

SUMMARY COMMENTS AND STATUS OF HORIZONTAL DS 23 LEACHING

RECOMMENDATIONS FROM THE STEERING COMMITTEE

The Steering Committee was of the opinion that a standard for leaching properties (especially for sludge/biowaste treated soils) would be of high interest taking into account the cross cutting use of such a standard (e.g. for the purposes of the Groundwater Directive and the Construction Products Directives). However, at this stage funds were not available. Thus, it was **agreed to stop the work at the stage of desk study**. Should further funds become available and taking into account other priorities, the Steering Committee could support this subject.

SUMMARY OF COMMENTS

HORIZONTAL DESK STUDY 23. LEACHING METHODS FOR SOIL, SLUDGE AND TREATED BIOWASTE

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Some respondents apparently have not had sufficient time to study the report in detail, as some of the aspects respondents claim to have missed, are definitely addressed in the report. The summary and the conclusions can be improved to bring those points more prominently forward.

In the report the case is made that from a health and environmental impact point of view total composition is a very poor predictor. This does not imply that total composition information has no value. It only implies that in situations where quantitative information on potential impact - uptake by plants or impact on soil and groundwater quality - is needed total composition is not suitable. Only a small fraction of the total composition is transferred to the liquid phase and transported as such. It is this fraction that can be leached (released) under specified conditions that determines the impact in a given time frame. The fraction of a given element that is leachable under given exposure conditions is not a simple relation to composition, but can very well be classified with the current leaching tools. In addition, for a given constituent it is not the same proportion that is leached for different materials, which makes a rule based on total composition rather critical. Particularly, in view of the Water Framework Directive, such more detailed information is needed to prevent unnecessary rejection of materials. If not dealt with properly, this could lead to serious limitations in recycling and reuse of materials and thus hamper waste prevention programmes.

In the desk study, the emphasis has been on understanding the leaching behaviour from sludge, soil and biowaste, their similarities allowing a common approach and mutual relationships between different tests. Thus providing horizontal and harmonised

characterisation leaching standards to be followed by compliance test development rather than working backwards (as in the case of EN 12457). The discussion on the use of total composition versus leaching for specific regulatory issues is a subject that must be addressed at the regulatory level first before standardisation can be finalised. The level of understanding the leaching process and the factors controlling it has increased significantly in the last few years and modelling as well as prediction of release start to reach a level of sophistication and ease of use that the application of such information in a regulatory framework and in day to day practice is becoming feasible.

Additional points

1. *Is the property assessed also the property that is needed?*
Yes, very much so.
2. *Are there different methods in the different fields?*
Several single extraction methods exist. A few standardised internationally others used in limited circles as national method only. Comparability is poor as many different procedures are used to assess largely the same property. The characterisation methods described allow placing the single methods into perspective.
3. *Is formulation of a horizontal standard covering sludge, soil and biowaste based on these different tests feasible.*
Yes, the characterisation leaching methods provided have an even wider horizontal applicability than sludge, soil and biowaste.
4. *If no why not? If yes, what remaining points need to be resolved in ruggedness testing?*
Use of 0.001 M CaCl₂ to reduce DOC mobilisation by demineralised water.
Performance characteristics of the methods for soil, sludge and biowaste
5. *What is the working range of the method?*
PH = 1 – 12; L/S = 0.1 – 10; oxidised or reducing conditions as required.
This implies that almost all environmental conditions are covered.
6. *How much work will be needed to take them to Horizontal standards?*
About 2 years
7. *What is the rate of throughput like, how long do they take?*
pH dependence test: 3-4 days; percolation test : 3-4 weeks
For characterisation purposes this is not a limitation.