

Proposals for NORMAN Joint Programme of Activities 2023

Title	Consolidation of PFAS suspect HRMS lists and lists of PFAS-containing products
Type of activity	Inter-lab collaboration activity on PFAS suspect screening and NTA
Leader/s	Pradeep Dewapriya / Sarit Kaserzon / Sara Ghorbani Gorji (University of Queensland, QAEHS, Australia), Sara Valsecchi (Water Research Institute of the National Research Council of Italy), Saer Samanipour (University of Amsterdam)
Topic / activities	<p>Background / Justification for the proposed activity:</p> <p>Per- and polyfluoroalkyl substances (PFAS) are a group of synthetic chemicals that have been manufactured since the late 1940s. Due to their unique surfactant properties and chemical stability, PFAS has been used in various consumer and industrial products. These consumer and industrial products have actively contributed to the widespread release of PFAS into the environment. However, current PFAS analysis and identification methods are limited despite their complex chemistry and sources. Suspect screening and non-target analysis (NTA) employing high-resolution mass spectrometry (HRMS) are emerging as essential tools to characterise PFAS, but informative suspect lists and curated HRMS spectra are still minimal, as is knowledge of their occurrence in products.</p> <p>The main objectives of this JPA are to foster knowledge exchange of PFAS suspect screening and NTA on PFAS-containing products and consolidate and harmonise suspect lists to facilitate screening of consumer and industrial products for PFAS. A curated PFAS suspect list generated via this joint effort will be used to investigate their occurrence in a range of products through joint analysis, data processing and reporting exchanges. This activity will be carried out under two main tasks.</p> <p>Task 01: Consolidate available PFAS suspect lists, curated data including PFAS MS/MS libraries and information on PFAS-containing products.</p> <p>Task 02: Use the information and knowledge generated in task 01 to analyse, identify and report different PFASs in products and contaminated matrices.</p> <p>The knowledge and expertise of PFAS identification and reporting will be shared among participating laboratories and are expected to contribute to shaping and consolidating the reporting of PFAS analysis using HRMS methods for better harmonisation and confidence.</p> <p>Description of the proposed activity and expected outcomes for 2023:</p> <p>Task 01: Consolidate available PFAS suspect lists, curated data including PFAS MS/MS libraries and information on PFAS-containing products.</p> <p>A comprehensive search of the scientific literature on PFAS-containing products, suspect lists and HRMS libraries was performed as a part of Task 01 activities. In parallel, an excel template was shared among interested research groups to collect information on current activity related to PFAS-containing products, in-house suspect lists and HRMS libraries, expertise, and resources available.</p> <p>A summary of the literature review and the participants' survey were presented during the first Participants'/kick-off meeting held on December 9, 2022.</p> <p>Based on the participants' survey, a suspect list from NORMAN SLE will be selected as a starting point. The information and resources in that list will be expanded to improve the identification confidence of PFAS in suspect screening.</p> <p>We will invite submissions from laboratories and agree on the following.</p> <ul style="list-style-type: none"> - The analytical methods and workflows for screening PFAS in products - The products that will be screened - The data repository to share HRMS data - The reporting template <p>Expected outcomes; Dec 2022 completion of literature review, participants' survey, and first participants' meeting (virtual). March 2023, finalising the consolidated suspect list, sample selection, analytical and processing methods and reporting template, Mar/Apr 2023 second participants' meeting to commence inter-lab study.</p> <p>Task 02: Use the information and knowledge generated in task 01 to analyse, identify and report different PFASs in products and contaminated matrices.</p> <p>The activity will be based on the agreements in the March 2023 workshop. Participating laboratories will receive a set of samples to analyse and process based on the agreed analytical and processing methods. A subset of selected products will be shared (Apr to June 2023) among participating laboratories to perform an interlaboratory suspect screening analysis.</p> <p>The submitted data will be (i) assessed for compatibility between laboratories' identifications and reporting and (ii) used to investigate the identification and occurrence of PFAS in selected consumer products.</p>

	<p>Expected outcomes; Mar-Jun 2023 distribution of selected samples, June-Sept 2023 submission of data. Results processing and evaluation are expected by Jan 2024, Mar 2024 distribution of the draft report to the participants, and May 2024 final report and workshop.</p> <p>Added value / Link with other NORMAN activities and/or other projects</p> <p>This project will link to other NORMAN activities, including NTA Cross-Working Group Activity (CWG-NTS); Norman NDS; NORMAN EMPODAT Suspect; NORMAN PFAS Suspect List Exchange (SLE) and Substance Database (SusDat); PFAS analytical exchange</p> <p>Timeline</p> <table border="1"> <thead> <tr> <th rowspan="3">Activity</th> <th colspan="4">2022</th> <th colspan="12">2023</th> </tr> <tr> <th colspan="4">Q4</th> <th colspan="3">Q1</th> <th colspan="3">Q2</th> <th colspan="3">Q3</th> <th colspan="3">Q4</th> </tr> <tr> <th>Sept</th><th>Oct</th><th>Nov</th><th>Dec</th> <th>Jan</th><th>Feb</th><th>Mar</th> <th>Apr</th><th>May</th><th>June</th><th>July</th><th>Aug</th> <th>Sept</th><th>Oct</th><th>Nov</th><th>Dec</th> </tr> </thead> <tbody> <tr> <td>Task 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Proposed in-kind contribution	The University of Queensland, QAEHS; Costs associated with sample extraction for analysis, QAQC, data curation, consolidation, and interpretation																																																																																																																																																																																																																																																																																															
Contribution needed from NORMAN Association¹	No financial contribution is requested																																																																																																																																																																																																																																																																																															

¹ Please, provide here a transparent justification of the requested resources and of the in-kind contribution, thereby distinguishing between the costs associated with “person-months” for the organisation, the “travelling costs” for invited speakers and the costs for the logistics (e.g. meals, room rental etc.)