

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

Title and Code Number:

Develop holistic approach to assess environmental hazards of microplastics to the terrestrial environment – **LRI ECO61**

Background

Microplastics research has grown substantially over the past several years, due to the growing concerns from the public and the regulatory bodies. However, most of the research on microplastics are towards the aquatic environments, while microplastics in terrestrial environments are relatively understudied. Microplastics are detected in soils but the risks they pose to the terrestrial environments are debated and largely unknown. With soil being an important environmental compartment, it is critical to evaluate the potential impact of microplastics to the terrestrial environments within a risk context. There are ongoing Cefic LRI projects developing models to better understand the fate of microplastics in the environment. Therefore, proposals are requested to develop holistic approach to assess environmental hazards of microplastics to the terrestrial environments, so that it can be used within the context of assessing the risks.

Objectives

This project is looking to develop holistic approach to assess environmental hazards of microplastics to the terrestrial environment.

The project's objectives are to:

1. Identify key environmental hazard endpoints, relevant species, and Mode of Action that are relevant to evaluate the impact of microplastics to the terrestrial environment within risk context, through systematically comprehensive review of existing literature. Identify appropriate methodologies to evaluate the key environmental hazard endpoints identified, through assessing the applicability and adaptability of existing terrestrial environmental hazard testing methods and framework to microplastics. Evaluate the data quality of the relevant endpoints, and recommend appropriate QA/QC criteria.
2. Assess effect thresholds of environmentally relevant microplastics for the terrestrial environment, using the identified appropriate methodologies on the appropriate endpoints and species identified with appropriate QA/QC. Identify and evaluate key factors influencing the environmental hazards of microplastics to the terrestrial environment, e.g. size. It is important to compare with natural particles that exist in the terrestrial environment.
3. Develop a framework, taking into consideration of the key environmental hazard endpoints and Mode of Action holistically, to assess environmental hazards of microplastics to the terrestrial environment, within the context of assessing risk.

Scope

- All types of synthetic solid polymeric materials are in scope with particular emphasis on environmentally relevant microplastics types. The RfP is not restricted to certain type of microplastics e.g. polyolefin origin.
- Environmental hazard types and related species include but not limited to impact to soil health and function, impact to biota at species level and at community level.

Out of scope

- Impacts of additives and other chemicals associated with plastics are out of scope.
- Multimedia fate and transport modelling is out of scope.

Deliverables

- Publications in top tier peer-reviewed journals.
- Presentations at scientific meetings to summarise results.

The final report shall contain an executive summary (2 pages max), a main part (max. 50 pages) and a detailed bibliography. 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). Participation in activities of the “Microplastics Advanced Research and Innovation Initiative” (MARII) is requested.

Cost and Timing

Budget: 400.000 Euro

Duration: 3 years

Start of project in Q1 2023

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 the fit of their proposal with LRI objectives and an indication on how and where they could play a role in the regulatory and policy areas. Dissemination plans should also be laid down.

DEADLINE FOR SUBMISSIONS: September 11, 2022



Please see www.cefic-lri.org/funding-opportunities/apply-for-a-grant/ for general LRI objectives information, project proposal form and further guidance for grant applications.