

# Finding Practical Answers to Environmental Exposure Assessment Questions

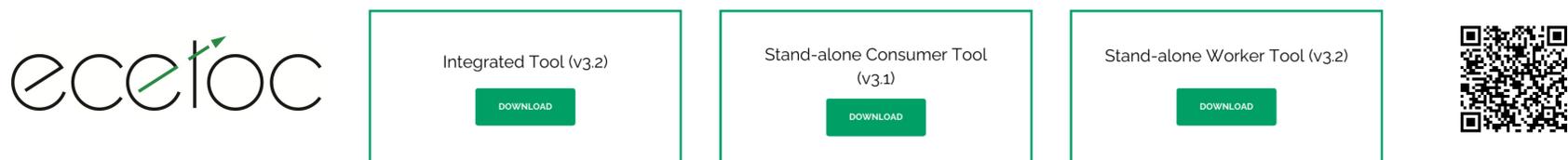
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## INTRO AND BACKGROUND

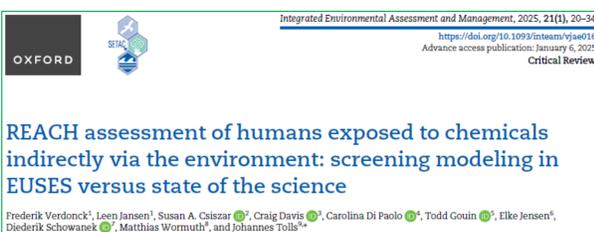
ECETOC's **Targeted Risk Assessment (TRA) tool** is a widely accepted Tier 1 screening tool to assess chemical exposure risks for workers, consumers, and the environment in a regulatory context (e.g. under the REACH Regulation).



ECETOC assigns high priority to **maintaining the TRA tool** as a trusted resource in chemical safety assessments and to **advancing the science** of exposure assessment as a whole.

Here we present recent and anticipated future activities relating to tool maintenance and advancing the science of environmental exposure assessment.

## INDIRECT EXPOSURE OF HUMANS VIA ENVIRONMENT

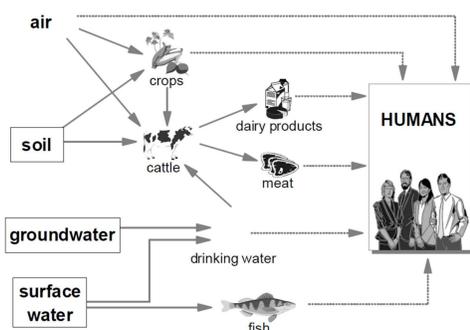


Relates to potential **unintentional indirect exposure of humans to chemicals via the environment**.

The state-of-the-science of such assessments was reviewed and opportunities for model advancement identified.

### Findings and recommendations:

- The default EU tool (EUSES) provides a conservative screening evaluation;
- **New models could be integrated** to 1) broaden the applicability domain; and 2) improve prediction accuracy;
- **Update assumptions regarding food consumption** to reflect recent dietary trends;
- **Research to more realistically reflect fate and other processes** related to potential exposure via crops and drinking water;
- **Update REACH Guidance** to define EUSES limitations and possible assessment refinements.



Source: European Chemicals Agency, <http://echa.europa.eu/> [ECHA, 2016]

## UNIFIED APPROACH TO SIMPLETREAT MODELING



**SimpleTreat** = a model used in environmental risk assessment to evaluate a chemical's fate and removal efficiency in a WWTP

A collaborative study with ECC<sup>#</sup> and RIVM<sup>§</sup> revealed significant differences in SimpleTreat predictions and underlying causes.

<sup>#</sup>Environment and Climate Change Canada; <sup>§</sup>Netherlands National Institute for Public Health and the Environment

### Recommendations:

- Use a **hierarchical framework to select data inputs**, with high-quality experimental data prioritised if available;
- Careful consideration of the **ionic or dissociation state of chemicals**;
- Select the **appropriate aeration settings** for the WWTP;
- **Documentation** of all data sources and model settings.



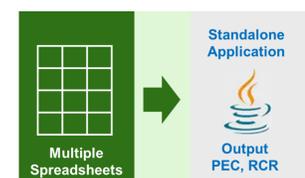
## REVAMPED TRA ENVIRONMENT TOOL COMING SOON!

**Ongoing: Migration of TRA Environment tool from multiple excel spreadsheets to standalone application.**

Maintain the current functionalities.

The tool will remain freely available!

Enhance user-friendliness.



## References

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