

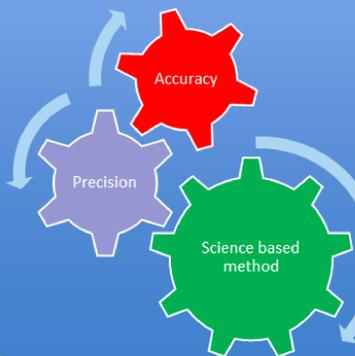
20TH ANNUAL CEFIC-LRI WORKSHOP
20 YEARS OF LRI: KEY ADVANCEMENTS IN
RISK ASSESSMENT

Improved aquatic Testing and Assessment of cationic Polymers (iTAP) ECO-46

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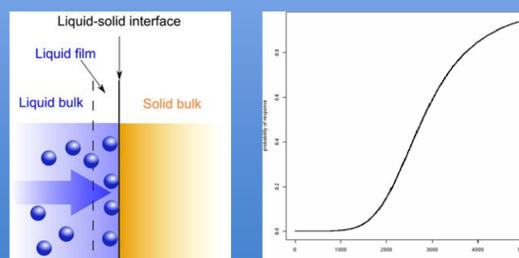
Objectives

The overall aim of the iTAP project is to support the science-based development of methods to allow accurate and precise aquatic environmental risk assessment of cationic polymers by further developing the ECETOC bulk approach



Challenges

Special known polymer properties needs to be considered *a priori* in the risk analysis. How to optimize relevance and realism of the aquatic exposure and toxicity testing of large and sorptive materials?



Methods



Review



Chemical analysis



Toxicity test and model

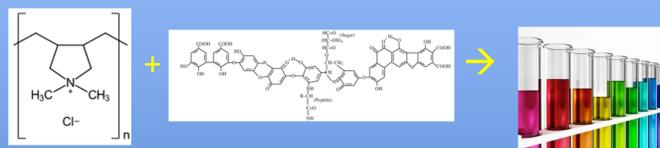


Exposure and risk modelling



Results

Most relevant cationic polymers: polyquaterniums (PQ-6; PQ-7; PQ-10; PQ-16). Testing in different water types hardness and humic acid.



Polymer descriptors		Physicochemical properties		Environmental effect		Environmental fate	
CAS#		Solubility		Test organism		Ready biodegradability	
Polymer class		MW		Test Endpoint		Distribution coefficient	
Chemical name		Polydispersity		Water type		% WWTP removal	
Subclass		% monomer		LEECx / NOEC / LOEC			
Empirical formula		Monomer ratio					
Trade name		Application					
Application		CLP/GHS					



Initial screening → prioritization

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