Technical Paper on the SCIP Database

20 February 2020

European Recycling Industries' Confederation (EuRIC) and Plastics Recycler Europe (PRE), as representants of the recycling industry, wish to express their views on the SCIP database (**S**ubstances of **C**oncern **I**n articles, as such or in complex objects (**P**roducts)) to be implemented in application of the article 9 of the Waste Framework directive.

Although improving the flow of information to recyclers is key to produce high-quality recycled materials, the design of the SCIP database, as presented in the "*detailed technical requirements*" recently released by ECHA, is far from representing the perfect solution to improve information between producers and recyclers in a fully circular economy. Two main issues have been identified that hinder the usability of this SCIP database.

First, the database does not address the question of legacy substances, which is the one most problematic issue for the recycling industry:

- Information on the substances of concern placed on the market up to the implementation of the SCIP database will not be available to waste managers and recycling companies. Therefore, products having a long-life cycle (e.g. in construction and demolition waste, end-of-life vehicles or large domestic appliances) will not be addressed by the database.
- Information on substances that will be considered as substances of concern in the future will not be integrated in the database.

Second, the article-based design of the database in unlikely to fit the technical and economic constraints of the recycling industry:

- A recycling operation is only viable if important quantities are treated in a short time, and in industrially efficient processes;
- The SCIP database will likely be extremely complex, with thousands individual article entries in some products;
- Given the sheer complexity of the database, the amount of entries to look up individually by operators is likely to be overwhelming. It could be difficult to use the database without threatening the viability of the recycling process.

Therefore, EuRIC and PRE express their doubts about the effectiveness of the SCIP database in its current design. If the European Chemical Agency wants to make it valuable, a proper interface between the database and the operator would be needed, for instance through an appropriate level of data aggregation.

Concerns with regard to the Waste Framework Directive Database in light of recycling practices

We understand that the ambition is to have a database of all SVHCs in articles that enables consumers to check if products that they have in their possession contain SVHCs and that should enable recyclers to have an overview of which articles that they receive as waste contain SVHCs. We understand that the ambition as formulated is fitting with the zeitgeist wherein greater transparency is demanded from industry and do not necessarily object to the concept as such. In fact, there are already long-standing exchanges of information within the supply chain to inform recyclers of substances of concern (e.g. the SDS-R tool). We however worry about the practical implementation of the currently adopted legal text and would like to highlight fallacies in the current discussions.

The temporal dimension

With regard to the current discussions on the SCIP database, it seems to be insufficient regard for the temporal dimension. The list of substances for which negative environmental and health effect are identified is growing steadily. In most cases, substances are regulated after they have been added in articles or products, and not at the time of the manufacturing of those articles or products, when obligated parties have to enter data in the SCIP database. For this reason, as no data will be available for in-use products containing newly identified SVHC, the SCIP database will be of a limited use to tackle the issue of legacy substances.

Within the "Technical supporting document to the Draft scenario for the database on articles containing Candidate List substances" the option is highlighted to allow companies to voluntarily submit information on SVHC in their previously supplied articles. However, it is questionable whether such voluntary submission will occur. Furthermore, for substances that were introduced a very long time ago (e.g. a decade), it might not even be known to the company that they have in the distant past added such substances.

To give a very concrete example, lead stabilisers were added in the past to PVC window profiles. These have been voluntarily phased out under a VinylPlus initiative. It is unlikely that the ECHA database, in its current conceptual form, will inform recyclers that such substances are present in window profiles.

Article Centred Approach

The practices we describe below pertain to sectors which have long lasting use phases in their life cycle. Short use phases such as packaging are less impacted at the moment as there is relatively rapid elimination of Substances of Very High Concern (SVHCs)[1].

In the current discussions the SCIP Database is frequently presented as the solution that will enable recyclers to carefully sort articles or subcomponents of articles from their waste stream to produce clean material loops.

[1] This may change in the event a substance is identified as SVHC that is essential to the functioning of plastics and cannot be substituted.

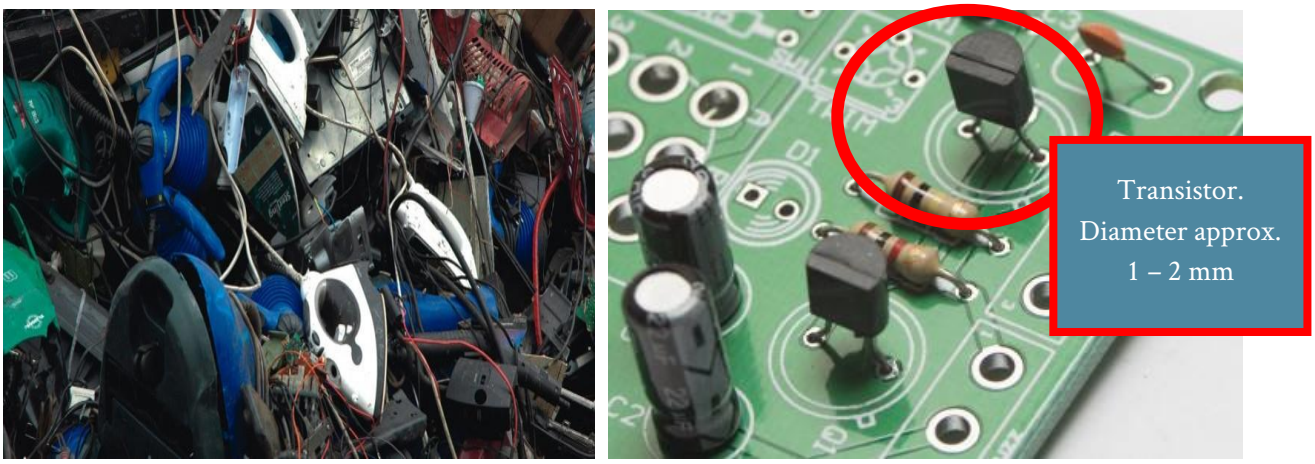

Figure 1 Typical view of collected WEEE at a sorting and/or recycling facility before treatment.

The practicability of such an approach seems to be in line with current decontamination practices, however it is not. Pre-shredding depollution activities, mandatory under several regulations (see specific streams in annex), mostly rely on manual labor. Similarly, manual labor would be required to remove SVHC containing articles listed in the SCIP database. These depollution operations require a significant amount of time. Full dismantling is not feasible as this would require manual labour that cannot be paid from the income generated by the levied gate fees and product that is produced. It should also be noted that, for similar reasons, the share of manual labor is constantly reduced and the recycling industry will increase the use of automation in the future.

Indeed, recycling operations at industrial scale described in annex can only be a viable activity if large quantities are treated in a short time: most end-of life articles are treated by categories (vehicles, refrigerators, TV screens, etc.) and some of them as a bulk (e.g. small household appliances). There is no specific treatment process for each brand or model of appliances, which are treated both as a bulk or by categories (e.g. for WEEE), through multiple treatment steps: dismantling/depollution, treatment to recover materials, post-treatment to maximize material recovery from treatment residues.

Decontamination as currently in place are straightforward practices that are attainable. For example, all CRT displays contain a cathode ray tube that needs to be removed. Collection systems are designed to separate CRT displays and the cathode ray tube is easily located and removed as it is always in the same location.

The information potentially generated based on the SCIP Database is far more precise and would, if successful, indicate things such as monitors made by brand x, model y, from the year 2020 – 2023, contain 3 transistor out of 30 on the circuit board that contains 5% of substance z (see Figure 1 to see what a transistor looks like). Finding such transistors in WEEE sorting and or recycling facilities (see Figure 1) is an insurmountable task.

In case of ELV, dismantling time increase steeply as more material is removed, as presented in Figure 2, because parts can get more and more complex to reach.

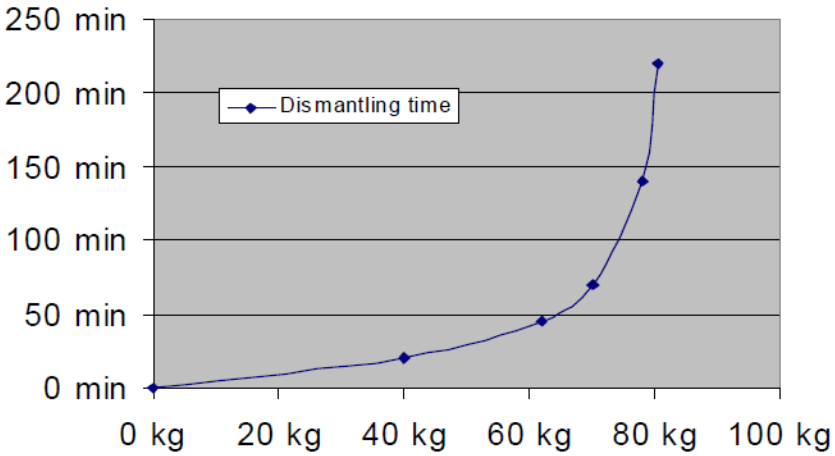

Figure 2: Dismantling time for a car (total plastics 160kg)[2]

Indeed, accessing an increasing number of small articles, either in mixed waste or in large complex objects would require a tremendous investment in man-hours for dismantling.

The only information that recyclers would potentially benefit from is knowledge of what kind of contaminants they should screen for in their output streams. Such output streams are normally defined based on origin and finest refined waste fraction (e.g. TV PS, Post-Consumer Profile PVC, Automotive PE/PP). Such knowledge would enable them to adjust their quality control and inform their customers.

[2] GHK / BIOIS (2006), A study to examine the benefits of the End of Life Vehicles Directive and the costs and benefits of a revision of the 2015 targets for recycling, re-use and recovery under the ELV Directive, Final Report to DG Environment.