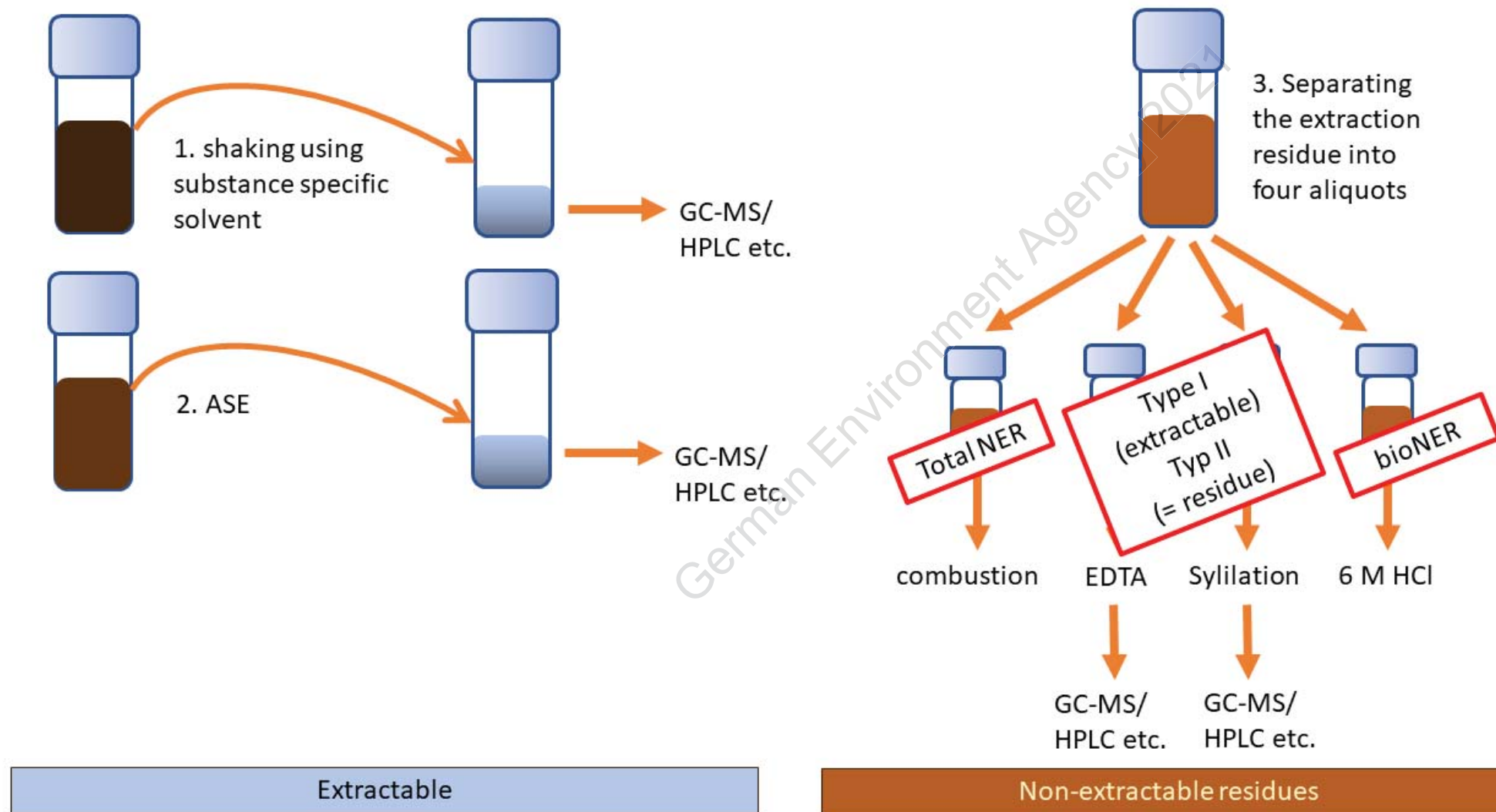
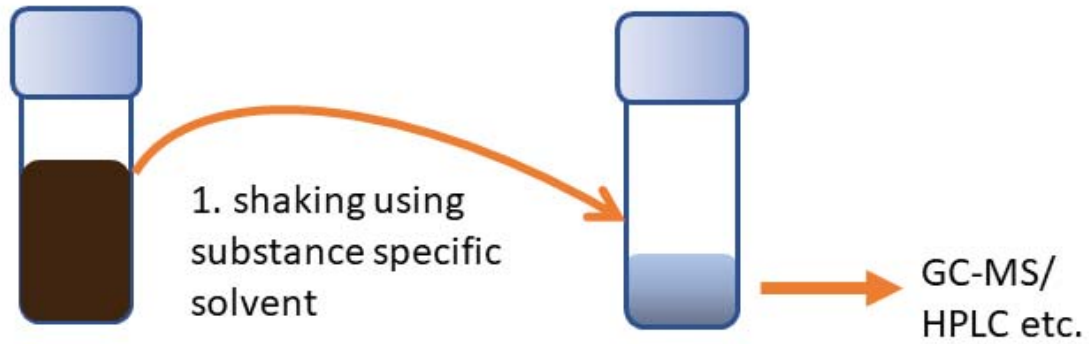


Approaches of half-life derivation in relation to the extraction procedure

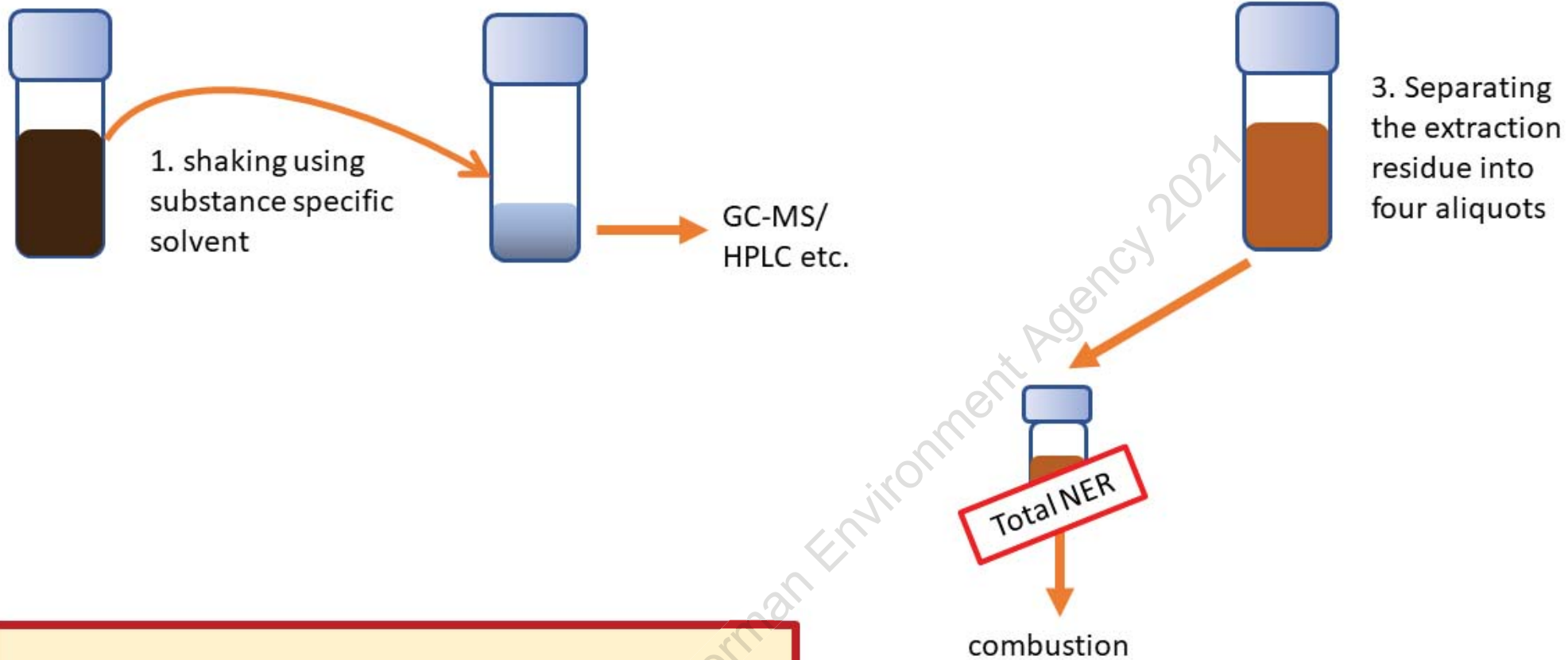




a) Solvent (Sol)-extractable parent

= current approach in active substance assessment

Extractable

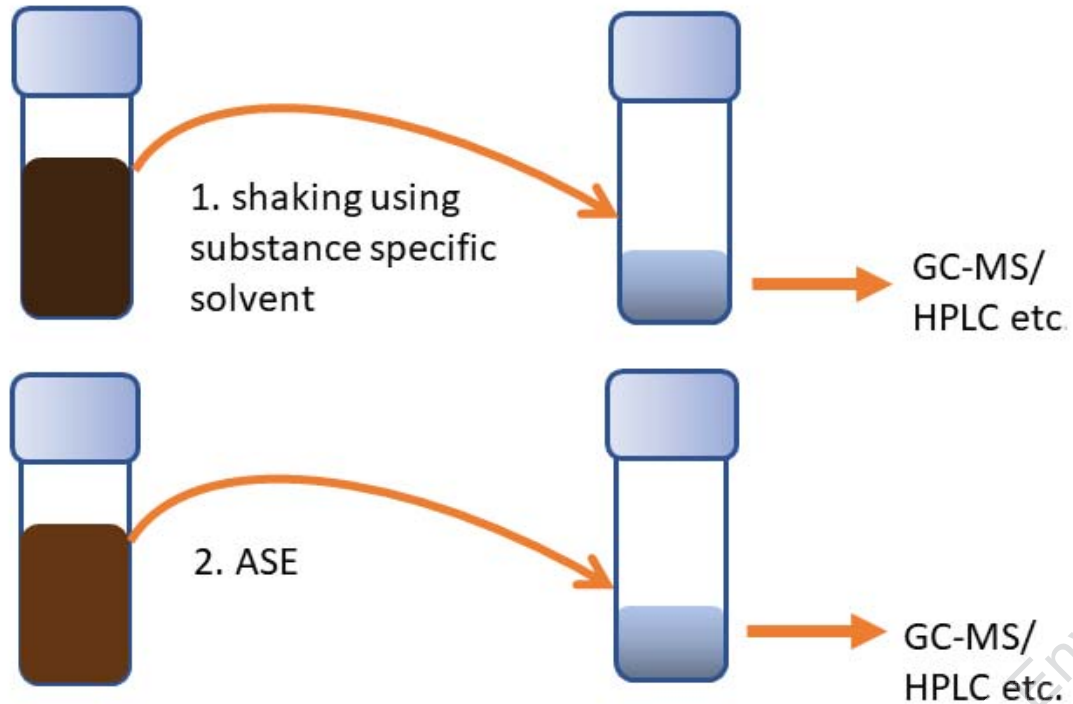


b) $\text{Sol}_{\text{parent}}$ + total-NER

= according to the recommendations in REACH R.11

Extractable

Non-extractable residues

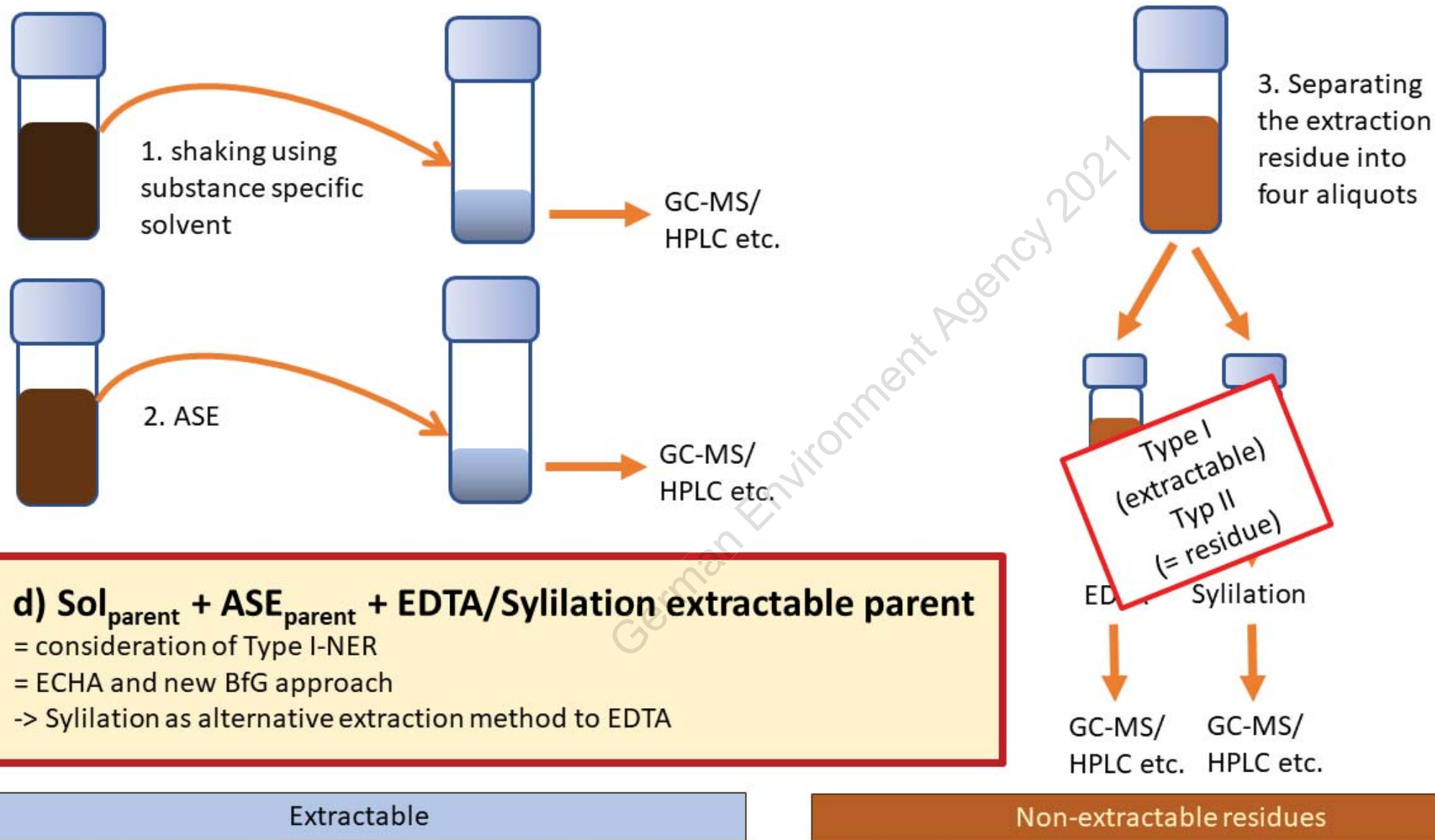


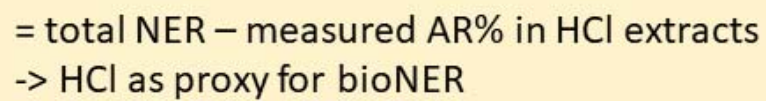
c) $\text{Sol}_{\text{parent}}$ + ASE-extractable parent

= former BfG recommendation

Extractable

Non-extractable residues





Non-extractable residues

$$\text{e) } \text{Sol}_{\text{parent}} + \text{ASE}_{\text{parent}} + \text{XenoNER}_{\text{measured}}$$

= total NER – measured AR% in HCl extracts
-> HCl as proxy for bioNER

VS.

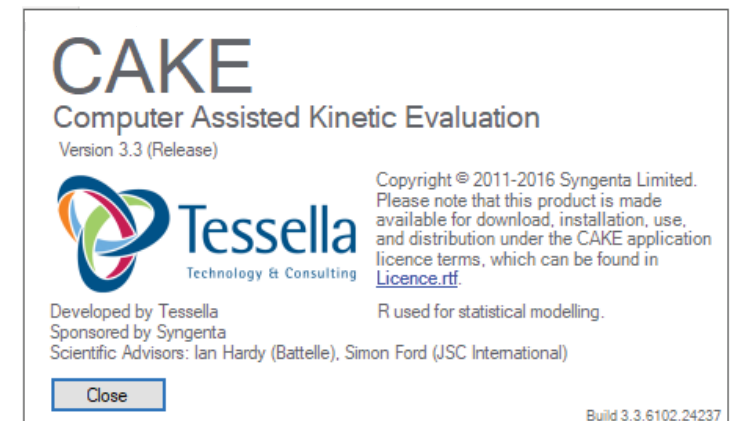
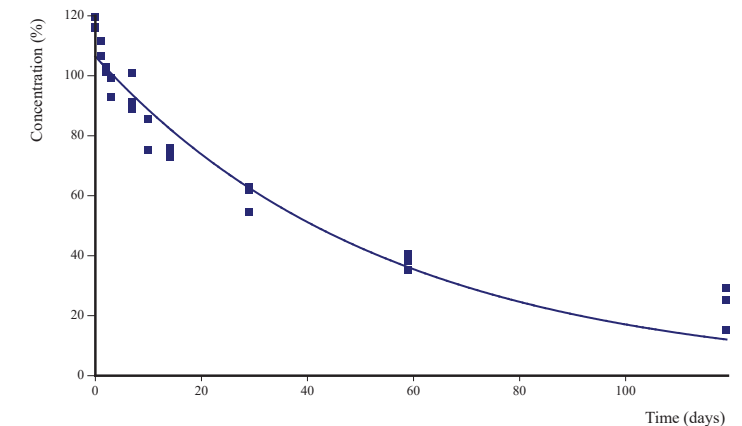
$$\text{f) } \text{Sol}_{\text{parent}} + \text{ASE}_{\text{parent}} + \text{XenoNER}_{\text{calculated}}$$

= total NER – calculated bioNER
-> bioNER calculated based on MTB-method (Trapp & Brock-Libonati)

Kinetic evaluation was done according to the recent update of EFSA's *Focus Degradation Kinetics* (still under review) in order to decide, whether the degradation behavior follows SFO or biphasic kinetic. In brief, biphasic degradation behavior is indicated, if:

- I) SWARC >40
- II) DT90/DT50 of the DFOP-Model >5
- III) SFOmass at DFOP DT90 <5

In any case, SFO was the model of choice



| Approach | | Explanation | SFO-DT50 (in days) | | |
|----------|--|---|------------------------------------|-----------------------------------|-----------------------------------|
| | | | Sulfadiazin | Bromoxynil | Isoproturon |
| | | | NER: 82% CO ₂ : 1.7% | NER: 63% CO ₂ : 31% | NER: 51% CO ₂ : 25% |
| a) | Solvent (Sol)-extractable parent | current approach in active substance assessment; NER considered as sink | 5.9 | 7.3 | 44.7 |
| b) | Sol _{parent} + total-NER | according to recommendations in REACH R.11; total NER considered remobilisable | 6590.0 | 279.0 | 241.0 |
| c) | Sol _{parent} + ASE _{parent} | former BfG recommendation | 10.1 | 8.1 | 53.6 |
| d)* | Sol _{parent} + ASE _{parent} + EDTA / extractable _{parent} | ECHA discussion paper and revised BfG recommendation; consideration of Type I-NER | 48.8 / 10.2 | 14.6 / 7.9 | 66.6 / 48.5 |
| | Sol _{parent} + ASE _{parent} + Sylilation / extractable _{parent} | | 39.3 / 10.4 | 12.4 / 8.1 | 57.9 / 49.2 |
| e)* | Sol _{parent} + ASE _{parent} + XenoNER _{measured} | ECHA discussion paper; consideration of bioNER xenoNER = total NER – bioNER | 366.0 | 132.0 | 147.0 |
| f) | Sol _{parent} + ASE _{parent} + XenoNER _{calculated} | -> HCl as proxy for bioNER -> bioNER calculated based on MTB-method (Trapp & Brock-Libonati) | 467.0 | 161.0 | 140.0 |

* calculation based on 6 instead of 10 sampling points

Thank you for your attention

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