

## CEFIC Long-range Research Initiative Request for Proposals (RfP)

### ***Project code and title***

**LRI-ECO33: Strengthening the use and interpretation of dietary bioaccumulation tests for hydrophobic chemicals.**

### ***Background***

Understanding the relative importance of various exposure routes of aquatic organisms to hydrophobic chemicals, such as via the diet, is an area of growing interest as the regulatory arena expands to assess ecological risk based on the capacity for uptake and storage of chemicals from the environment.

Data interpretation of biomagnification factors (BMFs) is difficult, as dietary BMFs are not viewed as equivalent to field BMFs. This is based on the assumption that organisms have the potential to experience adverse perturbation through the uptake and storage of the chemical, which could lead to ecotoxicological effects at both the individual and population level, and in turn could cause unknown impacts on the food chain, for example due to reduced food for predators.

This information is most relevant for hydrophobic chemicals whereby assessing bioaccumulation is best achieved via dietary exposure (bioaccumulation) tests. This project will thus help in the interpretation of dietary bioaccumulation tests in assessing B/vB properties, while providing an assessment of the environmental relevance that bioaccumulation may have on populations and ecosystems.

### ***Scope and Objectives***

This project would aim at providing clear guidance on the use of dietary bioaccumulation tests through:

- Analysis of existing data from lab and field studies (both aquatic and terrestrial), and the subsequent use of the data to potentially determine mass balance / exposure pathways.
- When possible, analysis of results from lab studies according to the latest version of the OECD 305 guideline, deriving several endpoints like depuration rate constant, growth rate constant, kinetically-derived BMF...
- Development of a toxicokinetic modelling framework to improve the interpretation of dietary bioaccumulation.
- Use existing data and modelling output to evaluate the relevance of the assumption of adverse perturbations of highly hydrophobic substances regardless of trophic magnification.

### ***Deliverables***

This project is intended to be a desk-based study. The final report shall contain an executive summary (2 pages max), a main part (max. 50 pages) and a detailed



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bibliography. Suggestions for further research might be included. It is expected that the findings will be developed into at least one peer reviewed publication, following poster(s) and presentation(s) at suitable scientific conference(s), and/or the organisation of a workshop to discuss the findings.

### ***Cost and Timing***

Start in 2016/17, duration 1 years.

Budget in the order of € 125 000.

### ***Partnering/Co-funding***

Applicants should provide an indication of additional partners and funding opportunities that can be appropriately leveraged as part of their proposal. Partners can include, but are not limited to, industry, government/regulatory organizations, research institutes, etc. Statements from potential partners should be included in the proposal package.

### ***Fit with LRI objectives/Possible regulatory and policy impact involvements/Dissemination***

Applicants should provide information on how their proposal is aligned with LRI objectives. Furthermore, an indication on how the results could influence regulatory and policy areas should be provided.

Dissemination plans should also be laid down.

### ***DEADLINE FOR SUBMISSIONS:***

Please visit [www.cefic-lri.org](http://www.cefic-lri.org) for general information about the LRI funding programme, guidelines for grant applications and links to application documents.

**DEADLINE FOR SUBMISSIONS: 31 August 2016**

Please see [www.cefic-lri.org](http://www.cefic-lri.org) for general LRI objectives information, project proposal form and further guidance for grant applications.