

**Virtual Workshop: Proposal to standardise the analysis and persistence assessment of non-extractable residues (NER ) 17 – 18 February 2021**

## Summary and Conclusions

Ulrich Jöhncke, Jana Schmidt, Astrid Wiemann, Gunther Speichert, Anna Pissarello, Daniela Claßen (UBA, DE), Dieter Hennecke, Christian Gärtner (Fraunhofer IME, DE), Stefan Trapp, Andreas Libonati-Brock (DTU, DK), Andreas Schäffer (RWTH, DE), Matthias Kästner (UFZ, DE)

# Summary and Conclusions

## EXTRACTION, NER TYPE SEPARATION AND REMOBILISATION

- apply substance specific solvent if available or alternatively use standard solvent mixture
- use solvents with different polarity and start with mild extraction methods that get harsher with every extraction step
- use PLE as terminal step as a standard in a stepwise extraction procedure
- Silylation/EDTA extraction should be used for type I NER characterisation but first prove the method to be applicable
- Remobilization of NER is not routinely investigated

# Summary and Conclusions

## PERSISTENCY ASSESSMENT AND NER

- A guidance is needed how to follow a stepwise approach; not all steps have to be mandatory in case assessment on P, vP and not P can be already drawn conclusively at an early step without full NER characterization, this should be sufficient
- If only type I NER is of concern for persistence assessment, a standardized approach for determination of type II NER/bioNER vs. type I NER have to be developed
- A concept for simulation tests without full NER characterization and use of non isotope-labelled substances is needed
- Impact of consideration of NER in DT<sub>50</sub> derivation for model substances of the project is not that high, necessity of NER characterisation is questionable
- There is concern that NER characterisation cause higher costs for the registrants

# Summary and Conclusions

## IDENTIFIED RESEARCH NEEDS:

### Scientific view:

- Conditions for remobilization of NER
- Chemicals with high type I NER: uptake in organisms?
- Detailed analysis of the EDTA extract (how much xeno/bioNER present)
- When does MTB fail or not apply. Example: MTB 'special cases', no mineralisation but (building block) incorporation into bioNER
- Detailed analysis of the HCl extract after column purification (how much xenoNER left)
- Does the HCl extract contain all bioNER, or should a factor be applied? (like factor 2 for tAA)

# Summary and Conclusions

## IDENTIFIED RESEARCH NEEDS:

### Regulatory view:

- Further validation of the MTB approach for type bioNER determination
- Investigate the role of the consideration of NER in  $DT_{50}$  calculation if the degradation does not follow SFO kinetic
- OECD 301  $CO_2$ -formation results suitable for first MTB assessment?

**Thank you for your  
attention!**

German Environment Agency 2021

