

European Test and Risk Assessment Strategies for Mixtures

Every day, we are exposed to a mixture of multiple chemicals via food intake, inhalation and dermal contact. The risk to health that may result from this depends on how the effects of different chemicals in the mixture combine, and whether there is any synergism or antagonism between them. The number of different combinations of chemicals in mixtures is infinite and an efficient test strategy for mixtures is lacking. Furthermore, there is a societal need to reduce animal testing, which is the current practice in safety testing of chemicals.

The EuroMix project will deliver a mixture test strategy and test instruments using novel techniques as recently proposed by the Joint Research Centre (JRC) of the European Commission. The tests will result in data needed for refining future risk assessment of mixtures relevant to national food safety authorities, public health institutes, the European Food Safety Authority (EFSA), the European Chemical Agency (ECHA), industry, regulatory bodies and other stakeholders. Ultimately, this will provide information for future risk management decisions on the safety of chemicals in mixtures to be taken by the European Commission and the Codex Alimentarius.

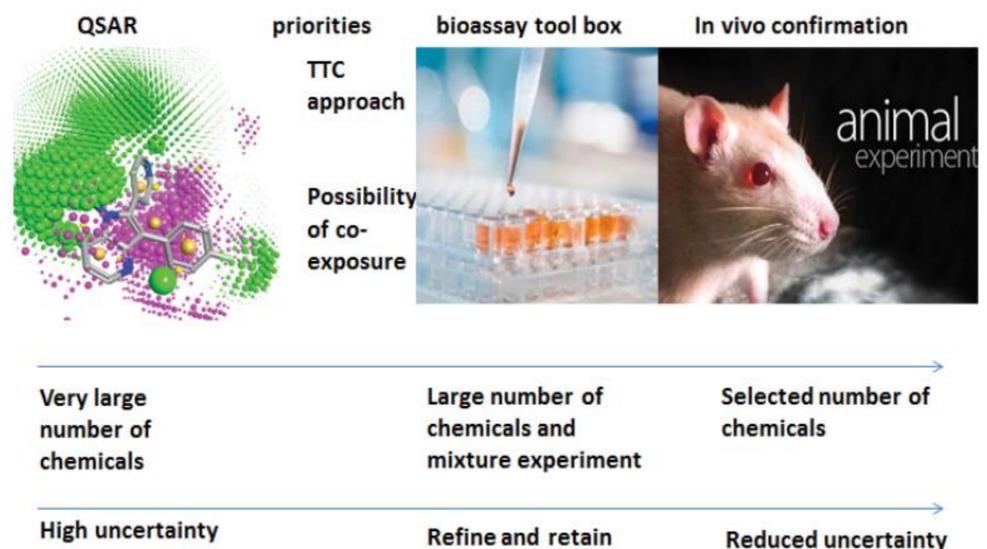
Objectives

The overall objective of the project is to establish and to disseminate new, efficient, validated test strategies for the toxicity of chemicals in a mixture, aiming to deliver refined information for future safety assessment of chemicals. This includes exposure assessment via multiple exposure routes.

Expected outcomes

- Efficient evaluation process of the safety of mixtures, ensuring adequate protection of public health.
- First tier screening of chemicals to be included in mixtures based on:
 - literature research
 - quantitative structural activity relationships (QSAR)
 - real life exposure profiles.
- Guidance to *in-vitro* key events of Adverse Outcome Pathways.
- Refined strategy in grouping chemicals and prioritising data gaps.
- Harmonised approach for assessing risk including information on possible additive, synergistic or antagonistic effects of mixtures.
- Open access web-based model and data platform.
- Guidance and training material:
 - use of the new test strategy
 - refined risk assessment of mixtures.
- Discussion on acceptance of test strategy and exposure assessment methodology by international organisations.
- Reduction in the use of laboratory animals due to reliable *in-silico* and *in-vitro* approaches.

Approach and methods



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EuroMix results

For information about project results and publications visit the EuroMix website www.euromixproject.eu

