

Integrated Modelling and Testing Strategies supporting Systems Toxicology and Evidence-based Safety Assessment

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In this presentation we discuss using case study examples critical ingredients for the robust implementation of integrated modelling and testing strategies supporting systems toxicology and evidence-based safety assessment. We will focus on the following ingredients:

- a) Defining the information requirements and knowledge framework for safety assessment of a chemical ingredient or mixture;
- b) Using existing information in an evidence-based approach against a knowledge framework including molecular and adverse outcome pathways;
- c) Using modelling to fill information gaps and to extrapolate between different contexts of key biological events;
- d) Guiding experimental design for generating maximum value information for key biological events in a systems modelling approach and integrated testing strategy;
- e) Integrating data and modelling results in reproducible workflows supporting evidence and its judgement.