

Some brominated flame retardants (BFRs) will be phased out because of their environmental hazards. Less toxic alternatives appear to be available already but comprehensive information on their possible environmental and human risks are lacking. ENFIRO offers a prototypical case study on substitution options for BFRs resulting in a comprehensive dataset on viability of production and application, environmental and human safety and a complete life cycle assessment. The ENFIRO consortium is a unique collaboration between industries, SMEs and universities with a wide variety of scientific disciplines. Dissemination will ensure the project results arrive on policymakers' desks. ENFIRO will contribute to the phasing out of BFRs as proposed in the European Water Framework Directive. The approach and the results of ENFIRO will be useful for similar substitution studies, e.g. in REACH.

Following a study of literature and industrial information, and prioritizing, three flame retardant (FR) product combinations will be selected (e.g. metal-based FRs, phosphorous-based and nanoclay-based FRs in printed circuit boards, paints and foam). These will be studied for environmental and toxicological risks, and for viability of industrial implementation. All information from these tests will be used for a risk assessment. The outcome of that assessment will, together with socio-economic information, be used in a complete life cycle assessment. The project will follow a pragmatic approach, avoiding final recommendations on environmentally-compatible substitution options that would not be viable for implementation by industry. A Substitution Information Exchange Forum with members representing FR users (large industries) has been invited to guide this project.