

Exercise 4 – Hazard - Dose response data

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In Exercise 1, you previously investigated the potential toxic effects of your selected additives on humans, wildlife and the environment. You looked for acute and chronic toxicity data, such as LD50 (lethal dose), ecotoxicity studies and carcinogenicity studies. You checked for known effects such as skin irritation, endocrine disruption or reproductive toxicity. Please use this data in exercise 4.

Objective of exercise 4

1. Did you find relevant environmental hazard data? Can you find more information on dose-response data (i.e. the original data), or are you only able to rely on database information?? <https://www.epa.gov/hydrowq/aquatox>)
2. Prepare a hazard overview for each substance and decide which category it falls into: most harmful substances, substances of concern or hazardous substances (See Presentation Langer on slide 9, 10 and 11). State whether each substance should continue to be used, be used with risk management measures (e.g. only in closed loops), or be replaced.
3. For **substances of concern** or **hazardous substances**: Please search for measured or predicted environmental concentration of your substances in surface water. Are these measurements representative? Consider which of the previously collected hazard data is suitable for a risk assessment. Perform a very low-level risk assessment with these data.

PEC: Predicted Environmental concentration = Risk?
PNEC: Predicted No Effect concentration

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4. Do you suppose that there is an existing environmental health risk from your substances? Mention the limitations of your estimation.

Tipp 1: Check the hazard data for your selected substances at the US EPA CompTox database and tools: <https://comptox.epa.gov> as well as OECD eChemPortal, ECHA Registration dossiers, and ECHA C&L inventory.

Tipp 2: When you cannot find data – report so