

Generation of high-quality data and information for chemicals in wastes and recovered resources



Version 1

The generation of high quality and traceable information underpins evidence-based decision making when it comes to chemicals and waste management.

Chemicals in waste streams challenge waste reuse strategies and hinder National and State waste policy targets. Chemicals of potential concern (CoPC) can affect recyclability and safe material reuse, with even trace levels potentially triggering hazardous waste classification. This results in waste being sent to landfill and increased waste disposal costs. In some cases, trigger limits set within policies for hazardous waste classification are unclear, creating uncertainty around appropriate reuse or disposal.

Generating high quality, consistent data from complex waste characterisation was identified as a critical challenge for safe reuse. Historically, data and analytical information on waste-chemical characterisation has been disaggregated and of poor or unverifiable quality. This project developed simple guidelines for generating, collecting, and recording data, metadata, and quality control and assurance (QAQC) markers for materials proposed to be reused within a circular economy.

Minimum information required	Description of information requirement	Requirement met (please check)
Chemical analytical methods	Name of method (if standard method, e., USEPA WXYZ), and relevant information related to extraction solutions, conditions, and analytical instrumentation. Meta data related to sample preparation and analytical methods.	<input type="checkbox"/>
Quality control and assurance (QAQC)	Provision of QAQC methodology, including information on standards, blanks, spikes, and duplicates. Limits of detection (LOD) or limits of reporting (LOR) are also requested for all analytes. This includes description on how these were derived.	<input type="checkbox"/>
Units of reporting	All units must be reported.	<input type="checkbox"/>
Reporting formats	Provision of raw data, testing meta data and QAQC data in accessible format (csv or .xlsx) alongside.pdf reports.	<input type="checkbox"/>

This simple information guideline for data reporting is built from principles outlined in the [FAIR \(Findable, Accessible, Interoperable, Reusable\) Data Principles](#) and is a requirement for data acquisition in research projects undertaken under the NESP SCaW Hub.