Biodegradable Micro-encapsulation of Agricultural Active Ingredients

BASF is an industry leading chemicals company creating solutions for a sustainable future. The company is seeking biodegradable micro-encapsulation technologies for agricultural active ingredients. BASF is particularly interested in non-microplastic core/shell particles to encapsulate hydrophobic active ingredients.

Approaches of Interest

- Biodegradable encapsulation materials for hydrophobic active ingredients
- Polymers from natural sources/resources are preferred
- Capsule sizes should ideally be $d(50) \sim 5 \mu m$ and $d(90) \sim 15 \mu m$
- Core/shell morphologies are of high interest but relevant matrix capsules and other morphologies will be considered
- The active ingredient concentration to be encapsulated is $>10\%$
- A $>90\%$ encapsulation efficiency is ideal
- Goods should be cost-effective and ideally $<20 \text{$/kg for the capsule material and } <2 \text{$/kg for manufacturing}$
- Measurement of biodegradability should follow ISO 17556:2012: $90\%$ ultimate degradation in soil at $12 \degree C$ within 24 months
- Applicable encapsulation technologies developed for other applications are also of interest

Out of Scope

- Microplastics

Developmental Stages of Interest

- Technology readiness level at TRL 3 and above is of interest, with a particular interest with technologies that have been developed for licensing/commercialisation, however this is not a requirement
- Successful feasibility validation of the technology is required for this campaign
- Funded co-development research activity could be considered on a case-by-case basis

Submission Information

Submission of one page, 200-300 word briefs are encouraged. Along with any optional supplementary information e.g., relevant publications and patents. In submitting to this campaign, you confirm that your submission contains only non-confidential information.

Opportunity for Collaboration

The client is open to a range of collaboration opportunities, with the most appropriate outcome being decided on a case-by-case basis. Example outcomes include licensing assets and research collaborations. Successful opportunities could also gain access to BASF’s diverse scientific network to develop a range of encapsulation applications in other areas of agriculture, as well as life sciences (e.g., cosmetics, vitamins, biological materials).

Opportunities sought

- Technologies
- Academics and expertise
- Centres of excellence
- Research projects
- Spinout companies

Submissions

Please submit relevant, non-confidential opportunities online via: discover.in-part.com

Deadline: 5th July 2022 - 10:59 pm GMT

Have any questions? Contact our team at discover@in-part.co.uk

BASF creates chemistry for a sustainable future, combining economic success with environmental protection and social responsibility.