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WRC expands tool-box of metal speciation tests to support hazardous property assessments of biomass ash

The use of biomass feedstock in energy generation is increasing.

Biomass can be derived from a variety of materials, such as virgin wood, waste wood and agricultural residues. Combustion of these fuels generates a residual ash which may be hazardous or non-hazardous based on its chemical composition.

Unlike municipal waste incinerator bottom ash (IBA) there is no significant body of research providing insight into the geochemistry of metals in biomass/wood waste ash. Knowledge of the metal compounds present is required to inform a hazardous property assessment, as required by the joint agencies Technical Guidance WM3, which includes assessment of hazardous property HP14 (ecotoxicity).

Some waste wood fuels may contain elevated levels of potentially toxic elements such as copper and zinc that are carried through to the ash. But not all metal compounds are ecotoxic.

WRC has developed a tool-box of chemical characterisation tests to support waste classification. Thermodynamic modelling of the data can then provide the evidence to enable a non-hazardous classification of certain biomass ash streams.

Contact WRC's waste doctors for support in classifying your thermal treatment residues, from developing sampling plans to providing evidence-based reports to submit to your regulator.



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