# HP 14 - And now what?

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## Editorial

Council Regulation (EU) No 2017/997 was published in the Official Journal of the European Union [1] on 14 June 2017. This directive amends Annex III of the Waste Framework Directive, introducing new provisions and requirements for the classification of hazardous waste, especially with regard to criterion HP 14. Superficially this may sound like a rather minor amendment, but its impact on the entire waste management business cannot yet be predicted. The outcry of the industry as a whole is correspondingly loud.

Classification as hazardous waste under criterion HP 14 would have far-reaching consequences for collectors, disposers and recyclers alike because the reporting of hazardous waste is subject to special monitoring and also requires special precautions in handling, storage, recycling and disposal. Many collectors and disposers are concerned that they may no longer be permitted to accept waste that will now be classified as hazardous under criterion HP 14 because their facilities are not licensed for accepting hazardous waste. Another of their concerns is the huge investment of time and money entailed by studies required for classification.Pursuant to Council Regulation (EU) No 2017/997 [1], the European Union has stipulated the implementation of criterion HP 14. The assessment criteria have been adapted to match Council Regulation (EU) No 1272/2008 (CLP Directive) [2]. Two different approaches may be pursued to clarify whether or not HP 14 applies: one is a theoretical calculating model based on waste constituents while the other is experimental lab testing to determine Eco-toxicity. If available data do not support calculation, lab testing is compulsory. If data are available for both calculation and for lab testing, the lab testing results shall override the calculations. The calculating model has to identify all constituents to which

(a) Risk phrases H420, H400 or H410 apply with an exposure limit of 0.1 % being exceeded and

(b) Risk phrases H411, H412 or H413 apply with an exposure limit of 1 % being exceeded.

On the face of it, the calculation model looks straightforward and easy to implement, but there are concerns about its applicability. If detailed data on the origin and generation of the waste is available, then the computations should be trivial. However, waste is often very intricate, made up of a great variety of constituents. In many cases, only the elements contained in this waste are known but not the compounds in which they may be found. Knowing these, however, is essential for applying the calculation model because the way each element is chemically bound affects its potential toxicity and, hence, the proper assignment of risk phrases. While inorganic compounds are experimentally detectable with tolerable effort, the sheer diversity of organic compounds makes reliable detection virtually inconceivable. Worse, the computational model has a strong tendency to develop a bias against organic components: after all, they can be ecotoxic even at concentrations <0.1 %. Even potential interactions like synergistic or antagonistic effects of two or more constituents are ignored by the model.

Methods included in Part C of Council Regulation (EU) No 440/2008 [3] or other internationally recognised techniques shall be used in experimental testing to assess ecotoxic properties. They include acute toxicity tests on fish, daphnia, algae or earthworms. All these toxicity tests, except the last, are intended for aqueous media. In other words, solid waste has to be converted into a liquid state to become accessible for examination. However, the EU has not yet proposed any guidelines for this inevitable step in sample preparation. Instead, making such arrangements is left to each member state. So far there is very little experience in applying ecotoxicity testing to waste. A pan-European collaborative study [4] supports the view that conventional testing techniques are applicable to the tested wastes ('Gasworks soil', 'Waste Wood' and 'Incineration Ash'). Whether other types of waste can also be examined in toxicity tests and what kind of problems may arise or what adjustments should be made remains to be seen. Experimental testing has yet another drawback: it can also produce conflicting results for different organisms. Thus, Rombke found that certain samples proved toxic in the plant test while their effect on daphnia was non-toxic [5].

Although the European Union also provides for an assessment of criterion HP 14, national authorities still enjoy quite a lot of scope with regard to its actual implementation. While some EU countries such as Germany, Finland, Sweden and Austria are already actively developing such concepts, others do not seem to be able or willing to deal with this subject for the time being. However, inconsistent rules will not only hamper cross-border shipments of waste but also distort competition.

Austria has recently submitted a fairly pragmatic proposal [6] for the implementation of the Council Regulation by the Federal Ministry. Like every proposal, it is controversially discussed by all parties concerned.

The content of the Council Regulation will enter into force on 5 July 2018. By this date, all member states should have introduced and implemented adequate national regulations. The future will show whether this will indeed be the case in all EU members and in what manner non-EU members will deal with this subject. But one thing is for sure: criterion HP 14 and its impact will definitely keep the scientific community busy in the foreseeable future and therefore I cordially invite you to submit your contributions on this and other related topics to the 'Journal of Environmental Waste Management and Recycling'.

## References

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