

What is ProScale?

An easy-to-use and meaningful approach for LCA applications

Peter Saling, BASF SE, 12 May 2023

ProScale

ProScale approach for LCA helps

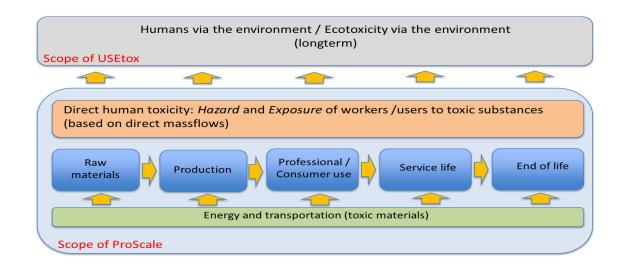
- To ensure the taking into account of chemical risk based elements in the Life Cycle Assessment of products
- To prevent the use of hazard-only assessment methods in LCA
- To create meaningful Human toxicity results for LCA in different context

ProScale approach uses

- existing data and assessment approaches for chemicals from
 - REACH based information
 - Technical information from processes and engineering
 - Risk and direct exposure for workers and users of chemicals based on EU methodology
- complementary approach to other approaches
 - "LCA compatible" and as part of full LCA studies
 - Adressing human toxicity in LCA



- ProScale has the direct human tox in focus
- Life cycle-based approach based on risk assessments
- Workers are in focus, but users can be considered as well

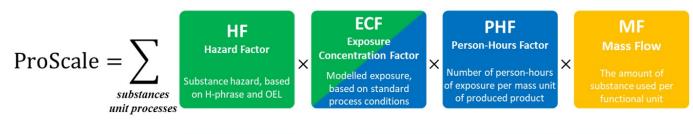


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 4 factors determine the ProScale results "CharacterizationFactor" to be added to CF tables

"Dose", to be added to LCI data



Information from Materials safety data sheet Process information
EcetocTRA
List of Person hours factors

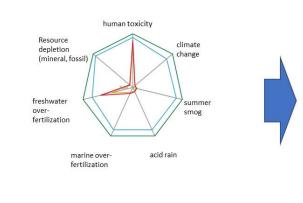
From system boundaries



- Integration of ProScale results to LCA and creating single scoring is possible
- Link to the PEF and method recommendation

- Resource depletion, mineral & fossil
- Climate change
- Photochemical ozone formation
- Acidification
- Ozone depletion
- Eutrophication, freshwater
- Eutrophication, marine
- Human toxicity
- Resource depletion, water
- Land use
- -

Full Life Cycle Assessment:
Product Environmental
Footprint (PEF)



Human Toxicity: **USEtox**

16 Impact

categories



ProScale (and ProScale E) results can be used in different programms of the European Green Deal

- PEF Product Environmental Footprint
 - Complementary method for evaluating toxicity of product components
- SPI sustainable products initiative
- SSbD Safe & Sustainable by Design
- REACH/CSS Chemical Strategy for sustainability
 - e.g. in the context of Safe Use
- EPDs Environmental Product Declarations
- Etc...



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- The Swedish Foundation for Strategic Environmental Research (Mistra: project Mistra SafeChem, project number 2018/11)

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