Source: E-mail from Richy Mariner from 13.04.2018

Dear Mr Potrykus and Mr Milunov

As representatives of chlorinated alkane producers in Europe, we read about this initiative with great interest. Whilst SCCPs are no longer produced in Europe (and have not been for some time), we have some relevant comments which may be of interest to you. Unfortunately they do not fit the matrix of the questionnaire but they are below in case they are of use.

- Based on the chemistry of chlorinated paraffins, we have doubts whether much of the material identified in waste comes from deliberate use of SCCPs in articles. It is most likely that states are either seeing wider C10-C13 fragments in C10 20 cuts (which is common outside of Europe and is technically not SCCP under the CAS number). Since the reported levels tend to be around the 1 to 1.5% w/w level it is more likely that it is the use of C10-20 product at around 10%. Also, as many such articles are polymer based in nature, we can assume any chlorinated paraffin use is as a plasticiser. SCCP at this level would show virtually no plasticizing ability so their 'deliberate' presence is unlikely. Hence detected 'shorter' fragments must be there as part of a wider cut component and are not SCCP under the CAS definition.

- Many state labs use standards for comparison which are based on chlorinated end groups then this may add to the detection problem (such patterns are less likely in commercial products). Such labs will then see matches for their C10-13 standard (which do not reflect historic, commercially produced SCCP) and conclude (incorrectly) that they have 'found SCCP'.

- SCCPs are on the REACH candidate list, and so have not been produced for some time making stockpiles unlikely. Imports of articles of over a tonne cumulated volume of the substance per year is subject to notification to EChA.

- State-of-the-art CA detection uses 2-dimensional gas chromatography combined with electron capture detection (GCxGC-ECD). The GCxGC separation method is able to qualitatively identify groups of CA isomers by carbon chain length and chlorination level, although this is very difficult due to the complex nature of chlorinated alkanes. Advantages of this technique include the detection of lower chlorinated congeners, the high separation power of congeners with different chlorination levels and the ability to detect groups of congeners with equal chlorine levels. However, the most commonly used method of detection and quantification is either high or low definition gas chromatography followed by electron capture negative ion mass spectrometry (GC-ECNI-MS). Whilst popular, this method has difficulty in accurately separating different congeners with the same chlorine number, and the detection of congeners containing low numbers of chlorine atoms (≤ Cl5). Whilst limited, it can provide valuable information on higher chlorinated congeners to complement analysis by GCxGC-ECD. There has been a particularly comprehensive review of the current analytical situation in Chemosphere 136, published by van Mourik et al. (2015).

We hope this is of value to you, if we can assist further, please let me know.

Kind regards

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