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## CHARACTERIZING ECOTOXICITY IN COMPLEX SUBSTANCES

#ready biodegradation #inherent biodegradation #environmental persistence #chemicals #ecotoxicology

The client concerned is a leading player in the specialty ingredients sector for health and beauty. In 2019, it reaffirmed its confidence in Capacités and the GEPEA laboratory by requesting that their teams assess a new polymer's ecotoxicity. The complexity of the substance to characterize required specific expertise in ecotoxicology and a customized study protocol.

### ANALYZING ECOTOXICITY DURING THE BIODEGRADATION PROCESS

Ecotoxicity and biodegradation specialists from Capacités were selected for their Expertise on non-ready biodegradable chemicals. The client asked them to study the ecotoxic properties of a new polymer.

The experts physiochemically characterized the polymer to determine the operating conditions to conduct optimized ecotoxicological trials. For this, they studied its composition as well as solubilization and volatilization properties.

Following this pre-study, they measured the polymer's toxicity and biodegradability in the two environments where the polymer is

released at its end of life: seawater and activated sludge. They gained understanding both on its ready and inherent biodegradation properties during this study. The byproducts released by its partial biodegradation were also analyzed for safety.

To successfully complete this project, the Capacités' experts benefited from support and technical equipment from the GEPEA, joint research unit of Université de Nantes, Oniris, IMT Atlantique and CNRS (The French National Centre for Scientific Research). ■

#### Expertise:

- Analytical chemistry

#### CAPACITÉS

Created in 2005, Capacités is the private engineering and research valorisation subsidiary of the University of Nantes. It employs 90 employees, mainly engineers and PhDs, who work directly with scientists in the research laboratories.



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