordance with the EFSA PPR opinion ([http://www.efsa.europa.eu/en/efsajournal/pub/622.htm](http://www.efsa.europa.eu/en/efsajournal/pub/622.htm)) and the REACH guidance document R.7b.

**Plant uptake factor:**

A factor of 0 should be used for the plant uptake factor for the purposes of a first tier assessment. Due to discussions (ref. to TMII2010ENV-item Harmonisation of FOCUS groundwater models PEARL.doc and CA-Dec10-doc 6.2 c) this value is considered as a realistic worst case.

**Summary on relevant substance specific input parameters for the groundwater simulations with FOCUS PEARL and FOCUS PELMO:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Molar mass</td>
<td></td>
<td>[g.mol(^{-1})]</td>
<td>S</td>
</tr>
<tr>
<td>Solubility in water (at test temperature)</td>
<td></td>
<td>[mg.L(^{-1})]</td>
<td>S</td>
</tr>
<tr>
<td>Molar enthalpy of dissolution</td>
<td>27</td>
<td>[kJ.mol(^{-1})]</td>
<td>D</td>
</tr>
<tr>
<td>Vapour pressure (at test temperature)</td>
<td></td>
<td>[mPa]</td>
<td>S</td>
</tr>
<tr>
<td>Molar enthalpy of vaporisation</td>
<td>95</td>
<td>[kJ.mol(^{-1})]</td>
<td>D</td>
</tr>
<tr>
<td>Diffusion coefficient in water</td>
<td>4.3 (\times) 10(^{-5})</td>
<td>[m(^2).d(^{-1})]</td>
<td>D</td>
</tr>
</tbody>
</table>
Gas diffusion coefficient | 0.43 | [m$^2$.d$^{-1}$] | D
Reference temperature to degradation, vaporization and dissolution | 20 | [°C] | D
Exponent for the effect of liquid (degradation moisture relationship) | 0.7 | [-] | D
Sorption to soil organic carbon (Koc or Kom (Kom = Koc / 1.724)) | | [dm$^3$.kg$^{-1}$] | S
Exponent of the Freundlich-Isotherm (1/n) | [-] | D/S (if available)
DT50 (20°C) | | [d] | S
Arrhenius activation energy | 65.4 | [kJ.mol$^{-1}$] | D
Q10-factor (increase of degradation rate with an increase of temperature of 10°C – relevant for PELMO) | 2.58 | [-] | D
Plant uptake factor | 0 | | D

**Number of safe FOCUS scenarios for Union Authorisation**

Version 1 (WG-I-2017, BPC-21)

It was concluded that for Union Authorisation all nine different FOCUS EU locations have to show a safe use (for arable land and for grassland).

It was further specified at BPC meeting level that in case not all nine scenarios should be safe, a qualitative approach should be applied using expert judgement in a case by case assessment, looking for example at the substance properties.
3 PT specific items

3.1.1 Cross-PT items

**ENV 25** Can the default market share values which are used in several ESDs be refined? In which cases can we accept lower/other values than the indicated market share values in the ESDs?


The default market share value may be overruled and replaced by other values if the applicant can justify this by market data, providing historical data and including some projections in the future.

The already agreed market share factors in several ESDs shall be used, from which justified deviation is possible. For the remaining product types a market share factor shall be agreed upon, where relevant.

The following specific values for the market share were further agreed at WG-IV-2015:

- For disinfectants used in private households (PT 1+2) as well as in private swimming pools (PT 2) (beside substances which mode of action is based on chlorine), the emission rate to water used for risk assessment entails a market share of disinfectant (Fpenetr). By default this factor is set at 0.5.
- For disinfectants used in hospitals (PT 1) or industrial premises (PT 2) however a default value of 1 should be used.
- For in-can preservatives (PT 6) used in household products (washing and cleaning fluids, general or hygienic products) the factor is set to 0.5.
- For repellents (PT 19) applied by private users to human skin and garments as well as for factory treated textiles, washed in private households, the factor is set to 0.5.
- For antifouling substances (PT 21) the default value for the parameter Application factor is 90% for all antifouling paints that include boosters.

The applicant can propose deviation from the default values based on strong justifications, such as market comparison with other substances having the same application pattern.

**ENV 26** Application rate of the biocidal product for PT 2 and PT 4

Version 2.0 (WG-III-2017)

In case no application rate for the biocidal product is provided by the applicant, the following default values for Vform should be used for PT 2 and PT 4:

- For RTU uses: 0.04 L/m²
- For normal (large scale uses as in the ESD for PT 2 and PT 4): 0.1 L/m²

**ENV 27** Use of F_{weatherside} for groundwater assessment in PT 8 and other PTs

Version 2.0 (WG-II-2015, WG-III-2017)

PT 8: F_{weatherside} should be applied in the groundwater assessment for PT 8 (according to the Supplement to Appendix 4 of the revised OECD ESD for PT 8) and for other relevant PTs, if the groundwater assessment is conducted according to the revised OECD ESD for PT 8.
City scenario in PT 6, 7, 9 and 10: \( F_{\text{weatherside}} \) refers to the fact that not all sides are exposed to rain equally. While the value of 0.5 for \( F_{\text{weatherside}} \) was accepted for houses in the countryside, in cities, buildings are taller and closer to each other so the effect on biocides reaching the environment is different. In cities, also turbulence, direction of rain is different. \( F_{\text{weatherside}} \) should therefore not be applied in the city scenario.

**ENV 28 Direct emissions to surface waters in PT 6, 7, 8, 9 and 10**
Version 1 (WG-III-2014)

The document “The assessment of direct emission to surface water in urban areas” was developed by DE, first introduced at TM II 2013 and endorsed at WG-III-2014.

It can be found on the ESD specific ECHA webpage at PT 6, 7, 8, 9 and 10


**ENV 29 Assessment of emissions reaching the STP using the city-scenario for PT 10 in other PTs**
Version 1 (TM IV 2013)

The document “City scenario: Leaching from paints, plasters and fillers applied in urban areas” developed by NL and endorsed at TM IV 2013 should be applied also for PT 6.2, PT 7 and PT 9, when applications similar to the ones described in PT 10 take place in urban areas.

**ENV 30 Use of the scenario on direct emission to surface water in urban areas for the application phase**
Version 1 (WG-II-2015)

The scenario for direct rainwater discharge (bypass scenario) should not be used for the application since it is unrealistic to assume that application of paint will occur during or shortly before a storm event.

**ENV 31 Should degradation in surface water be taken into account after release from an STP**
Version 1 (WG-IV-2015)

This item was concluded for PT 7 but is considered also relevant for other PTs. The refinement of the exposure assessment for the aquatic compartment would only be acceptable if the release occurs directly to a static or semi-static water body. If the release occurs via an STP, the standard risk assessment procedure according to guidance BPR IV B v.1.0 should be followed and no further degradation after the release from the STP into the surface water body should be taken into account.
**ENV 32**  Use of SPERCs for the assessment of biocides

Version 1 (WG-V-2015)

At WG-V-2015 it was agreed that for the assessment of biocides the A&B tables in BPR IV B v.1.0 should be used. On a case-by-case basis, default values in the A&B table can be replaced by values that are more specific provided in SPERCs but such a replacement needs the agreement of the WG.

Replaced default values agreed by the WG will be recorded within this TAB entry.

**ENV 33**  Use of information provided in BREF documents for the refinement of the exposure assessment

Version 1 (WG-V-2015)

At WG-V-2015 it was agreed that additional information provided in BREF documents on BAT can be taken into account on a case-by-case basis for the refinement of the risk assessment.

If such a refinement is not substance-specific but in general relevant for a scenario, it will be recorded in the TAB at the product type for which it is relevant.

**ENV 34**  Laboratory and semi-field leaching test methods for PT 7, 9 and 10

Version 1 (WG-IV-2015)

The following two leaching methods developed by BAM determining the leaching of active substances or other compounds from materials that contain biocidal products in PT 7, 9 and 10 have been agreed by the WG:


**ENV 35**  Reduction of default surface area for brush application for PT 18 and 19

Version 1 (WG-III-2016)

The default length of the treated area for barrier treatments against ants (door steps and windows) is 10 m. The width of the barrier is flexible and should be defined case by case depending on the application technique.

**ENV 36**  Default crops, application dates, application mode and depth to be used for FOCUS groundwater models when refinement of $\text{PEC}_{\text{groundwater}}$ following sewage sludge application on soil is needed

Version 1 (WG II 2014)

In case of running sewage sludge application scenarios in FOCUS groundwater models it was agreed at WG-II-2014 that both grassland (alfalfa) and agricultural land (maize) should be used. In case of grassland application the scenario considers one sewage sludge application per year on 1st of March (absolute
application) and 10 cm incorporation depth. In case of agricultural land application the scenario considers one sewage sludge application per year to maize 20 days before crop event “emergence” (relative application) and 20 cm incorporation depth. The application rate of the active substance $\text{Appl} \_\text{rate}_{\text{agr/grass}}$ [kg/ha] at one application date as input parameter in FOCUS groundwater models is calculated by:

$$\text{Appl}\_\text{rate}_{\text{agr/grass}} = \text{App}_{\text{sewage\_sludge\_agr/grass}} \times C_{\text{sludge}} \times 10^{-6}$$

with

- $\text{App}_{\text{sewage\_sludge\_agr}}$ = annual sewage sludge application rate on agricultural land = 5,000 kg/ha
- $\text{App}_{\text{sewage\_sludge\_grass}}$ = annual sewage sludge application rate on grassland = 1,000 kg/ha
- $C_{\text{sludge}}$ = concentration of a.s. in dry sewage sludge [mg/kg] (ref. to eq. 36 in guidance BPR IV B v.1.0).

**ENV 37** Scaling approach for PT 6.2, 7, 9, 10 (City scenario, Roof membranes)

Version 1 (WG-I-2017)

The scaling approach relates to the city scenario which is used for the environmental risk assessment of service life of active substances/biocidal products in PT 6.2, 7 and 10 and to the specific city scenario for roof membranes in PT 9. It provides a refinement possibility for the parameter $f_{\text{house}}/f_{\text{market share}}$:


**ENV 38** Emission pathways via sewage sludge / manure and other appropriate scenarios: is it necessary to demonstrate a save use for both grassland and arable land at the same EU location?

Version 1 (WG-I-2017)

It was concluded that both scenarios, arable land and grassland, should be below the groundwater threshold at the same EU location. However if there are specific conditions, case-by-case decisions can be made that deviate from this conclusion. For example in the exposure assessment for mink stables, where only straw is produced which is to be ploughed into soil, only arable land would be relevant.

**ENV 39** Degradation in the sewer system before release to STP

Version 2.0 (WG-I-2018)

For substances rapidly reacting with organic matter (e.g. oxidising substances), dissipation in the sewer system following reaction should be taken into account for the emission estimation, according to the equation provided in the ESD for
PT 5. In line with the ESD for PT 5\(^5\) degradation rates used for the calculation should be transferred to an environmental temperature of 12°C (using equation 28 provided in Vol. IV Part B+C, v2.0).

**ENV 40 Recommendation on refinement of the market penetration factor**

Version 2.0 (Written procedure post WG-I-2018)

The recommendation of the Environment WG on the refinement of the market penetration factor (\(F_{\text{penetr}}\)) is provided in the following:

https://webgate.ec.europa.eu/s-circabc/sd/d/4b0a05eb-a358-4fe0-973d-0a0592440019/ENV%2040

### 3.1.2 PT 1

**ENV 41 Professional hand disinfection: how to derive a value for \(Q_{\text{subst}_{\text{pres\_bed}}}\) (and \(Q_{\text{subst}_{\text{occup\_bed}}}\)) for substances for which no default value is provided in the pick list of the ESD?**

Version 1 (WG-V-2014)

The following equation for the calculation of \(Q_{\text{subst}_{\text{bed}}}\) for nursing staff (N) and surgical staff (S) was agreed at WG-V-2014:

**Nursing staff:**

\[
Q_{\text{subst}_{\text{bedN}}} = N_{\text{FTE/bed}} \cdot Q_{\text{formN}} \cdot F_{\text{form}} \cdot (RHO_{\text{form}}) \cdot N_{\text{applN}}
\]

\(Q_{\text{subst}_{\text{bedN}}} = \) Consumption of active ingredient per bed for nursing staff [kg/bed*d]  
\(N_{\text{FTE/bed}} = \) Number of hospital personal per bed [FTE/bed]  
Default value: 1.5 FTE/bed  
\(Q_{\text{formN}} = \) Efficient dose rate of the hand disinfectant for nursing staff [kg/event]  
Default: 0.003 kg/event  
\(F_{\text{form}} = \) Fraction of active substance in the hand disinfectant [--]  
\(RHO_{\text{form}} = \) Density of the product [kg/L]  
Default: 1 kg/L  
\(N_{\text{applN}} = \) Number of disinfection events/FTE/day [1/FTE*d]  
Default: 10 (hand wash with soaps and liquid soaps) or 25 (hand rubs)

---

\(^5\) See page 14 of the ESD for PT 5:
To be noted:
- \( Q_{formN} \): The value for the efficient dose rate should be provided by the applicant. Only if no information is provided by the applicant, the default value should be used
- \( RHO_{form} \) is only relevant in the equation above if the application rate of the product is provided as volume

Surgical staff:
It was concluded that for surgical hand disinfection, a fraction of 10% using the product should be added to the equation, i.e. \( N_{FTE/bed} \) should be multiplied by 0.1.

\[
Q_{subst_{bedS}} = (N_{FTE/bed} \cdot 0.1) \cdot Q_{form} \cdot F_{form} \cdot (RHO_{form}) \cdot N_{applS}
\]

\( Q_{subst_{bedS}} \) = Consumption of active ingredient per bed for surgical staff [kg/bed*d]
\( N_{FTE/bed} \) = Number of hospital personal per bed [FTE/bed]
Default value: 1.5 FTE/bed
\( Q_{formS} \) = Efficient dose rate of the hand disinfectant for surgical staff [kg/event]
Default: 0.007 kg/event (not only hands but also forearms are disinfected)
\( F_{form} \) = Fraction of active substance in the hand disinfectant [--]
\( RHO_{form} \) = Density of the product [kg/L]
Default: 1 kg/L
\( N_{applS} \) = Number of disinfection events/FTE/day [1/FTE*d]
Default: 10 (hand wash with soaps and liquid soaps) or 4 (hand rubs)\(^6\)

If a substance is used for both (nursing staff and surgical staff) than the results have to be summed up:

\[
Q_{subst_{bedN}} + Q_{subst_{bedS}}
\]

**ENV 42 Which default values should be used for private hand disinfection?**

Version 1, updated in Version 2.0 (WG-I-2015, WG-IV-2016)

\( Finh \): There are no data to underpin the default for \( Finh \). It was agreed at WG-I-2015 that for the time being for \( Finh \) a default value of 0.2 should be used in case of soap and liquid soap hand disinfectant.
For other hand disinfectants for private use a default value of 0.5 should be used for \( Finh \) especially for leave-on products.

---

\(^6\) For \( N_{applS} \) (Number of disinfection events/FTE/day) the default value of 4 (for products for surgical hand disinfection) was agreed by the Human Health Ad hoc WG.
Which default values should be used for private and professional use – average consumption (i.e. consumption per application and number of applications of b.p. per day)?

Version 2.0 (MoI, ECHA, October 2017)

For private and professional use – average consumption – the default values for consumption per application and number of applications of b.p. per day are those indicated in the “Manual of Instructions to eCAs for evaluating active substances used in disinfectants” (Table 4.2.2.1):

<table>
<thead>
<tr>
<th>Parameters for HH and ENV exposure assessment in PT 1 and proposals to address missing values</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Amount/volume of b.p. per application (g or mL)</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>(Anti-dandruff) shampoo</td>
</tr>
<tr>
<td>Aerosol</td>
</tr>
<tr>
<td>Stick, roll-on</td>
</tr>
<tr>
<td>Foot cream antiperspirant</td>
</tr>
<tr>
<td>Foot cream anti-fungal</td>
</tr>
<tr>
<td>Creams (e.g. anti-acne)</td>
</tr>
<tr>
<td>Face</td>
</tr>
<tr>
<td>Hand</td>
</tr>
<tr>
<td>Mouthwash</td>
</tr>
</tbody>
</table>

Soaps, gel (washing hands)

| | **Consumers:** | **Professionals:** | **Consumers:** | **Professionals:** |
| | **1 g/event**²³ | **Nursing staff:** | **3 g/event**²⁴ | **Surgical staff:** | **7 g/event**²⁴ | **1 g/event**²⁵ | **Nursing staff:** | **3 g/event**²⁷ | **Surgical staff:** | **7 g/event**²⁷ |
| | | | | | | | | | | |
| | | | | | | | | | |
| Soaps, gel (showering)

27 RIVM, Cosmetics factsheet
28 TGD (EC 2003a): The value in the TGD for ENV was 12 g/mL per application. To harmonise this value with HH, 20 g/mL per application is proposed for ENV calculations.
29 TGD: 2-7 times per week; default 5 times per week = 0.71 times per day
30 TGD: 1-3 times per day
31 TGD: Data for facial cream: 1-2 times per day
32 Consultant proposal
33 ESD for PT 1 (2004): The value in the ESD for ENV was 3 applications per day. To harmonise this value with HH, 4 applications per day is proposed for ENV calculations.
34 Recommendation 9 of the BPC Ad hoc Working Group on Human Exposure
35 AHEE meeting 1/2016
36 Recommendation 1 of the BPC Ad hoc Working Group on Human Exposure
37 Technical Agreements for Biocides

Note: If efficacy data show that the default value is not efficacious, the efficient use rate should be applied for the amount/volume of biocidal product per application and the number of biocidal product applications per day.

3.1.3 PT 2

How to calculate releases from the use of biocides for the treatment of private (permanent) pools?

Version 1 (WG-I-2015, WG-IV-2016)
The following scenarios to assess the treatment of private swimming pools were developed by FR and discussed and endorsed at WG-I-2015:


Further information on the default settings for the scenarios are provided in the following for information, reflecting the conclusions at WG-I-2015:

- Number of private pools connected to the same STP ($N_{pool}$)
  Tier 1: consider 550 pools (Southern Europe)
  Tier 2: consider 100 pools (Northern Europe)
  If the substance fails Tier 1, a statement would need to be provided in the CAR that for product authorisation in Southern European countries the assessment needs to be refined.
  For Northern European countries, a value of 100 pools should be assumed (for product authorisation).

- Consider only releases via the STP (no direct release)
  For the approval of active substances, it is acceptable to assess only the releases to municipal STP and consider application to permanent installed pools.
  For product authorisation an assessment for aboveground small pools (including direct release) should be performed.

- Market share to be applied ($F_{market}$)
  A market share of 0.5 should be used for AS (beside substances which mode of action is based on chlorine) as first tier. The same approach as provided in other ESD should be followed (the market penetration can be lowered based on market data from the applicant). Nevertheless, the refined number of treated pools must never be lower than 1 when specific market data are used.

- Acute scenario pool volume released to STP ($F_{acut\_rel}$)
  A value of 33% should be used in general for permanent pools (no differentiation is made between North and South Europe).

- Time period for peak emission before overwintering ($T_{acut\_emission}$)
  For the time period for peak emissions, a value of 60 days should be used. In the scenario however in order to simplify the calculations a value of 10 pools
per day (for Southern countries) and 2 pools per day (for Northern countries) emitting during 60 days should be used.

At WG-IV-2016 it was further clarified that Facut_rel and Fchro_rel are fractions and therefore dimensionless, the unit should therefore be deleted.

**ENV 45** Disinfection of medical equipment - which default value should be used for the volume of the dipping bath and the maximum number of dipping baths used for pre-disinfection dipping?

Version 1 (WG-I-2015)

It was agreed at WG-I-2015 that the following default values (provided by a French hospital expert based on expert judgement) should be used:

For the scenario dipping in hospital the eCA used;

i. Volume of dipping bath: 10 L (= 0.01 m³)
ii. Maximum number of dipping bath: 30

10 L is a volume that is easy to handle using for example a trolley in a care unit or an operating room where pre-disinfection stage of the medical equipment is supposed to be done immediately after each use.

The number of dipping bath is adapted for small medical equipment supposed to be reused after pre-disinfection, disinfection and sterilization processes.

**Emission scenario for pre-disinfection dipping:**

<table>
<thead>
<tr>
<th>Variable/parameter</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working concentration of active ingredient</td>
<td>Cdisinf</td>
<td>[%]</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Volume of solution in dipping bath</td>
<td>Qdipping_bath</td>
<td>0.01</td>
<td>[m³]</td>
<td>D</td>
</tr>
<tr>
<td>Maximum number of dipping bath per day</td>
<td>Ndipping_bath</td>
<td>30</td>
<td>[d⁻¹]</td>
<td>D</td>
</tr>
<tr>
<td>Fraction released to wastewater</td>
<td>Fwater</td>
<td>1</td>
<td>[-]</td>
<td>D</td>
</tr>
</tbody>
</table>

**Calculation**

\[
E_{\text{local\ water}} = C_{\text{disinf}} \times Q_{\text{dipping\ bath}} \times F_{\text{water}} \times N_{\text{dipping\ bath}} \times 10
\]

**ENV 46** RTU – small scale applications: Definition of default values for the size of the area to be treated (PT 2)


For institutional areas, a default surface area of 25 m² should be used, as the area to be disinfected by small scale RTU products (e.g. spraying flacons or pre-soaked tissues).
Background information on the derivation of the default value:
https://echa.europa.eu/documents/10162/23316520/env38_en.docx/0a064257-fc80-7f4a-e34d-bf66be33f8d2

The above noted default surface area specifically for small scale applications takes account of a certain number of applications per day, therefore the default value for “Fappl” of 1 as given in the scenario for the release of disinfectants used in industrial/institutional areas does not need to be changed in the case of RTU uses.

ENV 47 Emission scenario for the disinfection of aquaria
Version 1 (WG-IV-2016)

The most likely use pattern for a worst-case situation is the widespread use of algal control products in domestic aquaria. The route of exposure to the environment is via the STP, following routine cleaning of the individual aquaria. Home aquaria range in size from 10 L to > 200 L depending on the type of fish being kept. For emission estimation, a 100 L aquarium as a common size is considered. The routine cleaning of the individual aquaria, which involves removal of 25 % of the total water volume, is carried out every 2 to 4 weeks. This corresponds to 1.79 % of the aquarium’s water being replaced on a daily basis. For determining the local emission of a.s. in biocidal products used as algal control in aquaria (PT 2), as a first step for environmental exposure assessment, the scenario is described in the following table. In line with the nomenclature of the ESDs, Fwater represents the fraction released to the STP. For the fraction of water replaced, due to the specific application of the product, an additional parameter is introduced: Frep.

Emission scenario:

<table>
<thead>
<tr>
<th>Variable/parameter</th>
<th>Symbol</th>
<th>Default</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquarium volume</td>
<td>$V_{aquaria}$</td>
<td>100</td>
<td>L</td>
<td>D</td>
</tr>
<tr>
<td>Number of aquaria per STP</td>
<td>$N_{aquaria}$</td>
<td>600</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>Fraction of water replaced due to product application</td>
<td>$F_{rep}$</td>
<td>0.0179</td>
<td>d⁻¹</td>
<td>D/S</td>
</tr>
<tr>
<td>Concentration of a.s. in aquarium</td>
<td>$C_{aquaria}$</td>
<td></td>
<td>mg/L</td>
<td>S</td>
</tr>
<tr>
<td>Fraction of a.s. released to wastewater</td>
<td>$F_{water}$</td>
<td>1</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>Market share</td>
<td>$F_{market}$</td>
<td>0.5</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>Output</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emission rate to wastewater</td>
<td>$E_{local,water}$</td>
<td></td>
<td>kg/d</td>
<td></td>
</tr>
</tbody>
</table>

Calculation

$$E_{local\,water} = \frac{(V_{aquaria} \times N_{aquaria} \times F_{rep} \times C_{aquaria} \times F_{water} \times F_{market})}{1,000,000}$$
**ENV 48** Emission scenario for indoor fountain

Version 1 (WG-IV-2016)

The standard recommendation given for indoor fountain placement is that only distilled water should be used. The use of distilled water, alongside regular cleaning prolongs the life of the pump. In a worst-case situation, however, the most likely use pattern for a biocidal product would be the widespread use of algal control products in indoor fountains. The route of exposure to the environment is via the STP, subsequent to routine cleaning by discarding the treated water via sewage system. The size of indoor fountains can range widely from tabletop devices (30 cm high) to floor fountains (2 m high), which can hold between 2 to 10 L of water. For emission estimations, a 10 L fountain as a common size is considered. Furthermore, it is assumed that 100 % of the fountain volume is replaced and discarded on a daily basis during cleaning. For determining the local emission of a.s. in biocidal products used for algal control in indoor fountains (PT 2), as a first step for environmental exposure assessment, the scenario is described in the following table. In line with the nomenclature of the ESDs, \( F_{\text{water}} \) represents the fraction released to the STP. For the fraction of water replaced, due to the specific application of the product, an additional parameter is introduced: \( F_{\text{rep}} \).

**Emissions scenario:**

<table>
<thead>
<tr>
<th>Variable/parameter</th>
<th>Symbol</th>
<th>Default</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fountain volume</td>
<td>( V_{\text{fountain}} )</td>
<td>10</td>
<td>L</td>
<td>D</td>
</tr>
<tr>
<td>Number of fountains per STP</td>
<td>( N_{\text{fountain}} )</td>
<td>600</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>Fraction of water replaced due to product application</td>
<td>( F_{\text{rep}} )</td>
<td>1</td>
<td>( \text{d}^{-1} )</td>
<td>D/S</td>
</tr>
<tr>
<td>Concentration of a.s. in fountain</td>
<td>( C_{\text{fountain}} )</td>
<td></td>
<td>mg/L</td>
<td>S</td>
</tr>
<tr>
<td>Fraction of a.s. released to wastewater</td>
<td>( F_{\text{water}} )</td>
<td>1</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>Market share</td>
<td>( F_{\text{market}} )</td>
<td>0.5</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>Output</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emission rate to wastewater</td>
<td>( E_{\text{local _ water}} )</td>
<td></td>
<td>kg/d</td>
<td></td>
</tr>
</tbody>
</table>

**Calculation**

\[
E_{\text{local \_ water}} = \frac{(V_{\text{fountain}} \times N_{\text{fountain}} \times F_{\text{rep}} \times C_{\text{fountain}} \times F_{\text{water}} \times F_{\text{market}})}{1,000,000}
\]

**ENV 49** Emission scenario for the disinfection of above ground small pools

Version 1 (WG-IV-2016)

Above ground small pools can be described as private temporary (summer only) swimming pools. These pools are expected to be completely emptied at the end
of the summer season and stored over the winter months. Therefore, the season of an above ground small pool is one summer, in accordance with ESD for PT 19 this corresponds to 91 days. Draining of the pool water occurs through a valve in the pool wall or a hose over the rim of the pool. Drainage water can be released to the STP, nearby surface water, or adjacent soil.

**STP:** The emission pathway via STP is covered by the assessment for permanently installed private swimming pools described in the TAB, therefore a separate scenario for above ground small pools is not necessary. In case permanent pools are not relevant and only above ground small pools are assessed, the scenario for permanent pools (for peak emissions) should be used and the default pool volume should be adjusted to the volume for above ground small pools (i.e. 14 m³).

**Surface water:** The direct emission of private temporary swimming pools to surface waters is likely to affect water bodies similar to the ‘edge of field’ water bodies described in FOCUS Surface Water\(^7\). Of the three water body types (pond, ditch and stream) defined in FOCUS Surface Water, a ditch is the most likely water body type to occur in the near vicinity of properties having private temporary swimming pools. The average discharge for a ditch (\(\text{Flow}_{\text{ditch}}\)) in FOCUS Surface Water is therefore 3.63 L/s. With a pool volume (\(V_{\text{pool}}\)) of 14 m³ and a drainage time (\(t_{\text{drain}}\)) of 6 hours, the discharge from the pool (\(\text{Effluent}_{\text{pool}}\)) is 0.65 L/s. The dilution and local concentration of the pool water emitted to surface water is calculated based on equation 45 and 46 in the guidance BPR IV B v1.0 (2015):

\[
\begin{align*}
\text{Effluent}_{\text{pool}} & = \frac{V_{\text{pool}}}{t_{\text{drain}}} \\
\text{DILUTION} & = \frac{(\text{Effluent}_{\text{pool}} + \text{Flow}_{\text{ditch}})/\text{Effluent}_{\text{pool}}}{6.6} \\
C_{\text{local\,water}} & = \frac{A_{\text{appl}}}{((1 + K_{P\,susp} \times \text{SUSP}_{\text{water}} \times 10^{-6}) \times \text{DILUTION}}
\end{align*}
\]

**Soil:** The direct emission of private temporary swimming pools (14 m³) to soil depends on the drainage time and the soils infiltration rate. Depending on the size of the valve or diameter of the hose, the time needed to drain the pool ranges from several hours to a day. For emission estimations, a drainage time (\(t_{\text{drain}}\)) of 6 hours as typical is considered. It is assumed that the exposed soils are fairly permeable, corresponding to a maximum infiltration rate (\(f_d\)) of 1 m.d\(^{-1}\) (FAO, 1985, Irrigation Water Management: Training manual – Introduction to Irrigation, [http://www.fao.org/docrep/r4082e/r4082e03.htm](http://www.fao.org/docrep/r4082e/r4082e03.htm)). The soil area exposed to the pool’s drainage water is estimated according to the following equation:

\[
C_{\text{local\,water}} = \frac{A_{\text{appl}}}{((1 + K_{P\,susp} \times \text{SUSP}_{\text{water}} \times 10^{-6}) \times \text{DILUTION}}
\]

\[
\text{AREA}_{\text{soil}} = \frac{V_{\text{pool}}}{f_d \times t_{\text{drain}}}
\]

where \(\text{AREA}_{\text{soil}} \text{ [m}^2\) is the soil area exposed, \(V_{\text{pool}} \text{ [m}^3\) is the pool volume, \(f_d \text{ [m.d}^{-1}\) is the infiltration capacity of the soil, \(t_{\text{drain}} \text{ [d]}\) is the time needed to drain the pool.

For determining the local emission to soil of a.s. in biocidal products used in above ground small pools as part of PT 2, as a first step for environmental exposure assessment, the scenario is described in the following table.

**Emissions scenario:**

<table>
<thead>
<tr>
<th>Variable/parameter</th>
<th>Symbol</th>
<th>Default</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private pool volume</td>
<td>(V_{\text{pool}})</td>
<td>14</td>
<td>m(^3)</td>
<td>D (*)</td>
</tr>
<tr>
<td>Soil area exposed</td>
<td>(\text{AREA}_{\text{soil}})</td>
<td>56</td>
<td>m(^2)</td>
<td>D (see above)</td>
</tr>
<tr>
<td>Soil depth</td>
<td>(\text{depth}_{\text{soil}})</td>
<td>0.5</td>
<td>m</td>
<td>D</td>
</tr>
<tr>
<td>Bulk density of soil</td>
<td>(\text{RHO}_{\text{soil}})</td>
<td>1700</td>
<td>kg/m(^3)</td>
<td>D</td>
</tr>
<tr>
<td>Application rate of a.s. in the pool water</td>
<td>(A_{\text{appl}})</td>
<td></td>
<td>mg/L</td>
<td>S</td>
</tr>
<tr>
<td>Number of b.p. applications for one pool in the emission period</td>
<td>(N_{\text{appl}})</td>
<td>1</td>
<td></td>
<td>D/S</td>
</tr>
</tbody>
</table>

**Output**

<table>
<thead>
<tr>
<th>Output</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity of a.s. in pool water</td>
<td>(Q_{\text{pool}})</td>
<td></td>
<td>kg</td>
</tr>
<tr>
<td>Concentration of a.s. in exposed soil</td>
<td>(C_{\text{soil}})</td>
<td></td>
<td>mg/kg</td>
</tr>
</tbody>
</table>

**Calculation**

\[
Q_{\text{pool}} = \left( A_{\text{appl}} \times V_{\text{pool}} \right) / 1000
\]

\[
C_{\text{soil}} = \left( Q_{\text{pool}} \times N_{\text{appl}} \times 1,000,000 \right) / \left( \text{AREA}_{\text{soil}} \times \text{depth}_{\text{soil}} \times \text{RHO}_{\text{soil}} \right)
\]

*) Common pool volume is between 7 to 14 m\(^3\) (according to investigation in DIY stores). Furthermore, in the discussion table – Summary of the e-consultation on scenarios to assess biocides as PT02 for private pool treatment (Conclusions of the WG-ENV-I-2015), No. 4b. It is indicated: NL stated that inflated and metal frame pools have volumes of 10 to 14 m\(^3\) and will probably completely drained.

**ENV 50 Medical sector: disinfection of endoscopes**

Version 1, update Version 2.0 (WG-IV-2016, WG-IV-2017)

In the emission scenario for calculating the release of disinfectant used for PT 2 in hospitals for the disinfection of endoscopes and other articles in washers/disinfectors (ESD PT 2 (2001), Table 3.7, p.25), the equation to calculate the maximum emission rate to water \(E_{\text{local,water}}\) (once-through) should be:
\[ E_{\text{local},\text{water}} = N_{\text{rep-max}} \times Q_{\text{machine}} \times 10^{-6} \times C_{\text{disinf}} \]

With:
- \( E_{\text{local},\text{water}} \): Maximum emission rate to water [kg.d\(^{-1}\)]
- \( N_{\text{rep-max}} \): Maximum number of washers/disinfectors used per day [d\(^{-1}\)] = 3
- \( Q_{\text{machine}} \): Volume of solution in machine [L] = 10
- \( C_{\text{disinf}} \): Working concentration [mg.L\(^{-1}\)]
- \( k\text{deg}_{\text{disinf}} \): Reaction constant for chemical conversion [d\(^{-1}\)]
- \( T_{\text{repl}} \): Replacement interval [d]

The unit for the volume of solution in machine \( Q_{\text{machine}} \) is litres (L) and not m\(^3\).

**ENV 51 Public swimming pool scenario**

Version 1, updated in Version 2.0 (WG-V-2016)

For the emission estimation from public swimming pools (peak emission scenario provided below), with the default size as provided in the ESD (RIVM report 601450009, ESD for all 23 PTs, 2001), it was agreed that these are emptied over three days to the sewer system; i.e. only one third of the pool volume is released on one day.

**Emission scenario for chronic releases:**

<table>
<thead>
<tr>
<th>Variable/parameter (unit)</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of visitors per day</td>
<td>( N_{\text{visit}} )</td>
<td>400</td>
<td>-</td>
<td>D</td>
</tr>
<tr>
<td>Concentration in swimming water</td>
<td>( C_{\text{proc}} )</td>
<td>kg/m(^3)</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Water replaced per visitor</td>
<td>( V_{\text{repl}} )</td>
<td>0.05 m(^3)</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Emission period</td>
<td>( E_{p} )</td>
<td>1 d</td>
<td>D</td>
<td></td>
</tr>
</tbody>
</table>

**Output**

Emission rate to wastewater (standard STP) | \( E_{\text{local,water}} \) | kg/d | O

**Calculation**

\[ E_{\text{local,water}} = (N_{\text{visit}} \times V_{\text{repl}} \times C_{\text{proc}}) / E_{p} \]

**Emission scenario for peak emissions:**

<table>
<thead>
<tr>
<th>Variable/parameter</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Water surface</td>
<td>( \text{AREA}_{\text{swim}} )</td>
<td>440 m(^2)</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Average depth of water</td>
<td>( \text{DEPTH}_{\text{swim}} )</td>
<td>1.8 m</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Fraction released to STP</td>
<td>( F_{\text{rel}} )</td>
<td>1 -</td>
<td>D</td>
<td></td>
</tr>
<tr>
<td>Concentration in swimming water</td>
<td>( C_{\text{proc}} )</td>
<td>kg/m(^3)</td>
<td>S</td>
<td></td>
</tr>
<tr>
<td>Emission period (emission in 3 days)</td>
<td>( E_{p} )</td>
<td>3 d</td>
<td>D</td>
<td></td>
</tr>
</tbody>
</table>
### Output

| Emission rate to wastewater (standard STP) | Elocalwater | kg/d | O |

### Calculation

\[ Elocalwater = \frac{(\text{AREA}_{\text{swim}} \times \text{DEPTH}_{\text{swim}} \times \text{C}_{\text{proc}} \times \text{F}_{\text{rel}})}{\text{Ep}} \]

#### ENV 52 Default volume for industrial premises in PT 2 when applying the biocidal product by e.g. vaporizing or fogging? (PT 2)

**Version 1 (WG-I-2017)**

A value of 4 m for the room height should be used in PT 2 when applying the biocidal product by e.g. vaporizing or fogging. Taking into account a surface area of 1,000 m² according to the ESD for PT 2 (JRC, 2011), the resulting room volume to be considered for vaporizing or fogging in PT 2 is 4000 m³.

Background information on the derivation of the default value:


#### ENV 53 House treatment against algae

**Version 2.0 (WG-I-2018)**

The scenario for spraying (in line with the new proposed scenario for PT 10) and rinsing should be used for PT 2 (treatment against algae). For rinsing, only Tier 1 is relevant, Tier 2 should be deleted. Service life and removal processes should also be included. The scenario is under preparation and will be included in the calculation sheet for PT 2 (v1.1) on the ESD ECHA webpage (https://echa.europa.eu/en/guidance-documents/guidance-on-biocides-legislation/emission-senario-documents) once finalised.

#### 3.1.4 PT 3

#### ENV 54 Area of the animal housing to be considered for the application

**Version 1 (WG-III-2014)**

Application by **foaming** or **spraying**: In a first tier assessment all surfaces in the respective animal housing, provided in Table 8 of the ESD for PT 3 (page 51), should be considered. It is acceptable as second tier to take label information on reduced treatment areas in an animal housing into account.

Application by **fogging**: Depending on the information provided on the product label, either the volume of the animal housing (see default values in the ESD for PT 18) or the surface area should be considered. For the calculation of the surface area, all surfaces in the respective animal housing, provided in Table 8 of the ESD for PT 3 (page 51), should be taken into account.
ENV 55 Capacity of dipping bath in PT 3
Version 1 (WG-III-2014, WG-IV-2016)
For the capacity of dipping bath in PT 3 a default value of 100 L was considered as a realistic worst case for the disinfection of small items of equipment in livestock farming environment. Several smaller dipping tanks may also be used in the same location (e.g. 4 x 25 L = 100 L). The number of applications in one year should remain 365, representing a worst case.

The full scenario for dipping of tools (based on the scenario for disinfection of footwear for veterinary hygiene; ESD for PT 3: Emission scenarios for veterinary hygiene biocidal products (JRC Scientific and Technical Reports, 2011), section 2.4.1) is provided in the following embedded document:

https://webgate.ec.europa.eu/s-circabc/sd/d/e136cb4b-a9e9-4dca-8001-655478fd1b3b/ENV%2055

ENV 56 Default values for formaldehyde and paraformaldehyde in the ESD for PT 3
Version 1 (WG-III-2015)
In the pick list for the amount of active ingredient Qa.i.appl (g.m⁻³) for disinfection of hatcheries used as defaults for various types of disinfectants (Table 6b), the default value for Formaldehyde should read 7 g.m⁻³ and the default value Paraformaldehyde should read 1.2 g.m⁻³.

ENV 57 Disinfection of vehicles: soil emission
Version 1 (WG-II-2016)
It is not necessary to assess direct emission to soil from disinfection of vehicles used for animal transport. The scenario is not included in the ESD and treatments are usually done on hard standing.

ENV 58 Disinfection of pet case and litter trays: soil emission
Version 1 (WG-II-2016)
Direct emission to soil from disinfection of pet case and litter trays does not need to be assessed, since disinfection of pet cases and litter trays is usually performed indoors.

ENV 59 Water volume in the reservoirs / tubs in hoof disinfection scenario
Version 1 (WG-IV-2016)
For hoof disinfection, an additional default value has been agreed for the disinfection with mats: a default value of 60 L b.p./100 animals should be used for Vreserv. The number of fillings per day (Ntub_filling) should not be changed compared to the standard scenario for hoof disinfection (i.e. remain twice a day).
**ENV 60** **Calculation of nitrogen and/or phosphate immission standards**

For active substance approval it is sufficient to provide a risk assessment only based on **nitrogen** immission standards. See also the conclusions in entry ENV 159 for PT 18 below.

**ENV 61** **Teat disinfectant products for other animals than cows**

The ESD for PT 3 (and PT 18) as well as the corresponding guideline for Veterinary Medicinal Products (EMEA/CVMP/ERA/418282/2005-Rev.1-Corr.) does not provide default values for relevant parameters for e.g. buffaloes, sheep and goats.

For products intended to be used on e.g. buffaloes, sheep and/or goats the following was agreed:

Cows are considered worst-case with reference to teat disinfection, as herds are larger than herds of buffaloes, sheep and goats. In addition cows have a higher number of teats compared to other dairy species like sheep and goats, resulting in a lower consumption per treatment.

In conclusion, the default values provided for cows are realistic case to cover also buffaloes, sheep and goats.

**ENV 62** **Applicability of the AHEE recommendation for PT 18 to PT 3**

"Addendum to OECD SERIES ON EMISSION SCENARIO DOCUMENTS, Number 14: Emission Scenario Document for Insecticides for Stables and Manure Storage Systems, ENV/JM/MONO(2006)4" (2015) is applicable to PT 3 uses with the following aspects being confirmed specifically:

- Tmanure-intar2 (manure storage time arable land in new scenario) should be derived from applicant’s data as a period between two subsequent insecticide treatments (specific for PT3: between two disinfectant applications) in the animal housing assuming that Tar-int will be equal to Tbioc-int. Note that Tar-int should also be derived from the applicant’s data as a period between two subsequent treatments in the animal housing, assuming that Tar-int will be equal to Tbioc-int. This applies to situations when degradation in manure is not taken into account.
- Nlapp-grass (number of land applications for grassland per year) of 4 is equally relevant for PT 18 as well as PT 3.
- The land application interval for grassland Tgr-int of 53 days is applicable to PT 3.
- Sections 3.2-3.6 of the Addendum (2015) establishing PEC/PIECSoil calculation routines are applicable to PT 3 (including any changes to these sections to be agreed for PT 18 also in the future)

---

**ENV 63**

**Default value for a dairy cowherd size and consideration of lactation period**

Version 2.0 (WG-I-2018)

The number of days of the lactation period for dairy cows (corresponds to the number of emission days) is indicated in Table 3a ESD for PT3 (2011) with \( N_{\text{day-lact}} (= T_{\text{mission}}) = 300 \). This value is used for release estimation to the STP (ref. to Table 3d), where the calculation for local emission to a standard STP or an on-site waste water treatment plant \( Q_{ai-stp_{1,2,3,4}} = E_{\text{local waste water}} \) (see Table 3b) is based on \( N_{\text{animal}_{1}} = 100 \) dairy cows corrected by a factor \( T_{\text{mission}}/365 \).

In HEAdhoc Recommendation no. 13, the lactation period of dairy cows is also taken into account for exposure estimation: the value for the number of milk producing cows is refined to 82.

\[ 100 \text{ (cows) } \times \frac{300}{365} = 82.2 = 82 \text{ milk producing cows per day}. \]

Such a “correction factor” or comparable factor for consideration of realistic worst case number of cows producing milk in a model housing is currently not used for release estimation to slurry.

Modification of the equation\(^9\) for calculation of the amount of active ingredient \( Q_{ai_{1,2,3,4}} \) in the relevant stream \( i4 = \text{slurry/manure} \) after one application for all animals:

\[ Q_{ai_{1,2,3,4}} = F_{\text{slurry/manure}} \times Q_{ai-preset_{1,2,3}} \times N_{mp\_animal} \]

With

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fraction of a.i. released to slurry/manure</td>
<td>( F_{\text{slurry/manure}} )</td>
<td>( 1-F_{\text{teat}} = 0.5 )</td>
<td>-</td>
<td>D</td>
</tr>
<tr>
<td>Amount of active ingredient to be used for one application (one treatment of one animal)</td>
<td>( Q_{ai-preset_{1,2,3}} )</td>
<td>kg</td>
<td>O</td>
<td></td>
</tr>
<tr>
<td>Number of milk producing animals per day</td>
<td>( N_{mp_animal} )(^*)</td>
<td>82(^*)</td>
<td>-</td>
<td>D/S</td>
</tr>
</tbody>
</table>

\(^*)\) in case of dairy cows the value should be equal to 82, whereas in case of b.p. specifically designed for further animal types (e.g. buffaloes, sheep) another value might be defined/set.

The value of \( N_{\text{animal}_{1}} = 100 \) proposed in the ESD for PT 3 remains unchanged.

---

\(^9\) Table 3c in the ESD for PT 3: https://echa.europa.eu/documents/10162/16908203/pt3_veterinary_hygiene_en.pdf/949c57b2-a511-48bb-acf3-72cf8c526de
**ENV 64**  **Number of milking events per day/consideration of pre- and post-milking events**  
Version 2.0 (WG-I-2018)

In HEAdhoc Recommendation no. 13, it is stated that in general, teat disinfection is performed either pre- or post-milking. However, as a worst-case, it is considered that teat disinfection takes place pre- and post-milking, unless the intended uses clearly propose either pre- or post-milking only. Taking into account 2 milking events per day per cow, a total number of 4 teat disinfection events per day per cow have to be assumed.

To harmonise environmental and human health exposure estimation and to map a realistic worst-case the following modifications were agreed (parameter from Table 3a, chapter 2.3.4 in ESD PT3 (2011)):

<table>
<thead>
<tr>
<th>Variable/parameter</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of teat dipping events for one animal and one day (dipping of four teats of one animal = one disinfectant event application)</td>
<td>Napp-teat</td>
<td>4</td>
<td>[-]</td>
<td>D/S</td>
</tr>
<tr>
<td>Manual milking: in case of both pre- and post-milking application and 2 milking events per day</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Robot milking: both pre- and post milking application and 3 milking events per day</td>
<td>6</td>
<td>[-]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Number of disinfectant applications in one year (equals number of disinfectant applications in one lactation period)</td>
<td>Napp-bioc</td>
<td>= Napp-teat × Nday-lact</td>
<td>-</td>
<td>O</td>
</tr>
<tr>
<td>Interval between two disinfectant applications</td>
<td>Tbioc-int¹)</td>
<td>= 1d/ Napp-teat</td>
<td>d</td>
<td>O</td>
</tr>
</tbody>
</table>

¹) For the calculation result it is irrelevant whether pre- and post-milking is expressed as disinfection events close to each other (pre- and post-milking) or as separate, equally distributed disinfection events.
3.1.5  PT 4

**ENV 65**  Which default value should be used for $F_{\text{mainsource}}$ and $T_{\text{emission}}$ when calculating the annual amount of active substance used in an industrial food processing plant via the tonnage based approach?

Version 1 (WG-III-2014)

In an ad-hoc follow-up post WG-III-2014 it was concluded that for $F_{\text{mainsource}}$ a value of 0.05, considering a 10 % (generic) market share, and for $T_{\text{emission}}$ a value of 231 days (according to the ESD for PT 4) should be used when calculating the annual amount of an active substance used in a food processing plant using the tonnage based approach as calculation aid. This value for $F_{\text{mainsource}}$ was calculated to cover worst case emissions from large plants.

**ENV 66**  Which volume should be considered for slaughterhouses/large kitchen in case application is performed by e.g. fogging/smoke generation?

Version 1 (WG-V-2014)

Since the ESD for PT 4 refers to a surface area to be disinfected, the default values need to be converted to a volume in case of e.g. fogging or disinfection by smoke generators. The following default values for room volumes have been agreed at WG-V-2014:

- **Slaughter house**: 50,000 m³: assuming a surface area of 10,000 m² multiplied by a room height of 5 m (reference for room height: http://www.fao.org/docrep/003/x6509f/X6509E01.htm, see there page 3 and Annex I)
- **Large kitchen**: 6,000 m³: assuming a surface area of 2,000 m² multiplied by a room height of 3 m.

**ENV 67**  RTU – small scale applications: Definition of default values for the size of the area to be treated (PT 4)


The following default values for the surface areas to be disinfected by small scale RTU products (e.g., spraying flacons or pre-soaked tissues) should be used:

- **Large scale kitchens**: a default surface area of 50 m² should be used, corresponding to 2.5% of the total kitchen area of 2000 m².
- **Slaughterhouses**: a default surface area of 10 m² should be used, corresponding to 0.1% of the total slaughterhouse area of 10000 m².

Background information on the derivation of the default value:

ENV 68 Breweries: cleaning frequency
Version 1, updated in Version 2.0 (WG-V-2016)

The following default value for the cleaning frequency in breweries have been agreed:
For small breweries, cleaning takes place once per week and 43 weeks/year, corresponding to a number of emission days of 43 d/yr.
For medium size breweries the default values provided in the ESD should be used.
For large breweries, cleaning takes place 10 times per day and 300 days/year, corresponding to a number of emission days of 300 d/yr.

ENV 69 Wine barrel disinfection scenario
Version 1 (WG-IV-2017)

The following emission scenario is based on the example of a substance, which is applied in gas form. If it is shown in the future that also application of liquid products is relevant, the default values for $F_{\text{air}}$ and $F_{\text{water}}$ need to be re-discussed.

Emission scenario:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amount of product applied</td>
<td>$Q_{\text{disinf}}$</td>
<td></td>
<td>L</td>
<td>S</td>
</tr>
<tr>
<td>Concentration of active substance in product</td>
<td>$C_{\text{disinf}}$</td>
<td></td>
<td>mg/L</td>
<td>S</td>
</tr>
<tr>
<td>Volume wine barrel</td>
<td>$V_{\text{barrel}}$</td>
<td>225</td>
<td>L</td>
<td>D</td>
</tr>
<tr>
<td>Number of barrels</td>
<td>$N_{\text{barrel}}$</td>
<td>60</td>
<td>-</td>
<td>D</td>
</tr>
<tr>
<td>Fraction emitted to (waste)water</td>
<td>$F_{\text{water}}$</td>
<td>0</td>
<td>-</td>
<td>D</td>
</tr>
<tr>
<td>Fraction emitted to air</td>
<td>$F_{\text{air}}$</td>
<td>1</td>
<td>-</td>
<td>D</td>
</tr>
<tr>
<td>Number of applications</td>
<td>$N_{\text{application}}$</td>
<td>1</td>
<td>d⁻¹</td>
<td>D</td>
</tr>
</tbody>
</table>

Output

| Concentration of active substance in barrel    | $C_{\text{as}}$ | mg/L  | O    |
| Volume treated                                 | $V_{\text{treated}}$ |       | L⁻¹  | O    |
| Local direct emission rate per winery per day  | $E_{\text{local, air}}$ |     | mg/d | O    |

Calculation

\[
C_{\text{as}} = \frac{Q_{\text{disinf}} \times C_{\text{disinf}}}{V_{\text{barrel}}}
\]

\[
V_{\text{treated}} = V_{\text{barrel}} \times N_{\text{barrel}}
\]

\[
E_{\text{local, air}} = N_{\text{application}} \times C_{\text{as}} \times V_{\text{treated}} \times F_{\text{air}}
\]
En 70  
Assessment of private use of disinfectants used in food and feed areas  
Version 1 (WG-I-2018)

The following emission scenario was agreed:

Emission scenario:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Input</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Application rate of the biocidal product</td>
<td>$Q_{\text{appl}}$</td>
<td></td>
<td>g/m²</td>
<td>S</td>
</tr>
<tr>
<td>Concentration of active substance in biocidal product</td>
<td>$C_{\text{form}}$</td>
<td></td>
<td>g/g</td>
<td>S</td>
</tr>
<tr>
<td>Number of households feeding one STP</td>
<td>$N_{\text{houses}}$</td>
<td>4000</td>
<td></td>
<td>D</td>
</tr>
<tr>
<td>Fraction of households using product</td>
<td>$F_{\text{house}}$</td>
<td>0.1</td>
<td>-</td>
<td>D</td>
</tr>
<tr>
<td>Disinfected surface area of a private kitchen</td>
<td>$\text{AREA}_{\text{surface}}$</td>
<td>2</td>
<td>m²</td>
<td>D</td>
</tr>
<tr>
<td>Number of applications</td>
<td>$N_{\text{appl}}$</td>
<td>1</td>
<td>1/d</td>
<td>D</td>
</tr>
<tr>
<td>Fraction released to wastewater</td>
<td>$F_{\text{water}}$</td>
<td>1</td>
<td>-</td>
<td>D/S</td>
</tr>
<tr>
<td>Fraction released to air</td>
<td>$F_{\text{air}}$</td>
<td>0</td>
<td>-</td>
<td>D/S</td>
</tr>
<tr>
<td>Penetration factor of disinfectant</td>
<td>$F_{\text{penetr}}$</td>
<td>0.5</td>
<td>-</td>
<td>D</td>
</tr>
<tr>
<td><strong>Output</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local release to waste water</td>
<td>$E_{\text{local}}_{\text{water}}$</td>
<td></td>
<td>g/d</td>
<td>O</td>
</tr>
<tr>
<td>Local release to air</td>
<td>$E_{\text{local}}_{\text{air}}$</td>
<td></td>
<td>g/d</td>
<td>O</td>
</tr>
<tr>
<td><strong>Calculation</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$E_{\text{local}}<em>{\text{water}} = C</em>{\text{form}} * Q_{\text{appl}} * N_{\text{local}} * F_{\text{house}} * N_{\text{appl}} * \text{AREA}<em>{\text{surface}} * F</em>{\text{penetr}} * F_{\text{water}}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$E_{\text{local}}<em>{\text{air}} = C</em>{\text{form}} * Q_{\text{appl}} * N_{\text{local}} * F_{\text{house}} * N_{\text{appl}} * \text{AREA}<em>{\text{surface}} * F</em>{\text{penetr}} * F_{\text{air}}$</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Justifications for input parameters:
AREA_{surface}: Derived based on information provided by CEFIC.
$F_{\text{house}}$: Deduced from the ESD for PT 2, page 15, taking into account conservatively the values provided for the daily application of detergents and cleaning agent applications, i.e. 8%, rounded up to 10%.
$N_{\text{appl}}$: It is assumed that usually no more than one application per day takes place.
$F_{\text{penetr}}$: A default penetration factor of 0.5 is suggested as used in ESD PT2 for household disinfectants.
3.1.6 **PT 5**

**ENV 71** Total water consumption per occupied hospital bed

Version 1, updated in Version 2.0 (WG-V-2016)

For the disinfection of hospital water, the hospital scenario for PT 1 (Emission scenario for calculating the releases of disinfectants in hospitals based on an average consumption, ESD for PT 1, Table 4.5) can be used as basis, applying the following default value for the water consumption per occupied bed: 0.7 m³/d.

**Emissions scenario – hospital drinking water systems:**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
<th>Origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of beds in model hospital</td>
<td>(N_{\text{bed_pres}})</td>
<td>400</td>
<td>[-]</td>
<td>D</td>
</tr>
<tr>
<td>Occupancy rate</td>
<td>(F_{\text{occup}})</td>
<td>0.75</td>
<td>[-]</td>
<td>D</td>
</tr>
<tr>
<td>Fraction released to wastewater</td>
<td>(F_{\text{water}})</td>
<td>1</td>
<td>[-]</td>
<td>D</td>
</tr>
<tr>
<td>Total water consumption per occupied bed</td>
<td>(Q_{\text{water_occ_up_bed}})</td>
<td>0.7</td>
<td>m³/d</td>
<td>D</td>
</tr>
<tr>
<td>Concentration in water</td>
<td>(C_{\text{proc}})</td>
<td></td>
<td>kg/m³</td>
<td>S</td>
</tr>
</tbody>
</table>

**Output**

| Emission rate to wastewater (STP)              | \(E_{\text{local\_water}}\) | kg/d  | O     |

**Calculation**

\[
E_{\text{local\_water}} = N_{\text{bed\_pres}} \times F_{\text{occup}} \times F_{\text{water}} \times Q_{\text{water\_occ\_up\_bed}} \times C_{\text{proc}}
\]

3.1.7 **PT 6**

3.1.7.1 PT 6 general items

**ENV 72** Do product formulation and product use have to be evaluated?

Version 1 (TM IV 2008)

Yes, both phases (product formulation and product use) have to be assessed as illustrated in the figure below.
Which approach should be used for the exposure assessment of PT 6?

Which IC/UC category from the TGD has to be used?

Version 1 (TM IV 2008)

For the product formulation stage the tonnage approach has to be used for the assessment. With regard to the IC/UC category, a worst-case approach based on the proposed uses by the applicant shall be followed. The worst-case approach then would consist of:

1. considering the uses applied for;
2. investigating, for example via a sensitivity analysis using EUSES, which IC/UC category leads to the highest emissions;
3. assuming the whole tonnage applied for as input value for the assessment.

How should the sub-categories and sub-scenarios for PT 6 during product use be numbered?

Version 1 (TM IV 2008)

The following numbering of sub-categories and sub-scenarios should be used:

6.1. Washing and cleaning fluids and human hygienic products
   6.1.1 Washing and cleaning fluids (human hygienic products)
   6.1.2 Washing and cleaning fluids (general) and other detergents
6.2. Paints and coatings (P, N)
6.3. Fluids used in paper, textile and leather production (P)
   6.3.1 Fluids used in paper production (P)
   6.3.2 Fluids used in textile production (P)
   6.3.3 Fluids used leather production (P)
6.4. Metal working fluid
   6.4.1 Lubricants (P)
   6.4.2 Machine oils (P)
6.5. Fuel
6.6. Glues and adhesives
6.7 Other

If an applicant has identified a use as “6.7 Other”, then the applicant must extensively describe its use and emission routes.

ENV 75 Do in-can preservatives used in cosmetics fall into the scope of the BPD (BPR)?
Version 1 (TM I 2011)
It has been agreed that emissions of in-can preservatives applied to prolong shelf-life of cosmetics for the risk assessment in PT 6 is outside of the scope of BPR.

ENV 76 Do emissions from waste disposal of biocidal products have to be evaluated under the BPR?
Version 1 (TM I 2011)
It is not necessary for this specific PT. Any disposal issue may be addressed appropriately by the relevant EU and/or national legislation.

3.1.7.2 PT 6.1 Washing and cleaning fluids, human hygienic products and detergents

ENV 77 Which type of risk assessment should be considered?
Version 1 (TM I 2011)
For "washing and cleaning fluids" it is not advised to use the worst-case ESD as most appropriate solution. Cumulative risk assessment should be considered. It should be done by summation of all single uses. Or simplified tonnage-based approach (with 100% release to STP for all uses with this emission pathway) could be considered. If this show no risk, detailed calculation will not be necessary.

3.1.7.3 PT 6.2 Paints and coatings

ENV 78 Which emission scenarios are more appropriate for the risk assessment evaluation?
Version 1 (TM I 2011)
The general scenarios (e.g. tonnage approach) do not cover all specific emission pathways. Therefore, the risk for some environmental compartments may be underestimated (e.g. emission to soil). To overcome this, specific scenarios (e.g. for PT 8, PT 10 and PT 21) selected on a case-by-case basis should be used. However, it should be kept in mind that in order to use the above mentioned ESD several specific parameters, e.g. theoretical coverage of the paint needed for PT 21, daily flux or fluid application rate needed for PT 8 or 10, should be provided by the applicant.
Are leaching test required?

Version 1 (TM I 2011)

Leaching tests are not necessary. Assumption that the emission occurs during Time 1 represents the worst-case.

3.1.7.4 PT 6.3 Fluids used in paper, leather and textile production

Paper production

Which additional ESDs can be considered for emission calculations?

Version 1 (TM I 2011)

For paper application several scenarios are available:
- EU – TGD (EC 2003a) IC-12 Pulp, paper and board industry. Assessment of the environmental release of chemicals used in the pulp, paper and board industry.
- EUBEES (2001) PT 6, 7 and 9 Biocides used as preservatives in paper coating and finishing. Assessment of the environmental release of biocides used in paper coating and finishing.
- RIVM/NL and FEI/Finland ESD for biocidal products applied in the paper and cardboard industry (Van der Poel and Braunschweiler 2002). This ESD is described in detail in document Harmonisation of Environmental Emission Scenarios for Slimicides (product type 12) EUBEES 2003 (Van der As and Balk 2003)

Additionally, there are other 3 ESDs concerning paper industry:
- OECD ESD No. 15 (ESD on Kraft Pulp Mills, 2006),
- OECD ESD No. 16 (ESD on Non-integrated Paper Mills, 2006) and
- OECD ESD No. 17 (ESD on Recovered Paper Mills, 2006).

However the EUBEES (2001) is the preferred one as first tier. Degree of closure of the water system is not included into calculation in OECD (2009) document. This may overestimate the emission.

Which default parameters should be used for the risk assessment if no specific information by the applicant is given?

Version 1 (TM I 2011)

The following default values shall be used:
- \( Q_{\text{paper}} = 449 \text{ t/d} \) (according to EUBEES scenario);
- \( F_{\text{fix}} = 0 \) (according to EUBEES scenario);
- \( F_{\text{closure}} = 75\% \) (value for newsprint according to EUSES scenario).

Concerning the \( Q_{\text{active}} \), the problem is the number of additive types used in a realistic worst-case paper mill: around 20 for stock preparation and 15 for the paper machine, with different concentrations in in-can preservatives. Thus, no default value is proposed; instead it is proposed to deduce the concentration of PT6 substance in these additives using efficacy data. Additives used in paper mills are listed in the ESDs.
**Textiles production**

**ENV 82** Which additional ESDs can be considered for emission calculations?

Version 1 (TM I 2011)

For textile production several scenarios are available:
- EU-TGD (EC 2003) IC-13 Textile processing industry;
- EUBEES (2001), Emission scenario document for biocides used as preservatives in textile processing industry (PT 9 and PT 18);

**ENV 83** Which is the value to be used for the fixation rate (Ffix) for textile in-can preservatives?


Active substances in PT 6 are not intended to preserve textiles therefore a fixation factor of 0 is proposed as a worst case.

As a consequence, the service life of in-can preservatives in preserved textiles does not need to be assessed.

**ENV 84** Which values are to be used for the calculation of releases from different application steps?

Version 1, updated in Version 2.0 (TM I 2011, WG-II-2014)

The following default values are proposed (TM I 2011):
- Amount of additive applied per tonne of textile ($Q_{product}$) =
  - For pre-treatment: 120 kg/t of fabric (as product used in textile industry)
- Efficacious preservative concentration in additive ($Q_{active}$) will be deduced from the efficacy data and the $Q_{product}$.
- Quantity of fibre/fabrics treated per day ($Q_{textile}$) = 13 t/d of a.s.

N.B.: At WG-II-2014 the default value for $Q_{product}$ was corrected from 20 to 120 kg/t: the value of 120 kg/t for pre-treatment step, represents the combined value for preparation agents (= 20 kg/t) and sizing agents (= 100 kg/t) provided in Table 10 of the OECD ESD on textile finishing industry (OECD 2004).

Concerning the fraction of fabric treated with product containing the substance of interest, two different values are proposed, 0.3 (default in ESD) and 1 as a worst case.

**Leather production**

**ENV 85** Which additional ESDs can be considered for emission calculations for leather production?

Version 1 (TM I 2011)

For leather in-can preservatives several scenarios are available:
- EU-TGD (EC 2003) IC-7 Leather processing industry;
- EUBEES (2001), Emission scenario document for biocides used as preservatives in textile processing industry (PT 9).
ENV 86 Which is the value to be used for the fixation rate (Ffix) for leather in-can preservatives?
Version 1 (TM I 11)
Active substances in PT 6 are not intended to protect leather therefore fixation factor of 0 is proposed as a worst-case.

ENV 87 Which is the value to be used as Q.active for leather in-can preservatives?
Version 1 (TM I 2011)
The Q.active cannot be set by default, but it would probably be useful to set a Q.tanning products (kg/t leather) which would represent an average quantity of products used for the tanning process.

3.1.7.5 PT 6.4 Metal Working Fluids (MWF)

ENV 88 Which additional ESDs can be used to evaluate PT Metal Working Fluids (WMF)?
Version 1 (TM I 2011, WG IV 2017)
The ESD for PT13 is the first choice to calculate emission of a.s. used to preserve MWF during shelf-life. Additionally, using the EU-TGD ESD for IC 8 can be considered as a possibility to calculate emissions. Since applicants do not have detailed knowledge concerning the use of the preserved products the worst case agreed for a.s. in PT 13 should be used (fraction of concentrate in processed liquid should be 0.2).

3.1.7.6 PT 6.5 Fuels

ENV 89 Which additional ESDs can be used to evaluate PT 6 Fuels?
Version 1 (TM I 2011)
EU-TGD IC 9 ESD for the Mineral oil and fuel industry (EC 2003a) is proposed as first choice to calculate emission of in-can preservatives of fuels.

ENV 90 Do emissions of fuels have to be calculated if the fuel ends up in an engine?
Version 1 (TM I 2011)
For fuel ending up in an engine, it is assumed that 100% of the substance will be burnt thus, emissions should not be considered.

3.1.7.7 PT 6.6 Glues and adhesives

ENV 91 Which additional ESDs can be considered for PT 6: Glues and adhesives?
Version 1 (TM I 2011)
The general tonnage scenario and the TGD- scenarios (for glues and adhesives UC 2) can be used. ESD for PT 7 should be also considered.
ENV 92 Which input values should be used to calculate fractions of active substance reaching the STP if no data is available?
Version 1 (TM I 2011)

If no data is available, calculations should be performed using 50%, 10% and 1%.

3.1.8 PT 7

ENV 93 Service life to be considered for coating?
Version 1 (WG-IV-2015)

For the exposure assessment of industrially applied film preservatives using surface treatments (e.g. automated spraying or dipping), a service life of 15 years should be considered for Time 2, in line with the default value provided in the OECD ESD for PT 8.

Vacuum treatment is not foreseen for coatings in PT 7, therefore, no default value is proposed.

For in-situ treated commodities by amateurs/professionals, a service life of 5 years should be considered for Time 2, in line with the default value provided in the OECD ESD for PT 8.

ENV 94 Leaching rate to be used for the assessment of storage phase
Version 1 (WG-IV-2015)

For the assessment of the two storage phases (initial and longer period), the leaching rate calculated for Time 1 should be used for both storage phases, i.e. for the initial as well as the longer period.

ENV 95 Time period for the service life for the storage place (Time 2)
Version 1 (WG-IV-2015)

For the service life for the longer storage period on a storage place, i.e. Time 2, a default value of 7300 days (i.e. 20 years) should be used, which corresponds to the average life span of an industrial treatment plant.

3.1.9 PT 8

ENV 96 How should the PEC surface water be calculated for industrially treated wood or industrial on-site storage?
Version 1 (TM I 2006; TM II 2006; TM III 2006)

The emissions from run-off and STP discharge during the application and storage stages of wood treatment shall be added up, in order to calculate the PEC for
surface water as these processes occur at the same time in industrial plants. The correction for absorption to suspended matter shall be made where relevant.

**ENV 97** Is the fence scenario for wood preservatives always required?
The house-scenario is the worst case scenario (for the soil compartment) and would therefore be sufficient.

This is also reflected in the OECD SERIES ON EMISSION SCENARIO DOCUMENTS Number 2 - Revised Emission Scenario Document for Wood Preservatives (2013), where worst case scenarios for in-situ treatment and treated wood in service have been defined as follows:

In-situ treatment (soil compartment):
- Worst case for UC 3): House (see chapter 4.2.4.1)

Treated wood in service (soil compartment):
- Worst case for UC 3: House (see chapter 4.3.3)
- Worst case for UC 4a: Transmission pole (see chapter 4.3.4)

**ENV 98** What is the house density for the assessment of groundwater contamination resulting from the application to and leaching from houses treated with wood preservatives?
In reference to the revised OECD ESD for PT 8 (OECD, 2013) a number of 16 houses per ha has to be used. Each of the 16 houses is assumed to have an outer wooden area treated with wood preservatives and relevant for leaching of 125 m², resulting in a total (leachable) area of 2000 m² per hectare.

Please refer to: OECD SERIES ON EMISSION SCENARIO DOCUMENTS Number 2 - Revised Emission Scenario Document for Wood Preservatives (2013): Supplement to Appendix 4 – Scenario for the groundwater exposure assessment for wood preservatives.

**ENV 99** Are two different DT50 values needed, one for TIME 1 and a different one for TIME 2, to calculate PECsoil?
Version 1 (TM I 2007)
The highest DT50 value should be used to represent the realistic worst case.

**ENV 100** Extrapolation of the leaching results to longer time period (TIME 2). How should it be done?
Version 1 (TM I 2007)
The long term leaching rate (LR) should be calculated based on the last LR measured in the leaching test. When performing these extrapolations it shall be taken into account that the leached amount does not exceed the applied amount of active substance.
Several options for determination of leaching loss at Time 2 are listed in the minutes following the 2nd Leaching Workshop in Varese, Italy (see document embedded in ENV 90)

**ENV 101 How is the exposure scenario for Professional in-situ spraying defined?**
A scenario for professional outdoor in-situ spraying was included in the revised OECD ESD for PT 8.
Please refer to: OECD SERIES ON EMISSION SCENARIO DOCUMENTS Number 2 - Revised Emission Scenario Document for Wood Preservatives (2013), chapter 4.4.5.

**ENV 102 Should the bridge over pond scenario for UC3 be included in the CAR even if this is not proposed as an intended use by the applicant?**
The bridge over pond scenario is not used to evaluate the application phase but the use phase, in order to describe the emission pathway into open water bodies, and should therefore be included in the CAR.
Please note that a new scenario covering the risk from in-situ application (e.g. brushing) as well as the leaching from treated timber near or above static water bodies was developed and is provided in the revised OECD ESD for PT 8. This revised scenario should be used for the bridge over pond calculations (1000 m³) in connection to active substance approval as well as at product authorisation.

**ENV 103 When is the assessment of risks to groundwater from on-site storage necessary?**
Version 1 (TM II 2006)
Risks to ground water from on-site storage need to be assessed, even when there is no risk identified for the soil compartment for the industrial scenario since the leaching behaviour and persistence of a substance might still result in a risk for groundwater.

In the case of storage of treated wood (scenarios for industrial preventive processes), a groundwater assessment is not needed if risk mitigation measures are described and applied to prevent losses to soil (e.g. impermeable, hard standing and recovery of leachate as well as covering the storage place by roofs).

**ENV 104 Summary of conclusions of the 2nd EU Leaching Workshop**
Version 1 (TM III 2013, WG-I-2014)
Note: The following embedded document was prepared as an "interim solution" and contains the conclusions on those items discussed at the 2nd EU Leaching Workshop which have been endorsed at TM III 2013 and WG-I-2014.
The final conclusions will be uploaded to the ECHA ESD specific webpage as soon as the remaining open points, currently still under discussion, are agreed.

Acceptability of the current methods to assess the exposure/risk of wood preservatives (PT 8)
Version 1 (WG-III-2015)
The current methods to assess the exposure/risk of wood preservatives (PT 8) were considered as being acceptable enough to derive a realistic worst case PEC value for the soil compartment. Therefore, the exposure assessment should remain as it is currently performed and no change is needed.

It was stated in addition that the item can be re-discussed again if requested by the BPC/CA meeting.

Default flow rate for creek adjacent to a storage place
Version 1 (WG-III-2016)
For calculation of PEC_{surface waters/industrial storage}, as flow rate of an adjacent creek a default value of 0.3 m³/s should be used.

Bunded storage sites: Need of an assessment of release to the STP
Version 1 (WG-III-2016)
For bunded (sealed) storage places, an STP assessment needs to be conducted unless the standard RMM for PT 8 is applied.

Should the city scenario be applied for PT 8 to cover the release via STP?
Version 1 (WG-IV-2016)
There is no need to apply the city scenario for PT 8, neither as ‘stand-alone’ scenario, nor in combination with the storm-water scenario. For the assessment of the release to the STP from in-situ treatment (service life stage) the noise barrier scenario should be used.

Background information:

Wood treated with short term antisapstain
Version 1 (WG-V-2016, BPC-17)
The short term antisapstain treatment falls under the scope of the BPR. Assessment of emission during service life of treated wood needs to be performed unless there is proof that there is no emission to the environment.

Clarification on the text of the RMM for PT 8
Version 1 (WG-V-2016, BPC-17)
The following revised proposal for the RMM text was agreed: "... and that freshly treated timber shall be stored after treatment under shelter or on impermeable
hard standing, or both, to prevent direct losses to soil, sewer or water, and that any losses of the product shall be collected for reuse or disposal”.

It was further noted that there are new alternative methodologies under development (e.g. covering the ground with adsorbing materials), however for the time being they will not be reflected in the RMM.

**ENV 111** Time period for the service life for the storage place (Time 2)  
Version 2.0 (WG-IV-2017)

For the service life for the longer storage period on a storage place, i.e. Time 2, a default value of 7300 days (i.e. 20 years) should be used, which corresponds to the average life span of an industrial treatment plant.

**ENV 112** Groundwater assessment for UC 4  
Version 2.0 (WG-IV-2017)

The lack of harmonised guidance on groundwater assessment for UC 4 scenarios (both soil and groundwater) were flagged with regard to transmission poles and fence posts. A number of issues are identified why groundwater determination would be difficult but no assistance is given in the current guidance like e.g. the area of wood per hectare.

It was agreed that the scenario for railway sleepers should be used as a first tier to assess the exposure to the groundwater compartment for UC 4.

**ENV 113** Treated wood in service UC 3 – 4 – Vsed default value for bridge over pond scenario and jetty in a lake scenario  
Version 2.0 (WG-IV-2017)

Vsed should have the following default values in equations 3.18/3.19 of the OECD ESD PT 8:

i) For the bridge over pond scenario (treated wood in service UC 3) – Vsed = 3 m³, based on a 3 mm sediment layer and a pond surface area of 1000 m²

ii) For the jetty in a lake scenario (treated wood in service UC 4b) – Vsed = 23.56 m³, based on a 3 mm sediment layer and a diameter of 100 m.

It should be noted that Vsed is not used to calculate the PECsed, it is used to take into account dissipation from the water layer in order to refine the PECsw.

*Note: The item is currently further being followed up by a paper prepared by NL for WG-II-2018, which however is not yet concluded.*

**ENV 114** Dipping immersion processes, Qai conversion factor (from kg.m⁻² to kg.m⁻³)  
Version 2.0 (WG-IV-2017)

The quantity of a substance applied per m³ of wood (Q₉ₙ, kg.m⁻³) is a set value, usually however provided in kg.m⁻². To convert the quantity of a substance
applied from kg.m\(^{-2}\) to kg.m\(^{-3}\) the application rate in kg.m\(^{-2}\) should be multiplied by a factor of 40 (worst case).

3.1.10 PT 9

**ENV 115** Which tent density per hectare can be used for \(\text{PEC}_{\text{groundwater}}\) calculations?

Version 1 (TM III 2013)

At TM III 2013 it was agreed to consider 150 tents per hectare for groundwater assessment. The number is based on an internet search. If sufficient information of tonnage data is supplied a market share of 0.5 can be applied to the number of tents.

**ENV 116** Use scenarios for PT09 roof membranes

Version 1 (WG-III-2014)

The document “*Use-based approaches for the estimation of environmental exposure due to roof membranes*” was developed by DE, first introduced at TM IV 2013 and endorsed at WG-III-2014.


**ENV 117** Preservation of shoes in shoeboxes scenario

Version 2.0 (WG-IV-2017)

The following scenario is based on the example of an in-situ generated active substance. Substance specific measured values or output values have been deleted for the purpose of including the scenario in the TAB.


3.1.11 PT 10

**ENV 118** Which input values should be used to calculate emissions reaching the STP for the city-scenario in PT10?

Version 1 (TMIII 10, TM II 2012, TMIV 2012, TMII 13, TMIII 13, TM IV 2013)

The document “*City scenario: Leaching from paints, plasters and fillers applied in urban areas*” was developed by NL and endorsed at TM IV 2013.

**ENV 119**

City scenario – calculation of number of houses in which the product is expected during application (indoor applications)

Version 2.0 (WG-IV-2017)

\[ N_{\text{house, applic}} = \frac{N_{\text{house}} \times f_{\text{house}} \times \text{service life}}{365} \]

Where:

- \( N_{\text{house, applic}} \): number of houses in which the product is applied on a single day (-)
- \( N_{\text{house}} \): number of houses in a city (4000)
- \( f_{\text{house}} \): fraction of the houses on which paints, plasters, or fillers are applied (market share = 1.0);
- Service life: service life of the preserved products (yr)
- 365: number of days in a year (d. yr\(^{-1}\))

The text in the document “City scenario: Leaching from paints, plasters and fillers applied in urban areas” (page 6) should be amended as follows:

“The number of houses treated daily depends on the service life of the product. For paints and joint sealants having a service life of 5 years 800 houses are treated annually when assuming that the product is applied on 100% of the houses in a city. Although this may suggest that 2.2 houses are painted daily, \( N_{\text{house, applic}} \) have to be three houses per day to compensate for days that are not suitable for painting because of the temperature and/or precipitation.

**ENV 120**

Which soil volume should be considered for the countryside house scenario for PT10?


In regard to the soil volume for ESD PT 10, setting "building located in the countryside" the already agreed values for the evaluation of the soil compartment for PT 8 were used. \( V_{\text{soil(a)}} \) and \( V_{\text{soil(d)}} \) based on a soil depth of 50 cm for "brushing" and "spraying".

For all PT 10 products an increased soil volume can be accepted for risk assessment (see RCOM_ENV (No. 49) Competent Authority Report of Nonanoic Acid (PT 10) (11-2012) 7/16.

For the assessment of "spraying" application in PT 10 and similar applications in other PTs (e.g. PT 2, PT 6, PT 7), the scenario provided for outdoor in-situ spraying in the OECD SERIES ON EMISSION SCENARIO DOCUMENTS Number 2 - Revised Emission Scenario Document for Wood Preservatives (2013), chapter 4.4.5, should be used also. The scenario for PT 8 should be used as a first tier for PT 2, PT 6 and PT 7. The first tier can be revised (e.g. default values for Fdrift and Frun-off) based on further information provided in the frame of concrete cases.
Spraying application – dimensions of the receiving soil compartment

Version 2.0 (WG-IV-2017)

The value of 6.9 m is the distance travelled by drift, i.e. it is the maximum distance, which can be reached by spray considering a total height of release of 4.25 m (i.e. height of the façade 2.5 m + height of the roof 1.75 m). Therefore, the actual total width of the receiving soil compartment should be maximally 6.9 m. Consequently, if the width of the adjacent soil is 50 cm, the width of the distant soil should be 6.9 - 0.5 = 6.4 m.

Refinement of the cumulative leaching by taking into account $F_{\text{weatherside}}$ for the city scenario

(WG-II-2015)

The WG agreed when calculating emissions using the city scenario, the fraction of house surface exposed to weather ($F_{\text{weatherside}} = 0.5$) provided in the Supplement to Appendix 4 in the OECD SERIES ON EMISSION SCENARIO DOCUMENTS Number 2 - Revised Emission Scenario Document for Wood Preservatives (2013) should not be taken into account.

Rinsing of houses

Version 2.0 (WG-I-2018)

The scenario for “rinsing” as provided in the ESD for PT 10 is no longer considered relevant and does not need to be calculated.

Conclusions on the environmental assessment of biocides in PT 11 cooling water systems

(TM III 2011, TM IV 2013)

The document “Note: Environmental assessment of biocides in PT 11 cooling water systems” was developed by NL and endorsed at TM IV 2013.

It can be found on the ESD specific ECHA webpage, PT 11: http://echa.europa.eu/guidance-documents/guidance-on-biocides-legislation/emission-scenario-documents

Emission to surface water from small open recirculating cooling systems

(WG-V-2016)

If the use in large open recirculating cooling systems is not relevant and not assessed or if the use is assessed but results in an unsafe use, direct discharge to surface water should be assessed for small open recirculating cooling systems.
Closed cooling system – drainage of the system and treatment as hazardous waste
(WG-II-2017)
It was questioned if it can be assumed as refinement that the system is completely drained and the content is collected for treatment by a specialised waste water treatment company.

It was agreed that the collection of cooling liquid and disposing it off as hazardous waste is an acceptable assumption for a RMM in the case of closed cooling system in PT 11.

How to address the use and discharge of offshore chemicals from oil platforms?
(TM II 2003)
The CHARM model (developed under OSPAR) is applicable for estimating emissions of slimicides from oil platforms and is recommended in the ESD.

Can the dilution factor from STP to adjacent surface water be increased for PT 12?
(WG-II-2014)
For PT 12 the same river flow rates as provided in the paper of NL for PT 11 related to the waste water production in the paper industry should be used to calculate the dilution factor (see "Note: Environmental assessment of biocides in PT 11 cooling water systems"; ESD specific ECHA webpage, PT 11: http://echa.europa.eu/guidance-documents/guidance-on-biocides-legislation/emission-scenario-documents)

Default values for slimicides in offshore processes
(WG-II-2017)
Different default values are provided in the ESD and the document “Environmental risk assessment for biocides applied in the offshore oil exploration industry” (https://echa.europa.eu/documents/10162/16908203/esd_pt_11-12_final_en.pdf) for the parameters average water depth around the platform and dilution factor for batchwise discharges.

It was agreed that the default values provided in the document “Environmental risk assessment for biocides applied in the offshore oil exploration industry” should replace the respective default values in the ESD for PT 12:
- average water depth around the platform: 20 m instead of the default value 150 m in the ESD;
- dilution factor for batchwise discharges: 1000 instead of the default value 13000 in the ESD.
3.1.14  

**ENV 130**  
**Should Cinfl calculations be based on the total Fsplit \((=F_{\text{split, evap}} + F_{\text{split, kow}})\)?**  
(WG-II-2017)  

It was agreed that both reduction approaches should be taken into account and be calculated \((F_{\text{split, evap}} \text{ and } F_{\text{split, kow}})\) but they need to be evaluated separately, i.e. they should not be summed up in a total Fsplit. In addition, both approaches need to result in a safe use (i.e. for approval it is not sufficient if only one of the procedures shows a safe use).

**ENV 131**  
**Fraction of mwf concentrate in diluted mwf fluid \((F_{\text{conc}})\)**  
Version 2.0 (WG-IV-2017)  

The fraction of MWF concentrate in the diluted fluid is not a property of the active substance, but depends on the instructions given by the manufacturer of the fluid depending on its composition and purpose. Therefore, this parameter should be a default (D) instead of a variable (S/P). In the ESD for PT 13, the range of default values for \(F_{\text{conc}}\) is between 0.05 and 0.2, with 0.05 being the worst case as the lowest amount of active substance will be removed from the aqueous phase during phase separation.  

For active substances that are dosed via concentrates, no defaults can be given, as the worst-case now depends on the substance hydrophobicity and could be every value between 0.05 and 0.2. For hydrophilic substances, 0.2 is worst-case as this results in the maximum mass of substance in the system. For hydrophobic substances, however, 0.05 is worst-case. If the biocide is applied via a concentrate (and not used as a ready to use product) the worst case \(F_{\text{conc}}\) should be used depending on the \(K_{\text{ow}}\) of the active substance.

**ENV 132**  
**Calculation of degradation of biocide since last dosing**  
Version 2.0 (WG-IV-2017)  

On the calculation of “degradation of biocide since last dosing”, a realistic time span between last dosing and the start of waste treatment (“t”) can only be given for waste management companies. The calculation of \(F_{\text{elim, storage+more}}\) applies only for waste management companies and this refinement should not be used for end-users/on-site treatment.  

The time span between last dosing and the start of waste treatment (“t”) should be a set value and no default value should be defined.  

As a guidance, reference was made to the questionnaire in the ESD where a value of 7 days was provided for the shortest storage period in case of disposing off the MWF to an external WWTP.

**ENV 133**  
**Storage of fluids - DT50/kdeg**  
Version 2.0 (WG-IV-2017)  

For the purposes of calculating \(F_{\text{elim, storage+more}}\), kdeg (or DT 50) should be derived from the following studies:  
Tier 1: Use the DT50 from the hydrolysis study.  
Tier 2: Use the DT50 from a degradation test in MWF.
Biodegradation is not applicable here as the microbial density in the MWF is not high enough.

**3.1.15 PT 14**

**ENV 134** Can the default release factor (1% as recommended in EUBEES) to estimate direct releases during application and use of a rodenticide be lowered to 0.1%?

Version 1 (TM I 2006)

When justified by data on releases of the formulation (e.g. paste formulations), the release factor can be lowered.

**ENV 135** Should primary mechanical screening (sieves) of the STP be taken into account for PT 14? Can the PEC in surface water be reduced by a certain factor and if so, what will be the value for that factor?


In a first tier, the ESD shall be followed, implying no removal in a STP. If data is provided, this information can be used in a qualitative way, if a second tier is needed.

**ENV 136** Lipid normalisation for anticoagulant rodenticides

Version 1 (WG-I-2016)

Lipid normalisation should in general not be performed for anticoagulant rodenticides when the substances accumulates mainly in the liver.

**ENV 137** Bioconcentration factor (BCF) for anticoagulant rodenticides

Version 1 (WG-I-2016)

For the derivation of the BCF for rodenticides with high $K_{ow}$, a bioaccumulation study with dietary exposure is more relevant than an aqueous exposure bioconcentration test. Either an aquatic dietary exposure test or a soil bioaccumulation test would be therefore preferred. This is due to the exposure via terrestrial food chain: rodenticides do not enter the food chain via passive uptake by partitioning at the lowest level, but via active uptake of feed at higher trophic levels. A non-lipid-normalized kinetic BCF is preferred for anticoagulant rodenticides in general when the substances does not primarily accumulate in the lipid tissue.

In addition, existing monitoring data on residues of the rodenticide in non-target species need to be taken into account as weight-of-evidence information.

**ENV 138** Groundwater assessment for rodenticides (including hot spot applications)

Version 1 (WG-IV-2016)

A groundwater assessment should always be performed for rodenticides, also in cases when only hot spot applications are considered. For rodenticides and their metabolites, the same threshold values as for other biocides apply.
### 3.1.16 PT 15

**ENV 139 Clarification on default values in the ESD for PT 15**

Version 1 (WG-IV-2016)

The value to be used for the parameter \( \text{AREA}_{\text{soil}} \) (ESD section 2.4.2.3), i.e. the "Exposed area under a treated nest (nest + surrounding surface), is 0.3317 m\(^2\)."

In the ESD page 39, \( E_{\text{local,water}} \) calculation (equation 12), it should read \( 10^{-6} \) instead of \( 10^{-6} \).

### 3.1.17 PT 18

#### 3.1.17.1 Household and professional use

**General items**

**ENV 140 Emission estimation for insecticides for household and professional uses – general treatment**


Number of houses:
- For outdoor use a number of 2500 households will be used;
- For indoor use a number of 4000 households will be used as default

Surface of a standard house: A surface area of a standard house of 130 m\(^2\) is considered as default for general treatment. A wet cleaning zone leading to a release to the STP of 38.5 m\(^2\) will be used. This surface area of 38.5 m\(^2\) relates to the wet cleaning zone in a private household and is not related to specific rooms like kitchen and bathroom.

Number of commercial buildings: For the number of commercial buildings 300 will be used as default, for both indoor and outdoor use (commercial buildings include hotels).

Number of hospitals: No separate assessment for hospitals will be included. The number of commercial buildings of 300 is considered to include also hospitals.

Surface of commercial buildings: For the surface area to be treated for general treatment the default value is 609 m\(^2\).

**ENV 141 Safe use approach in product authorisation**

Version 1 (WG-IV-2017)

The "safe use approach" cannot be applied for PT 18. Products need to be authorised for general surface treatment, barrier treatment, spot treatment and/or crack and crevice. It is not possible to authorise products based on certain amount of m\(^2\) where a safe use can be found.
Indoor application

**ENV 142** Emission estimation for insecticides for households and professional uses: targeted applications

Version 1, updated in Version 2.0 (TM II 2010)

Targeted applications for which default values are available: i) spot treatment and ii) barrier treatment;

- Default value for spot treatment for a domestic house is 2 m² as stated in the ESD. The default value for barrier treatment for a domestic house is 20 m².
- The same relation between the treated and total surface for the commercial building as for the domestic house is used. This leads to 9.3 m² and 93 m² for spot treatment and barrier treatment, respectively.
- These values for barrier treatment are corrected for the wet cleaned zone. The wet cleaned zone for a domestic house is 38.5 m², equivalent to the surface of the kitchen plus the bathroom (ConsExpo) but not necessarily related to those particular rooms (see previous entry). This leads to a correction factor of 38.5 / 131 = 0.294. The same factor will be used for commercial buildings. This leads to the following default values for barrier treatment: 5.9 m² for a domestic house, and 27 m² for commercial buildings. No correction is applied for spot application.

**ENV 143** How should the environmental risk assessment for indoor gel bait application be performed?

Version 1 (TM I 2008)

In case of indoor gel bait application a quantitative environmental risk assessment will have to be performed according to the ESD as a first tier. In a second tier, additional data of measured release factors, area to be cleaned and risk mitigation measures as proposed in the label instructions can be considered.

Additionally it is proposed that in case of a risk, a back calculation could be performed to estimate the maximum levels resulting in safe use and to subsequently assess the 'realism' of these levels.

**ENV 144** Distinction between “crack and crevice” and “spot” applications (indoor)

Version 2.0 (WG-IV-2017)

The following definitions were agreed:

- Spot application (domestic houses): treatment of a restricted surface of 2 m²
- Barrier treatment (domestic houses): larger scale treatment, >2 m² (i.e. 10 m long stripe, width depends on the application device)
- Crack and crevice treatment depends on the way the product is applied: it can be either applied as a spot application or a barrier treatment. Depending on the way of application, the default surface area of either spot application or barrier treatment should be used in combination with the cleaning efficiency for cracks and crevice treatment.
The simultaneity factor ($F_{\text{simultaneity}}$) for calculating local release to STP should not be doubled in order to take into account seasonality of a use. In addition, $F_{\text{simultaneity}}$ is also applicable for professional users. For products that are specifically used against pet fleas or ticks only, $F_{\text{simultaneity}}$ can be refined as follows:

$$F_{\text{simultaneity}} \text{ (Tier 2)} = 0.45 \times \text{Freq} \times \text{Npets} \times \text{Fpen}$$

Where:
- 0.45 = EU-wide data suggest that 45% of households own cats and/or dogs (For example European Pet Food Industry Federation (FEDIAF) Facts and Figures 2016);
- Freq = frequency of use (for example for a product applied monthly Freq=1/30);
- Npets = fraction of number of pets requiring treatment for fleas; default value = 0.5;
- Fpen = market penetration value; default value = 0.5.

The treatment area was harmonised in line with the general treatment:

For large buildings, the wet cleaning zone is calculated based on the relation of surface area and wet cleaning zone in the house scenario: the surface cleaning area of the house is 130 m$^2$ and the wet cleaning area is 38.5 m$^2$. This relation transferred to large buildings, where the total surface is 609 m$^2$, results in a wet cleaning zone of 180 m$^2$.

Spray products to treat against cat fleas or bedbugs will be applied on soft furnishings and carpeted areas, for which the general surface area is 22 m$^2$ according to the ESD (non-professional use in private houses). However both of these are not expected to be subject to regular wet cleaning. So an area of 5.9 m$^2$ should be used to reflect the area wet cleaned in a domestic home (barrier taken from the TAB v1) and use the default cleaning efficiency of 20 % for a surface application (taken from the ESD).

In this scenario losses during mixing/ loading will be zero.

This scenario is summarised in the following table.
## Emission scenario:

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
<th>Unit</th>
<th>S/D/O</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Emission to air</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$Q_{\text{prod}}$</td>
<td>Quantity of product applied</td>
<td>kg.b.p.m</td>
<td>S</td>
</tr>
<tr>
<td>$F_{\text{AI}}$</td>
<td>Fraction of active substance in the commercial product</td>
<td>[-]</td>
<td>S</td>
</tr>
<tr>
<td>AREA$_{\text{treated}}$</td>
<td>Area treated with the product</td>
<td>m$^2$</td>
<td>D</td>
</tr>
<tr>
<td>$N_{\text{appl, building}}$</td>
<td>The no. of applications per day per building for non-professional use</td>
<td>1 d$^{-1}$</td>
<td>D</td>
</tr>
<tr>
<td>$F_{\text{application, air}}$</td>
<td>The fraction emitted to air during application</td>
<td>0.02</td>
<td>D</td>
</tr>
<tr>
<td>$E_{\text{application, air}}$</td>
<td>The emission to air during application step $= N_{\text{appl, building}} \times F_{\text{application, air}} \times Q_{\text{prod}} \times F_{\text{AI}} \times \text{AREA}_{\text{treated}}$</td>
<td>kg d$^{-1}$</td>
<td>O</td>
</tr>
<tr>
<td><strong>Emission to floor</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F_{\text{application, floor}}$</td>
<td>The fraction emitted to floor during application</td>
<td>0.11 [-]</td>
<td>D</td>
</tr>
<tr>
<td>$E_{\text{application, floor}}$</td>
<td>The emission to floor during application step $= N_{\text{appl, building}} \times F_{\text{application, floor}} \times Q_{\text{prod}} \times F_{\text{AI}} \times \text{AREA}_{\text{treated}}$</td>
<td>kg d$^{-1}$</td>
<td>O</td>
</tr>
<tr>
<td><strong>Emission to applicator</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F_{\text{application, applicator}}$</td>
<td>The fraction emitted to applicator during application</td>
<td>0.02 [-]</td>
<td>D</td>
</tr>
<tr>
<td>$E_{\text{application, applicator}}$</td>
<td>The emission to applicator during application step $= N_{\text{appl, building}} \times F_{\text{application, applicator}} \times Q_{\text{prod}} \times F_{\text{AI}} \times \text{AREA}_{\text{treated}}$</td>
<td>kg d$^{-1}$</td>
<td>O</td>
</tr>
<tr>
<td><strong>Emission to treated area</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F_{\text{application, treated}}$</td>
<td>Fraction emitted to treated area during application</td>
<td>0.85 [-]</td>
<td>D</td>
</tr>
<tr>
<td>$E_{\text{application, treated}}$</td>
<td>The emission to treated surface during application step $= N_{\text{appl, building}} \times F_{\text{application, treated}} \times Q_{\text{prod}} \times F_{\text{AI}} \times \text{AREA}_{\text{treated}}$</td>
<td>kg d$^{-1}$</td>
<td>D</td>
</tr>
<tr>
<td><strong>Emission via cleaning</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>From the applicator</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F_{\text{applicator, ww}}$</td>
<td>Fraction emitted to wastewater during cleaning</td>
<td>1 [-]</td>
<td>D</td>
</tr>
<tr>
<td>$E_{\text{applicator, ww}}$</td>
<td>Emission from applicator to wastewater during cleaning $E_{\text{application, applicator}} \times F_{\text{applicator, ww}}$</td>
<td>kg d$^{-1}$</td>
<td>O</td>
</tr>
<tr>
<td>From the treated area and floor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$F_{\text{ww}}$</td>
<td>Fraction emitted to wastewater during cleaning</td>
<td>1 [-]</td>
<td>D</td>
</tr>
<tr>
<td>$F_{\text{CE}}$</td>
<td>Cleaning efficiency</td>
<td>0.20 [-]</td>
<td>D</td>
</tr>
<tr>
<td>$E_{\text{treated, ww}}$</td>
<td>Emission from treated surfaces/floor to wastewater during cleaning $= (E_{\text{application, floor}} + E_{\text{application, treated}}) \times F_{\text{ww}} \times F_{\text{CE}}$</td>
<td>kg d$^{-1}$</td>
<td>O</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$E_{\text{ww}}$</td>
<td>$E_{\text{applicator, ww}} + E_{\text{treated, ww}}$</td>
<td>kg d$^{-1}$</td>
<td>O</td>
</tr>
</tbody>
</table>

*S=Set, D=Default, O=Output
**ENV 148**  Diffusers in indoor treatment
Version 2.0 (WG-III-2017)

In case efficacy data is not available the default number of diffusers in a house to be used is 2. This value was deduced by assuming one diffuser per bedroom and two bedrooms per house. However this value should be used regardless of the place in the house where the treatment takes place.

Resulting emission scenario: two diffusers in a house of 130 m² are considered; in this house 30% of the surface area (i.e. 38.5 m²) are wet cleaned.

**ENV 149**  Cleaning efficiencies in indoor treatment

During spray application (e.g. to walls) a fraction of the product applied will be released to floor or adjacent surfaces. These surfaces might be subject to wet cleaning and the following cleaning efficiencies should be used:

- For mixing and loading and for the application step the cleaning efficiency for the target area of the application should be used.

The following changes to Table 3.3-8 of the OECD ESD for PT 18 (No. 18) have been further agreed:

- NEW: Formulation: **powder** – Use: **crack and crevice** – Cleaning efficiency: **0.25**
- NEW: Formulation: **granules** – Use: **surface** – Cleaning efficiency: **0**

In summary, Table 3.3-8 should be replaced by the following:

<table>
<thead>
<tr>
<th>Formulation/use</th>
<th>Max % exposed to cleaning</th>
<th>Cleaning efficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solid baits (in bait stations)</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gel - bait station</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Gels - crack and crevice</td>
<td>3</td>
<td>0.03</td>
</tr>
<tr>
<td>Gels - surface</td>
<td>25</td>
<td>0.25</td>
</tr>
<tr>
<td>Dust/powders - voids/cavities</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dust/powders – crack and crevice</td>
<td>25</td>
<td>0.25</td>
</tr>
<tr>
<td>Dust/powders – surface</td>
<td>50</td>
<td>0.5</td>
</tr>
<tr>
<td>Granules - surface</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Spray – crack and crevice</td>
<td>25</td>
<td>0.25</td>
</tr>
<tr>
<td>Spray – surface</td>
<td>50</td>
<td>0.5</td>
</tr>
<tr>
<td>RTU aerosols - space spray/diffuser</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>RTU aerosol - crack and crevice (including foams)</td>
<td>3</td>
<td>0.03</td>
</tr>
<tr>
<td>RTU aerosols - surface</td>
<td>20</td>
<td>0.2</td>
</tr>
</tbody>
</table>
Default values for treatment of wardrobes

Default value for the number of wardrobes per household to be used: 2.5. This value has been derived from the mean number of dwellers of 2.49 (having one wardrobe each).

Wardrobe volume: 1.5 m³.
Agreed fractions:
- $F_{\text{floor}} = 0.1$
- $F_{\text{CE}} = 1$
- $F_{\text{simult}} = 0.055$

Should emissions from the use of same products by both private users and professionals be added up?
Version 2.0 (WG-I-2018)

If a product is intended for household use against a certain organism and it can be used by both professionals and non-professionals, the emissions from professional/non-professional use should not be aggregated for the exposure estimation.

The $F_{\text{sim}}$-value should in this case be understood as reflecting frequency of use regardless of user category. I.e. it is assumed that the treatment is applied by either a non-professional user or a professional user, during the same treatment period.

Outdoor application

Treatment in and around buildings (outdoor) – default value for $F_{\text{spray, wash-off}}$
Version 2.0 (WG-V-2017)

In the calculations for outdoor application in urban areas a default value of 0.5 should be used for $F_{\text{spray, wash-off}}$, i.e. 50% of the total amount applied is washed off without any further reduction.

Size of receiving compartment -soil depth in case of outdoor applications in PT 18 (for insecticides, acaricides and products to control other arthropods for household and professional uses)?
Version 1 (TM I 2008, WG-V-2014)

It was first decided at TM I 08 that for Annex I inclusion, for the receiving soil compartment a depth of 10 cm in case of no mixing (urban areas) and 20 cm in case of mixing (rural areas) should be used.

At WG-V-2014 it was however agreed to harmonise the procedure with other product types and use a soil depth of 50 cm, but only in restricted areas (e.g.
for the soil adjacent to the building, i.e. 50 cm distance from the treated wall, terraces, etc.).

The sizes of receiving compartment – soil depths in case of sewage sludge deposition and/or manure deposition on agricultural land remain unchanged according to BPR IV B v.1.0 as well as to ESD PT 18 No. 14 (2006) (ref. to Table 5.10).

**ENV 154**  Treatment area for bait box scenarios on terraces

Version 1 (WG-V-2016)

It was agreed to use a default area for the terrace of 30 m$^2$ and assume a receiving area of 8.5 m$^2$ (taking into account three sides of a terrace).

In addition a default value of 4 bait boxes should be used if no data on the application is provided by the applicant, substantiated with efficacy tests.

**ENV 155**  Terrace scenario for assessment of spot applications on paved surfaces

Version 2.0 (WG-IV-2017)

The terrace scenario should be used only for the treatments of terraces. For product applications around a large building a number of spots per m$^2$ around the house should be considered.

**ENV 156**  Fraction of product consumed by the ants versus amount left at the bait station

Version 1 (WG-V-2016)

The OECD ESD No. 18 for PT 18 assumes that 80% of a product is taken up by the ant and brought to the nest and the risk assessment is based on the remaining 20% entering soil after flooding. It was questioned if also the 80% are entering soil via the ants.

It was agreed that the risk assessment should be based on the remaining 20% entering the soil after flooding, the 80% taken up by ants should not be considered.

**ENV 157**  Groundwater assessment for outdoor applications


**Bait stations:**

The following inconsistencies were noted: In the table 4.3-17 of the OECD ESD No. 18 for PT 18 it is indicated that emission to groundwater occurs but in the text below this table this emission route is considered negligible.

It was agreed that for insecticides in bait stations a groundwater assessment should be performed on Tier I level (according BPR IV B+C v.2.0) in order to show that the exposure is negligible. If in the light of experience it is shown that the exposure is not negligible, a scenario for a Tier II assessment (e.g. for FOCUS modelling) needs to be developed.
**Crack and crevice treatment by spraying:**

A groundwater assessment should be performed for this application unless the crawling spaces are not exposed to water (e.g. the crawling space is the ground under the building).

As tier 2 for FOCUS modelling the following should be used:
- Number of houses treated per hectare: 16 houses without considering $F_{sim}$ (since already taken into account by the number of applications within a period of time);
- Dates of application: those included in the ESD for PT 8 – Supplement to Appendix 4 (paragraph 594 c, p.178);
- Crops to be used: grass/alfalfa.

Only private houses in rural areas should be looked at.

**ENV 158 Outdoor applications: when is no risk assessment needed?**

The product is intended either for use in bait stations (general public and professionals) or for any professional use, but only used on paved surfaces, and not on bare soil and the product is to be applied in roof-covered areas, which cannot be affected by flooding, and which are protected from rain fall or cleaning wash, thus emissions are unlikely to occur. Therefore no environmental risk assessment needs to be provided for the aquatic and terrestrial compartment.

A risk assessment for primary/secondary poisoning according to ESD PT18 No.18 however needs to be performed (as well as a risk assessment for bees when specific guidance is available).

**ENV 159 Outdoor spot applications on paved surfaces: Should the release via the STP be assessed (e.g. bait boxes, gel application, solution pouring or spray, the latter when restricted to the treatment of nests, 4 point only on the terrace) ?**

For outdoor application of insecticides on paved surfaces in urban areas, an assessment should be performed for the release via the STP, except for uses covered by the previous TAB entry (i.e. uses for which no environmental risk assessment is needed for the aquatic compartment and terrestrial compartment).

In case of spot application on paved surfaces around domestic premises the terrace scenario should be used (no release to sewer/STP is assumed, only releases to soil compartment around a terrace)

In case of spot application around commercial larger buildings the application rate around domestic premises should be used.

In consideration of application type and technique (gel, bait box, spray application) the perimeter of a larger building should be used for calculating the number of applications or/and the related application area, which corresponds to 100 m (square root of 609 m$^2$, times four).
3.1.17.2 Stable and manure application

**ENV 160** Nitrogen immission standards to be used for release estimation of insecticides applied in stables and manure storage systems
Version 1 (TM I 2008)

It was decided to use the nitrogen immission standards from the EC Nitrates Directive (91/676/EC) of 170 kg N ha\(^{-1}\) yr\(^{-1}\) for all soils (arable land and grassland).

**ENV 161** Interpretation of the following parameters in the ESD: land application interval for arable land (Tar-int), manure storage time for arable land (Tmanure-int\(_{ar}\)), time period of biocide application in stables (Tbioc-int) and number of repeated treatments prescribed (Napp-prescr)
Version 2.0 (WG-IV-2017, WG-I-2018)

The following approach is to be used for the **arable land scenario** but only if degradation in manure is not taken into account:
- Tar-int = Tbioc-int;
- Tbioc-int and Napp-prescr values are to be provided by the Applicant (not the default values in EUSES).

The following approach is to be used for the **grassland scenario**:  
- The rounding of the number of applications of biocide during a storage period should take place to the first decimal;  
- Apart from the calculation of PIECsoil in grassland after 10 years of manure application the approach as provided in the Addendum to the OECD ESD should be used without further changes.

The following tiered approach can be applied (even with a risk that for substances with a DT50>150 d there may be a slight underestimation in Tier 1):

Step 1 (screening): scenario for agricultural land = scenario for arable land with a soil depth of 5 cm;

Step 2:
- Arable land: scenario as proposed above with a soil depth of 20 cm and Grassland: standard scenario including a soil depth of 5 cm.

Background information are provided in the following document:


**ENV 162** Calculation of the initial concentration in soil after four manure applications
Version 2.0 (WG-I-2018)

In addition to the calculation of PIECsoil\(_{grassland}\) according to the ESD for PT18 and the addendum (see TAB entry nr. 160), the following equation should be used to
calculate the initial concentration of the a.s. in soil after four manure application events considering all prescribed a.s. applications, without taking degradation in soil into account (i.e. meant to take all biocide applications into account):

\[
\text{PIEC}_{\text{grs}}^{4} - N_{\text{Total}} = \frac{\text{PIEC}_{\text{grs}}^{4} - N_{1,2,3,4,i} \times N_{\text{app, prescr}}}{N_{\text{app, manure, gr}} \times N_{\text{lapp}} - \text{grass}}
\]

- PIEC_{grs}^{4} - N_{Total} Equal to the initial concentration of the a.s. in soil after four manure application events considering all prescribed a.s. applications and without taking degradation in soil into account
- PIEC_{grs}^{4} - N_{1,2,3,4,i} Initial concentration of a.s. in soil based on nitrogen immission standard for grassland. Calculated according to Addendum (2015), eq. (24 a)
- N_{app, prescr} Number of prescribed maximum repeated biocides treatments according to information given by the applicant
- N_{app, manure, gr} Maximum number of b.p. applications during one manure storage period (53 days) to be spread on grassland. Calculated according to Addendum (2015), 2.3.3
- N_{lapp} - grass Number of manure applications (equal to 4) for grassland given by the ESD PT 18"

**ENV 163 Run off from soil to surface water after manure application**

Run-off to surface water and leaching to groundwater are generally considered as continuous release, unless the criteria for intermittend release as provided in BPR IV B v.1.0 are fulfilled.

**ENV 164 Taking into account degradation in manure**

The AHEE recommendation prepared by NL on how to take into account degradation in manure together with calculation sheets is provided in the following:

In case of manure/slurry application scenarios (from animal housings) it was agreed at WG- and CA-Meetings that both grassland and arable land scenarios should be used in FOCUS groundwater models. In case of manure/slurry application on grassland the crop grass (alfalfa) has to be selected and the scenario considers 4 times manure/slurry application per year on fixed dates 1st of March, 23rd of April, 15th of June and 7th of August (considering 53 days between application) and 5 cm incorporation depth. In case of manure/slurry application on arable land the scenario considers either one time application per year to maize 20 days before crop event “emergence” (relative application) or two split absolute applications on winter cereals and 20 cm incorporation depth. For the latter option fixed application dates in autumn on 3rd of October and in spring on 15th of March should be used.

The application rate of the active substance $\text{Appl}_\text{rate}$ [kg/ha] at one specific application date as necessary input parameter in FOCUS groundwater models is calculated on basis of predicted initial environmental concentrations (PIEC).

1. Grassland scenario:

$$\text{Appl}_\text{rate}_{\text{grs}} = \text{PIEC}_{\text{grs}} \times \text{RHO}_{\text{soil, wet}} \times \text{DEPTH}_{\text{grassland}} \times 10^{-2} = \text{PIEC}_{\text{grs}} \times 0.85$$

With:

$\text{Appl}_{\text{rate}}_{\text{grs}}$ = concentration of active ingredient in grassland soil after 1 manure slurry application based on the nitrogen immission standard for grassland [kg/ha]

$\text{PIEC}_{\text{grs}}$ = concentration of the active ingredient in grassland soil after 1 manure/slurry application based on the nitrogen immission standard for grassland [mg/kg] according to OECD ESD PT 18 No.14 (2006)

$\text{RHO}_{\text{soil, wet}}$ = wet bulk soil density = 1,700 kg/m³

$\text{DEPTH}_{\text{grassland}}$ = mixing depth with soil for grassland = 0.05 m

The calculated application rate for grassland should be used for each of the 4 above mentioned fixed application dates which display the manure/slurry application time interval of 53 days in grassland.

2. Arable land scenarios:

a) Selected crop: maize

$$\text{Appl}_\text{rate}_{\text{ar, maize}} = \text{PIEC}_{\text{ars}} \times \text{RHO}_{\text{soil, wet}} \times \text{DEPTH}_{\text{arableland}} \times 10^{-2} = \text{PIEC}_{\text{ar}} \times 3.4$$

With:

$\text{Appl}_{\text{rate}}_{\text{ar, maize}}$ = initial concentration of the active substance in soil of arable land after 1 manure/slurry application based on the nitrogen immission standard for arable land [kg/ha]

$\text{PIEC}_{\text{ars}}$ = initial concentration of the active substance in soil of arable land after 1 manure/slurry application based on the nitrogen immission standard for arable land [mg/kg] according to OECD ESD PT 18 No.14 (2006) and to the Addendum (Nov.2015)

$\text{RHO}_{\text{soil, wet}}$ = wet bulk soil density = 1,700 kg/m³
DEPTH_{arable land} = mixing depth with soil for arable land = 0.2 m

The calculated application rate for arable land scenario in maize should be used for one application (relative date): 20 days before maize emergence. Thus, the application dates used in the FOCUS simulation routine depend on the specific locations in FOCUS PEARL and will automatically modelled between 15\textsuperscript{th} of February (Sevilla) and 5\textsuperscript{th} of May (Okehampton).

b) **Selected crop: winter cereals**

The selection of this option needs additional intermittent calculations for the application rate as for reasons of good fertilisation practice the maximum acceptable N-amount per year of 170 kg should be split into at least 2 applications: e.g. in autumn 80 kg per ha and in spring 90 kg per ha.

\[
\text{Appl}_\text{rate}_{\text{ar_cereal_ea}} = 0.47 \times \text{PIEC}_{\text{ars}} \times \text{RHO}_{\text{soil}, \text{wet}} \times \text{DEPTH}_{\text{arable land}} \times 10^{-2} \\
= \text{PIEC}_{\text{ars}} \times 1.6 \\
\text{Appl}_\text{rate}_{\text{ar_cereal_spring}} = 0.53 \times \text{PIEC}_{\text{ars}} \times \text{RHO}_{\text{soil}, \text{wet}} \times \text{DEPTH}_{\text{arable land}} \times 10^{-2} \\
= \text{PIEC}_{\text{ars}} \times 1.8
\]

With:
\text{Appl rate}_{\text{ar_cereal\_autumn}} and \text{Appl rate}_{\text{ar_cereal\_spring}} = initial concentration of the active substance in soil of arable land after 1 manure/slurry application based on the nitrogen immission standard for arable land [kg/ha]
\text{PIEC}_{\text{ars}} = initial concentration of the active substance in soil of arable land after 1 manure application based on the nitrogen immission standard for arable land [mg/kg] according to OECD ESD PT 18 No.14 (2006) and to the Addendum (Nov.2015)
\text{RHO}_{\text{soil}, \text{wet}} = wet bulk soil density = 1,700 kg/m\textsuperscript{3}
\text{DEPTH}_{\text{arable land}} = mixing depth with soil for arable land = 0.2 m

The calculated application rates for arable land (winter cereals) should be used for different application dates, \text{Appl rate}_{\text{ar_cereal\_autumn}} for the modelled application on 3\textsuperscript{rd} of October and \text{Appl rate}_{\text{ar_cereal\_spring}} for the modelled application on 15\textsuperscript{th} of March.

Either option a) “maize” or option b) “winter cereals” must be carried out without giving any preference for one option.

The above proposed scenarios and input parameters can be transferred to further PTs (i.e. PT03 and PT05), where refinement of PEC\text{groundwater} following manure/slurry application on soil is needed.

**ENV Values to be used for the FOCUS PEARL simulations**

**ENV 166** Version 1 (WG-II-2017)

Regarding different active substance contents in each 53 d-interval, in cases where degradation processes in manure are considered, the following was agreed: For simplification reasons until further calculation tools are available, the same maximum value can be used four times as input parameter in PEARL.
(instead of using four different values taking into account degradation); provided that this does not result in an exceedance of the groundwater limit value.

**ENV 167** Which area should be used for the calculations for larvicides and insecticides, for the different application types?

Version 1 (WG-II-2017)

The specific areas relevant to be treated should be specified by the applicant. The ESD Excel sheet will provide for surface and volume applications only the floor areas and housing volumes, respectively by default (according to Table 5.2 of the OECD ESD No. 14 for PT 18). However, these should be overwritten by the areas provided by the applicant if available (e.g. only floor, 2 m high band around the wall, etc.). The use prescription to be provided by the applicant should be very specific and provide all the areas to be treated.

**ENV 168** Environmental exposure pathways from poultry housings

Version 1 (WG-II-2017)

Two pathways are evident for emissions from animal breeding / housing units:

1) Where the site is not connected to the local drainage system, all wastewater would remain on site and be stored with the slurry prior to mixing with dry waste (manure) for application to agricultural land (soil). All potential losses of active substance from treated buildings as prescribed by the ESD for PT 18 No. 14 would lead to direct exposure of soil - this therefore represents a worst case assessment for this compartment;

2) Where the site is connected to the local drainage system, a fraction of active substance could be released in the wastewater discharging to the local STP (indirectly discharging to terrestrial and aquatic compartment) whilst another fraction could be applied to land after a period of storage in manure / slurry.

Emissions of active substance as liquid waste (slurry) and dry waste (manure) can be pooled as both forms of waste will be applied to land as fertiliser representing a direct exposure of the soil compartment. With regard to waste water, this will either be directed to local STP via drains or if no connections exist, it will added to dry/liquid waste and applied to land. On this basis and according to the fractions of active substance released to the different streams, animal housing / breeding units have been grouped according to the compartment receiving the generated emissions (slurry, manure and waste water):

**Scenario 1**: According to the OECD ESD No. 14 for PT 18, animal housing sub-categories 1, 2, 3, 4, 5, 6, 7, 10, 13, 14 and 15 give rise to a discharge fraction of 0.5 in either manure or slurry which will ultimately reach the soil compartment (ref. to Table 5.4). None of these sub-categories are considered to give rise to emissions of waste water so there are no losses to STP (or additional losses to soil if not connected to an STP).

**Scenario 2**: Animal housing sub-categories 11, 12, 16, 17 and 18 give rise to a discharge fraction in manure, which will ultimately reach the soil compartment via manure deposition on agricultural land. Furthermore, for these housing sub-categories a discharge fraction to waste water should be considered, which could
either reach the local STP or must be added to the discharge fraction in manure and increase this fraction reaching soil in cases where no connection to local drainage system is assumed (ref. to Table 5.4).

**Scenario 3**: Animal housing sub-category 8: laying hens in battery cages with aeration (belt drying) gives rise to a discharge fraction to slurry, where in Table 5.4 the fraction from waste water is already added to the “belt dried slurry” fraction and will reach the soil compartment. Furthermore, a discharge fraction to waste water is provided, which could reach the local STP. In case only belt dried slurry (without waste water from this animal housing sub-category) is released to agricultural land (arable land and grassland) the waste water fraction should be subtracted from the slurry fraction indicated in Table 5.4.

**ENV 169** Emission from washing of coveralls after PT18 stable applications

Coveralls worn during treatment of stables can be washed - in line with OECD ESD No. 18 for household and professional uses. Therefore emission to the STP / IBA (Individual Wastewater Treatment System) and the receiving aquatic environment from this event may occur. The OECD ESD No. 14, however does not include this scenario.

It was agreed that the emission from washing of coverall after PT 18 stable applications does not need to be assessed and no additional scenario is needed:
- Coveralls may be disposable in some of the farms.
- It is a single events after insecticide application.
- Coveralls are potentially not washed at the same day when the stable is treated (no aggregated exposure).
- Potentially covered already in the fraction released provided in the ESD.
- Mixing and loading step is not included in the ESD for PT 14.

**ENV 170** Waste water stream in stables

It was questioned if cleaning of stables may potentially result in an emission to sewer (farms connected to the STP, releasing to surface water). In one MS this is (legally) allowed and is likely to occur in practice. However, the ESD does not consider emission to waste water as a relevant route for several animal sub-categories.

A focused enquiry amongst MS showed that a release to the waste water stream is not allowed per se. There can be however special agreements for single farms. It was therefore agreed that this exposure pathway does not need to be assessed.

**ENV 171** Treatment of animal transport vehicles

This type of use would require a separate scenario. It was agreed that for the time being there is no need to either assess this use or develop a corresponding scenario. If there will be in the future a related application (active substance or product) the item will be further followed up.
3.1.18  PT 19

ENV 172  Refinement of risk assessment: reduction of treated skin surface area and taking into account dermal adsorption

As first tier for the treated skin area, the value as proposed in the recommendation of the Ad hoc WG on Human exposure should be used, i.e. 55% of 16600cm², i.e. 9130 cm², since this could be considered as a mean value taking into account the different skin areas for women, men and children. See Recommendation 11 - Proposal for harmonisation PT19 assessment - version 2.1 at https://www.echa.europa.eu/about-us/who-we-are/biocidal-products-committee/working-groups/human-exposure.

As a second tier, the value decided for the treated surface in the human health section for a specific substance can be used.

The same tiered approach also applies for dermal adsorption: as first tier, no dermal absorption should be taken into account, as second tier the lowest value for dermal absorption from the human health assessment (e.g. based on study results) can be used to refine the risk assessment.

ENV 173  Treated area of skin for animals
Version 2.0 (WG-IV-2017)

The use of skin areas smaller than the ones included in Table 3-9 of the ESD, namely 200 cm², is applicable when it is clear that application to the whole animal will not take place. These small scale applications should be however reflected in the way of application (e.g. spot treatment with a cream or hand held spray equipment) as well as in the package size.

ENV 174  Correction of equations in the ESD
Version 1 (WG-IV-2016)

Concerning the ESD page 32, equation no. 3.14, calculation of $C_{\text{localwater},91d}$, the correct equation is as follows:

$$C_{\text{localwater},91d} = E_{\text{localwater}} \times 10^3 \times \frac{T_{\text{emission},91d}}{V_{\text{waterbody}}}.$$
Clarification on the text of the RMM for PT 21

Version 1 (WG-V-2016, BPC-17)

For further clarification the text of the RMM should be reworded in the future as follows: “...that application, maintenance and repair activities shall (1) be conducted within a contained area to prevent losses and minimize emissions to the environment, meaning (2) on an impermeable hard standing with bunding or (3) on soil covered with an impermeable material. Any losses or waste containing [the substance] shall be collected for reuse or disposal”.

The meaning of contained area was further discussed, specifically if it includes wind protection. It was concluded that it needs to be further specified between the boat type and the application method: For pleasure crafts in case the antifouling is applied by brushing, wind protection is not relevant. For commercial ships in case the antifouling is applied by spraying, it may be relevant. It was further noted that wind protection should not be as such part of the standard RMM, but if needed during product authorisation, it could be added as second provision. If identified as being relevant during product authorisation, also the release pathway via air should be covered by an emission scenario to be developed by the AHEE.
Annex: New TAB entries starting from WG-II-2018

The following new TAB entries cover the agreements of the Environment WG and AHEE between WG-II-2018 and WG-IV-2019.

Note that the numbering of the TAB entries provided below will be adjusted when the items are added to the database. In this Annex new entries are marked as "ENV-A_number".

The version numbers of the entries have been done in line with the current ENV TAB, i.e. new entries were noted as "Version 2.1" (related to the next TAB version).

General items

`ENV-A1` Exposure assessment for metabolites in the terrestrial compartment
Version 2.1 (AHEE-2)

The document on the exposure assessment for metabolites in the terrestrial compartment was published on the public CIRCA side ("Documents agreed at BPC WG meetings – Public") on 02.08.2019.

Link to the public CIRCA side: [https://webgate.ec.europa.eu/s-circabc/w/browse/6f4c1846-184f-4158-b381-969e23975afd](https://webgate.ec.europa.eu/s-circabc/w/browse/6f4c1846-184f-4158-b381-969e23975afd)

Degradation

`ENV-A2` Rate constant for volatilisation in soil
Version 2.1 (WG-VII-2018)

The WG agreed that the correct equation to calculate $k_{\text{volat}}$ is equation 54 provided in the BPR guidance Volume IV. Part B + C v.2.0, which reflects a correction of the previous guidance version back to the calculation as originally provided in the TGD of 2003 (including a temperature correction in 2017).

However, the following correction should be performed when using the equations of Volume IV. Part B + C v.2.0: The unit of $K_{\text{air}}$ should be provided in m/d instead of m/s using the default value of 90.72 (as provided in the TGD of 2003).

Cross-PT items

`ENV-A3` Equations to be used for PEC calculation for wood and other preservatives applied outdoors

Regarding the equations provided in Chapter 3 of the OECD ESD for PT 8, it was agreed not to average the PECs over the assessment period for the assessment of outdoor preservatives (PT06-10) in general irrespective of whether there are losses during in-situ application or only releases due to leaching. Consequently, equations 3.11 and 3.12 from the OECD ESD for PT 8 are now the formulas to be applied in case of all emission to soils and equations 3.7 and 3.8 (the time
weighted average forms of equations 3.11 and 3.12) should not be used. The corresponding formulas for direct release to surface water should be updated accordingly. Equations 3.11 and 3.12 calculate the concentration at the end of the emission period and they apply a fixed leaching rate over the whole assessment period (when following approach 1 – explained further below, see also the linked background document).

It was further agreed that for the calculation of leaching amount, for the time being approach 1 (i.e. starting from the initial concentration) should be used, however approach 2 (i.e. starting from the previous PEC value) as optional additional approach is acceptable. Where approach 2 is used, both methods should be presented and where they result in different risk assessment outcomes, a clear justification for relying on one method over the other should be provided. This justification may need to consider presenting the assessments using graphical formats as per the embedded document below. This would allow consideration of the duration of any periods where the PEC/PNEC ratio of 1 is exceeded. No addition of an AF in the equations of approach 2 is needed, however it should be checked and agreed if there is a need to add an AF on the leaching study case by case, depending on the quality of the leaching study.

Link to the folder where the background document is provided: https://webgate.ec.europa.eu/s-circabc/w/browse/499dd9ef-3585-4588-b475-d7a51e20d7ac.

**ENV-A4**

**Default leaching rates if no leaching study is available.**

Version 2.1 (WG-VII-2018)

In the 2\textsuperscript{nd} EU Leaching Workshop default leached quantities have been defined, in case no leaching test is available, for PT 8 which can be applied also to other PTs. For the new Time 2 of 365 days, an additional default value was agreed, resulting in the following default leached quantities for all relevant times:

Time 1 (30 days): 50% of the applied substance leaches out

Time 2 (365 days): 75% of the applied substance leaches out

Time 3 (service life): 100% of the applied substance leaches out.

**ENV-A5**

**Risk assessment for volatile substances – small scale applications**


For products containing very volatile substances (according to the VOC directive) used in general, i.e. it is not distinguished between professionals and non-professionals, there is no need to conduct a risk assessment for subsequent environmental compartments following the release path via air. This conclusion concerns all relevant PTs.

Specifically for the subsequent environmental compartment groundwater it should be further noted that exceedance of the groundwater trigger value is not likely.
**ENV-A6  Inclusion of density in emission scenarios where density is not used as an input parameter**  
Version 2.1 (WG-IV-2019)  
In some emission scenarios, the releases are calculated without taking the density into account. The product density needs to be added as an input parameter in such scenarios and emission calculations need to take it into account in similar manner as done for example in the ESD PT 8.

**ENV-A7  Temperature correction for degradation during application process**  
Version 2.1 (AHEE-2)  
In case temperature dependant degradation is relevant in the degradation process (and no temperature is defined in the ESD), the following temperatures have been agreed in general for all PTs:  
- For indoor applications (including cooling systems under PT 11): 20°C  
- For outdoor applications (including outdoor storage) 12°C  
In case information is available on the temperature needed to allow sufficient efficacy for the product, this temperature should be used for the emission estimation.

Regarding PT 11 in general only abiotic degradation (e.g. hydrolysis) should be taken into account.  
If studies of sufficient quality are available showing further degradation in the system (e.g. biodegradation), it can be agreed on a case-by-case basis if the respective information is taken into account.

**ENV-A8  Fraction of concentrate in metalworking fluids (PT 6, PT 13)**  
Version 2.1 (AHEE-2)  
**PT 13:** When biocides are added to concentrates with the intention to preserve the final MWF, the biocidal product must be efficacious after dilution. Consequently, the amount of biocides that must be added to concentrates to archive efficacy after dilution depends on the instructions for dilution of the concentrate as provided by the manufacturer of the concentrate. In other words, the amount of biocides that needs to be added to concentrates is negatively related to the advised dilution.  
Considering that biocides must be efficacious in the diluted MWF, it is proposed not to use the formulas for concentrates as presented in the ESD (alternative algorithm), but only the formulas for direct dosing with $F_{\text{conc}}=0.05$ independent on the biocide’s $K_{\text{ow}}$. When applicable, additional use instructions must be added to the summary of product characteristics (SPC) explaining that the product must be efficacious after dilution of the concentrate (i.e. XX mg/L) and therefore the dosage of the biocide to the concentrate depends on instructions regarding dilution as provided by the manufacturer of the MWF-concentrate.  

**PT 6:** In case of in-can preservation the concentrate itself must be protected and not the MWF. Therefore, the efficacious concentration in the concentrate is leading for the risk assessment, which is independent on the dilution advised by the manufacturer. However, as the biocide is eventually released to the aquatic environment when spent MWFs are renewed, $F_{\text{conc}}$ is required for the
environmental risk assessment, which is, as explained previously, $K_{ow}$-dependent.

It is proposed to assess the risk qualitatively when the concerning product is also notified for PT 13 as in-can preservation results in lower concentrations in the MWF. When product or substances are intended for PT 6 only, or when PT 13 turned out in unacceptable risks, emission must be calculated according to the formulas presented for concentrates. The $K_{ow}$-dependent worst-case value for $F_{conc}$ must be set as follows$^{10}$:

- $K_{ow} < 23$: 0.20
- $\geq 23 K_{ow} < 52$: 0.15
- $\geq 52 K_{ow} > 172$: 0.10
- $K_{ow} \geq 172$: 0.05

**PT 2**

**ENV-A9**

**Disinfection of drip irrigation systems**

Version 2.1 (WG-II-2018)

The following scenario for disinfection of drip irrigation systems was agreed:

In the drip irrigation systems, emitter valves and drip lines can get clogged by biofilm formation which, in turn, results in uneven water distribution and hence yield losses. Two different approaches for disinfection of these systems can be considered.

- Curative approach (shock treatment): The drip lines are filled with water containing a.s. at given concentration, which stays in the lines for some time and is subsequently flushed out with clean water.
- Preventive approach: The a.s. is continuously applied at very low concentrations in the irrigation water, i.e. whenever the plants are irrigated.

There are two different areas of application; commercial greenhouses and commercial open fields.

As the shock treatment of drip irrigation systems only occurs sporadically, i.e. before and after the growing season, the continuous preventive approach is more relevant for the environmental risk assessment and should be further assessed. Disinfection solution used for shock treatment is also often collected and not directly emitted to soil (or after certain decay time), which significantly reduces the emissions to the environment.

**Scenario 1: Disinfection of drip irrigation systems in greenhouses (indoor)**

The disinfection of drip irrigation systems takes place in commercial greenhouses, where fertigation water containing plant nutrients is applied

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$^{10}$ Values are derived according to the alternative algorithm as presented in §4.4 of the ESD. The proposed values are independent on the concentration active substance in the concentrate, dilution in the STP, dilution with waste water from other sources ($F_{mwf}$), fraction of biocide in mixed waste water ($F_{form}$) and possible elimination ($F_{elim}$).
several times a day for several minutes depending on plant requirements and the climatic conditions. Typically, the excess fertigation water is collected and treated for cleaning before it is released to sewerage, which leads to degradation of the a.s. Furthermore, it can be expected that a large fraction of a.s. is consumed during disinfection and further exposed to abiotic and biotic degradation processes. Therefore, the emissions to the STP can be considered as negligible.

**Scenario 2: Disinfection of drip irrigation systems in agricultural fields (outdoor)**

The use disinfectants for drip irrigation systems in agricultural fields may lead to direct emissions to soil. For the assessment, two in-use concentrations may need to be considered:

- The injected in-use concentration. However, where the active substance is highly reactive, the derivation of the emissions to the environment from this concentration is not realistic.
- The residual concentration. Residual concentration may be considered as the realistic concentration, which is emitted to soil in cases of highly reactive active substances and decay processes within the drip irrigation system.

The worst-case amount of irrigation water of 10 L/m² per day covering very dry areas and/or crops with a high water demand should be assumed.

<table>
<thead>
<tr>
<th>Parameters</th>
<th>Symbol</th>
<th>Value</th>
<th>Unit</th>
<th>Origin</th>
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<td>[mg/L]</td>
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<td>Irrigation water per day and m²</td>
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<td>[L/m²/d]</td>
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<tr>
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<td>[mg/m²/d]</td>
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<tr>
<td>Local emission rate to soil (residual concentration)</td>
<td>( E_{\text{localsoil(resid)}} )</td>
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<td>[mg/m²/d]</td>
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**Assessment of disinfection of gloves**


For disinfection of gloves, no separate emission scenario and assessment is needed; the emission pathway is considered to be covered by the PT 2 scenario for surface disinfection in industrial areas.
PT 3

ENV-A11  Emission to sewer for different animal categories
Version 2.1 (WG-IV-2019)

In line with the agreements for PT 18 (see TAB entry on “Environmental exposure pathways from poultry houses”), in case the scenario 2.1 (disinfection of animal housings) has to be assessed, a.s. emission to the sewer system should only be considered for poultry stables (animal (sub)categories 8, 11, 12, 16 - 18).

PT 4

ENV-A12  Refinement of default value for Felim
Version 2.1 (WG-I-2018, AHEE-2)

The WG agreed to the use of a general default $F_{elim}$ value of 0.7 in PT 4 applications with on-site treatment, for substances with a $K_{ow}$ of $\geq$10000.

The WG agreed to keep a default value of 0.9 for $F_{elim}$ for rapidly reacting substances (to be discussed on a case by case discussion if a substance is rapidly reacting; like e.g. oxidizing substances with a Koc value $> 400.000 \text{ L/kg}$.

If Felim is used, it should be stated that the eliminating techniques are in place as RMM.

It was further agreed that the above conclusions should be applied as a potential refinement for all scenarios in PT 4, besides if specifically breweries are considered or the disinfection of wine barrels since fat separators are not relevant in these cases. Note that, although $F_{elim}$ is not relevant for breweries, it is relevant for the current scenario “CIP Breweries” in case this scenario is used for milk industry.

In addition, the WG agreed that a restriction to apply the agreed default $F_{elim}$ value to a surface of above 2000 m$^2$ is not needed since in several member states fat separators are also in place in small kitchens/restaurants.

The conclusions as well as background information was published on the public CIRCA side on 02.08.2019.

Link to the relevant public CIRCA side (“Documents agreed at BPC WG meetings – Public”): https://webgate.ec.europa.eu/s-circabc/w/browse/6f4c1846-184f-4158-b381-969e23975afd

ENV-A13  Release to manure from milking parlour disinfection
Version 2.1 (WG-II-2019)

For disinfectants used in milking parlour systems, the assessment of the emission via manure also needs to be performed, using the available emission scenarios from the ESD for PT 3.
Exposure scenario for disinfection of separative membranes in dairy and beverage industries

Version 2.1 (WG-II-2019)

The use is considered as CIP treatment, the cleaning processes are assumed to always take place under closed system conditions. The main route of exposure to the environment is via the sewer system, disinfectants end up in a sewage treatment plant.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Nomenclature</th>
<th>Value</th>
<th>Unit</th>
<th>Origin/Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration of the active substance in the application solution</td>
<td>$C_{a.i.}$</td>
<td></td>
<td>g/L</td>
<td>S</td>
</tr>
<tr>
<td>Volume of the circuit</td>
<td>$V_{\text{form}}$</td>
<td>4500</td>
<td>L</td>
<td>D, The volume of the circuit is identical to the total amount of application solution used.</td>
</tr>
<tr>
<td>Number of disinfection events per day</td>
<td>$N_{\text{appr}}$</td>
<td></td>
<td>[d$^{-1}$]</td>
<td>S</td>
</tr>
<tr>
<td>Fraction released to wastewater</td>
<td>$F_{\text{water}}$</td>
<td>1</td>
<td>[ - ]</td>
<td>D</td>
</tr>
<tr>
<td>Fraction of substance eliminated due to on site pre-treatment of the plant waste water</td>
<td>$F_{\text{elim}}$</td>
<td>0</td>
<td>[ - ]</td>
<td>D</td>
</tr>
<tr>
<td>Fraction of substance disintegrated during or after application (before release to the sewer system)</td>
<td>$F_{\text{dis}}$</td>
<td>0</td>
<td>[ - ]</td>
<td>D</td>
</tr>
</tbody>
</table>

Output

Local Emission to wastewater | $E_{\text{local}}$ | [kg/d] | O

Calculation

$E_{\text{local}} = 0.001 \times C_{\text{a.i.}} \times V_{\text{form}} \times N_{\text{appr}} \times (1 - F_{\text{dis}}) \times (1 - F_{\text{elim}}) \times F_{\text{water}}$
Splitting of releases from breweries
Version 2.1 (AHEE-3)

For the CIP scenario evaluating breweries it was concluded that there is no evidence that the splitting of releases from breweries with regard to on-site and off-site treatment is realistic and it should therefore not be taken into account.

It is sufficient to assess only one STP including biological treatment. It is then irrelevant if it is an on-site or off-site STP. The specification of the STP should then follow the specification of the standard (municipal) STP according to the TGD.

Assessment of temporary anti-sapstain wood-preservatives

The tiered assessment approach for temporary anti-sapstain preservatives from the 2nd EU Leaching Workshop in Varese (2013) as agreed to be substituted by the approach described in the document “PT 8: Assessment of temporary anti-sapstain wood-preservatives” which was published on the public CIRCA side (“Documents agreed at BPC WG meetings – Public”) on 18.10.2018.

Link to the public CIRCA side: https://webgate.ec.europa.eu/s-circabc/w/browse/6f4c1846-184f-4158-b381-969e23975af7

Note that for general preventive treatment also against wood-discolouring fungi, the existing OECD ESD scenarios for UC 3 in PT 8 should be used (and not the “Pallet scenario”).

General recommendations for conducting semi-field leaching tests
Version 2.1 (WG-III-2019) - Agreed for PT 8 but relevant for respective tests in all PTs – will be moved in the database to the cross-PT section

The following recommendations regarding semi-field leaching studies were provided:

- Start the semi-field leaching study in autumn and rather not in the summer season.
- Put a clear statement of the drying time of the wood after application on the label. This drying time should then also be used in the frame of the semi field test to mimic a realistic situation.
- Compare the amount collected (i.e. the run off) with the actual rain amount, this may explain some inconsistencies in the leaching results (slight rain in combination with high evaporation does not lead to major run-off).
- Measure the moisture content of wood measured (e.g. by two electrodes). It may explain deviations in the leaching tests – rather a nice to have than a need to have.
- Leachate should be analysed after each rain event during the first 60 mm and to have more measure points at the beginning since it increases the statistical power (the first rain events have the highest impact).

- Duration of the test (semi-field test) should last at least two years (Refer also to the guidance discussed at BAM in 2016, reflected in the leaching guidelines for PT 7, 10 where a test duration of two years is recommended (at least 5 test points in the first year and three in the second year). It is recommended that the rain amount of two standard rain years is reached (i.e. 1400 mm).

- Information on storage of leachate samples should be provided by applicants - this should include information on the duration that samples are exposed to ambient conditions in the field prior to collection as well as the duration and temperature of any prolonged storage prior to analysis. Stability of the analytes of concern should be confirmed. In line with Annex B of the 2015 guidance on semi-field test methods stability should ideally be confirmed by spiking the first leachate samples from the blank control panels with target substance(s) at the concentration range expected in the main test. These samples can be used as a stability control and should be stored under identical conditions to the leachate samples from the main test prior to analysis (see https://echa.europa.eu/documents/10162/20733977/env_26_semi_field_leaching_test_en.pdf). It is recommended that known metabolites as well as known substances of concern should be covered in the analysis of the leachate (note that if no leaching data is available, default leaching rates will be used for the risk assessment).

- For very sorptive substances a proof of the recovery rate (e.g from the collection container where the substance may adsorb to) is suggested. In addition during sample storage the container should be protected from sunlight and biotic degradation (by acidification).

### How to handle sampling points below LOD/LOQ in leaching studies?

**Version 2.1 (WG-III-2019)**

When hen the measured concentrations for an active substance are below the LOQ in the leachate in a leaching study, the LOQ or LOD could be used (provided that the test results are reliable/reproducible). If the signal is between LOD and LOQ, the higher one (i.e. LOQ) should be used to calculate the leaching (i.e. as the value measured in the leachate). No sampling points should be excluded.

General recommendation: check if results are reliable, e.g. check if the issue could be the topcoat and secondly check if any adsorption/degradation in the test vessel took place. Check if there are no experimental artefacts and if the analytical method is reliable.
Refinement options for PT 11

Version 2.1 (AHEE-2)

STP connection and treatment of cooling water before release to surface water should be only considered for small recirculating cooling systems.

A pond as risk mitigation measure to refine the exposure of PT 11 was proposed, and it was agreed that the pond can be an acceptable RMM. However, it would need to be verified case by case if this RMM is acceptable for the specific substance.

Direct discharge to a settling pond is not addressed by the ESD for PT 11. A settling pond can be modelled by a one box-model with a constant source (influent) and first order decay in the pond.

The maximum concentration in the settling pond effluent (C) corresponding to a steady state situation can be derived:

\[
C = \frac{Q \times C_{\text{influent}}}{Q + kV}.
\]

Alternative equation leading to equal results:

\[
HRT = \frac{V}{\text{FLOW}}
\]

\[
C = \frac{C_{\text{influent}}}{1 + k \times HRT}
\]

Where:

- \( \text{FLOW} = Q_{\text{bld}} \)
- \( V = V_{\text{pond}} \)
- \( HRT = \text{Hydraulic retention time in pond} \)
- \( C_{\text{influent}} = \text{concentration in blowdown water} \)
- \( C = \text{steady state concentration in pond} \)

The main variable affecting the concentration of a substance in the effluent is the residence time in the pond, thus the size of the pond. To date no standard size for settling pond can be suggested, as these are of site-specific design.

The following table presents the default values to support the risk assessment of large cooling towers.
### Input parameters for calculating the local emission – Large recirculating tower, direct discharge to a settling pond

<table>
<thead>
<tr>
<th>Variable: Large recirculating tower</th>
<th>Symbol</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Influent concentration in blowdown water</td>
<td>Cinfluent</td>
<td></td>
<td>[mg/L]</td>
</tr>
<tr>
<td>Blowdown flow rate for large cooling towers</td>
<td>Qbld</td>
<td>3000</td>
<td>[m³.d⁻¹]</td>
</tr>
<tr>
<td>Blowdown flow rate for small cooling towers</td>
<td>Qbld</td>
<td>48</td>
<td>[m³.d⁻¹]</td>
</tr>
<tr>
<td>Volume of pond for large cooling towers</td>
<td>Vpond</td>
<td>60 000</td>
<td>[m³]</td>
</tr>
<tr>
<td>Volume of pond for small cooling towers</td>
<td>Vpond</td>
<td>5 000</td>
<td>[m³]</td>
</tr>
<tr>
<td>Degradation rate in water (12°C)</td>
<td>k</td>
<td></td>
<td>[d⁻¹]</td>
</tr>
<tr>
<td>Effluent concentration at steady state</td>
<td>Cpond_eff</td>
<td></td>
<td>[mg/L]</td>
</tr>
<tr>
<td>Dilution factor to surface water (high)</td>
<td>DL1</td>
<td>1000</td>
<td>[-]</td>
</tr>
<tr>
<td>Dilution factor to surface water (low)</td>
<td>DL2</td>
<td>200</td>
<td>[-]</td>
</tr>
<tr>
<td>Concentration of suspended matter in the river</td>
<td>SUSPwater</td>
<td></td>
<td>[mg/L]</td>
</tr>
<tr>
<td>Solids-water partition coefficient of suspended matter</td>
<td>Kp susp</td>
<td></td>
<td>[L/kg]</td>
</tr>
<tr>
<td>Local concentration in the receiving water compartment</td>
<td>Clocal, water</td>
<td></td>
<td>[mg/L]</td>
</tr>
</tbody>
</table>

Steady-state concentration in the pond effluent = \( C_{pond\_eff} = \frac{Qbld \times Cinfluent}{Qbld + k \times Vpond} \)

Steady-state concentration in the receiving compartment (surface water) = \( C_{local, \: water} = \frac{C_{pond\_eff}}{(1 + Kp\: susp \times SUSPwater \times 10^{-6}) \times DL} \)

With regard to approach to consider large scale open cooling towers under control by other legislations, it was agreed that it is not sufficient to refer only to control by other legislation.

**PT 12**

**Input for degradation – Hydraulic retention times**

Version 2.1 (EUSES validation)

The parameter hydraulic retention time \( T_{treat} \) in Table 5.3 on p. 43 of ESD for PT 12 (and Table C on p. viii) is not correct. According to the original scenario described on p. 74 Table 4.2 in the ESD, the parameter \( T_{treat} \) should be divided into two parameters:

- hydraulic retention time for primary settling \( T_{ps} = 0.167 \) d
- hydraulic retention time for chemical/mechanical treatment \( T_{cm} = 0.167 \) d.
This leads to changes of the following formulas of the ESD for PT 12 on p. 44 and p. viii:

\[ C_{\text{local effl - treat}} = C_{\text{infl - ps}} \cdot (1 \cdot F_{\text{ads,settling}} \cdot F_{\text{ads,cm}} \cdot e^{-k_{\text{deg 2}} \cdot (T_{\text{ps}} + T_{\text{cm}})}) \]

\[ C_{\text{local infl - WWTP}} = C_{\text{paper}} \cdot (1 \cdot F_{\text{ads,settling}} \cdot e^{-k_{\text{deg 1}} \cdot (T_{\text{pr}} + T_{\text{ps}})}) \]

**PT 18**

**Household and professional use**

**ENV-A21**  
Generic treatment areas assigned to each specific pest  
Version 2.1 (WG-II-2018)

The generic treatment areas provided in the following folder for the indoor use of insecticide - assigned to each specific pest - have been agreed:

https://webgate.ec.europa.eu/s-circabc/w/browse/499dd9ef-3585-4588-b475-d7a51e20d7ac

The proposed application areas should be assumed if no specific information is proposed by applicants.

**ENV-A22**  
Use of treated water for irrigation of private gardens  
Version 2.1 (AHEE-2)

The emission scenario for the use of treated water for irrigation of private gardens (exposure of soil compartment) was published on the public CIRCA side ("Documents agreed at BPC WG meetings – Public") on 02.08.2019.

Link to the public CIRCA side: https://webgate.ec.europa.eu/s-circabc/w/browse/6f4c1846-184f-4158-b381-969e23975afd

**ENV-A23**  
Emission scenario for Aircraft disinsection  
Version 2.1 (WG-IV-2019)

The scenario provided in the folder below was prepared by UK in the frame of an active substance and was confirmed to be used for such uses in a general way at WG-IV-2019:

https://webgate.ec.europa.eu/s-circabc/w/browse/499dd9ef-3585-4588-b475-d7a51e20d7ac
Stable and manure application

**ENV-A24 Emission scenario for insecticides in mink farms**  
Version 2.1 (WG-II-2018)

The emission scenario for the use of insecticides in mink farms was published on the public CIRCA side ("Documents agreed at BPC WG meetings ~ Public") on 30.08.2018.

Link to the public CIRCA side: [https://webgate.ec.europa.eu/s-circabc/w/browse/6f4c1846-184f-4158-b381-969e23975afdf](https://webgate.ec.europa.eu/s-circabc/w/browse/6f4c1846-184f-4158-b381-969e23975afdf)