Inapplicability of the “Study to assess the impacts of different classification approaches for hazard property "HP 14" on selected waste streams” to Fluff-light fraction and dust from shredding of metal containing waste

Position of the European Recycling Industries’ Confederation (EuRIC)

EuRIC is extremely concerned by the findings of the “Study to assess the impacts of different classification approaches for hazard property "HP 14" on selected waste streams” (“the Study”) and the foreseeable use of the preferred calculation method 1 for classification purposes of fluff-light fraction and dust from shredding of metal containing waste (19 10 03*/19 10 04).

An approach relying solely on chemical analysis, as it is the case with method 1 (as well as with the three other methods assessed in the Study), is technically unfit for the purpose of the characterisation of complex solid waste streams, such as fluff-light fraction and dust from shredding of metal containing waste. It provides a very poor indication of their non-hazardous/hazardous properties. The limits of approaches based on chemical analysis to assess complex matrices are acknowledged by the Study but ignored when drawing up conclusions.

A likely reclassification of fluff-light fraction and dust from shredding of metal containing waste from currently non-hazardous to hazardous, on the basis of an unfit method, would seriously disrupt if not render impossible the recycling of streams reaching high recycling targets and force facilities to temporary or definitively cease operation for no environmental benefits.

A reclassification will immediately result in significant socio-economic consequences for streams, such as end-of-life vehicles (ELVs) or Waste Electrical and Electronic Equipment (WEEE) which are safely recycled and will divert residual waste, including plastic fractions, away from recycling facilities towards treatment options lower in the waste hierarchy, namely hazardous waste incinerators or landfills.

Neither the approach relying on chemical analysis for the classification of certain waste streams nor the far-reaching detrimental impacts expected for the recycling industry would support the transition to a circular economy that recyclers strongly call for and already implement.

EuRIC urges the European Commission and the Technical Adaptation Committee (TAC) to refrain from approving any proposal and regulatory changes relying on chemical analysis for the assessment of the ecotoxic property of waste HP 14 applicable to fluff-light fraction and dust from shredding of metal containing waste (19 10 03*/19 10 04) until a proper harmonized method fit for the purpose of characterising complex solid waste streams is set up.

This paper provides a precise outline of the:
1. Limits and inconsistencies of the Study for assessing the hazardous properties of fluff and dust from shredding of metal (19 10 03*/19 10 04);
2. Socio-economic impacts resulting from a reclassification of fluff and dust from metal shredding.

*About EuRIC
The European Recycling Industries’ Confederation, EuRIC AISBL, is the umbrella organisation for recycling industries in Europe. Through its Member Federations from 20 EU and EFTA countries, EuRIC represents today across Europe over:
- 5,500 companies generating an aggregated annual turnover of about 95 billion €, including large companies and SMEs, involved in the recycling and trade of various resource streams;
- 300,000 local jobs which cannot be outsourced to third EU countries;
- An average of 150 million tons of waste recycled per year (metals, paper and beyond).

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1. Limits and inconsistencies of the Study for assessing the hazardous properties of fluff and dust from shredding of metal (19 10 03*/19 10 04)

⇒ Limits pertaining to the lack of data and to the samples for fluff and dust from shredding of metal

The Study and its conclusions are based on an extremely limited dataset which does not allow to draw conclusions based on solid scientific evidence.

The Study explicitly acknowledges “the lack of availability of characterisation data from chemical analysis” in general (p.91, section 5.4.1., first paragraph) and the lack of data for fluff and dust from metal shredding (see p. 15, heading of the table and p.126, last paragraph of section 6.4.5.).

Even more questionable is the fact that for the pair 19 10 03* / 19 10 04, out of only 11 samples assessed, 10 already had a baseline classification of being hazardous and only 1 had a baseline classification as non-hazardous (pp. 117 and 125 last paragraph), which makes it naturally easy to assert that the consequences of a reclassification would be minor. This fact casts a strong doubt on the representativeness of the baseline dataset used to assess fluff-light fraction and dust from metal shredding whilst the majority of Member States currently classify them as non-hazardous (see pp.115-116, section 6.3.4., the study on, Table 45).

Bio-tests carried out by the industry to this position confirms that shredder residues are non-hazardous. In line with Decision 2014/955/EU, “Where a hazardous property of a waste has been assessed by a test and by using the concentrations of hazardous substances as indicated in Annex III to Directive 2008/98/EC, the results of the test shall prevail”.

The study provides no indication about the origin and type of samples assessed, i.e. whether sampling was made of 'coarse' shredder residues or of 'ultimate' residues from post shredder technologies (PST).

⇒ Irrelevance of applying an approach based on chemical analysis to characterise complex solid waste streams such as fluff and dust from metal shredding

As accurately described in section 6.3.4. of the Study, fluff-light fraction and dust from shredding of metal containing waste (19 10 03*/19 10 04) include numerous fractions such as “plastics, foam, textiles, rubber, glass, sand and dust, as well as other organic compounds and metals in varying proportions”. The heavy fractions are indeed mostly constituted of metals, ferrous and non-ferrous. Fluff-light and dust from metal shredding is typically a highly complex solid waste stream.

The Study explicitly acknowledges (pp. 61 and 62) that:
- “Approaches based on chemical analyses are easy and satisfactory for well-defined samples” whilst “uncertainties regarding the composition of waste is the main limit of approaches based on chemical analysis”;
- “Biotests (...) are useful in assessing very complex matrices, having many constituents, which are very difficult or impossible to be determined by chemical analysis;

As acknowledged in the study and highlighted in a previous statement made by EuRIC, approaches based on chemical analysis are perfectly suited for assessing homogeneous substances and well-defined mixtures commonly found in the chemical industry or materials and substances arising mainly from linear material flows. They are absolutely not adapted to the characterisation of heterogeneous and complex solid waste, such as fluff light fractions and dust:
- Sampling and dissolution of complex solid waste such as fluff-light and dust from metal shredding to obtain a homogeneous liquid will profoundly modify the chemistry of the sample, hence leading to conclusions disconnected from the original ecotoxicity of the material;
- The outcome of the chemical analysis will neither be representative of the stable polymer matrices found in fluff-light and dust nor will it be indicative of the bioavailability of substances they may contain.

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Consequently, applying a method solely based on chemical analysis, such as method 1 recommended by the Study (see p.129 section 7.2), for the classification of fluff-light and dust would from a scientific viewpoint be a non-sense. Given the limitations of the chemical analysis approach, it would be justified to develop a harmonised method which is proven and scientifically fit for purpose of assessing the ecotoxicity of complex solid waste streams instead of relying on a preferred method 1 which is inadequate for assessing HP 14 for complex streams. As long as such a method is not developed, complex solid waste streams such as fluff-light fractions and dust from metal shredding must be exempted from any method based on chemical analysis for assessing HP 14 and regulatory changes to incorporate such a method in the legislation.

2. Socio-economic impacts of a reclassification of fluff and dust from metal shredding

EuRIC is highly concerned that applying an inadequate approach based on chemical analysis such as the method 1 will result in a reclassifying a number of streams including fluff-light fractions and dust from metal shredding from non-hazardous to hazardous. The Study, supposedly aiming at assessing impacts, acknowledges that it cannot assess those impacts for fluff-light fraction and dust because of:

- A lack of data (see p. 15, heading of the table and p.126, last paragraph of section 6.4.5.).
- The use of an extremely limited dataset with 10 out 11 samples having a hazardous baseline classification whilst most Member States classify fluff-light fraction and dust as non-hazardous.

As a result, the potential impacts of a change of classification have been calculated on 1 sample only which is neither representative nor reliable (see pp. 117 & 118, section 6.4.1.).

⇒ Predictability of the current legal framework

The current regulatory framework imposes strict but predictable obligations coupled with high recovery and recycling targets for the treatment of metal containing waste streams. These obligations, mainly laid down in dedicated waste daughter directives, such as the ELV or the WEEE Directives, impose prior to shredding to depollute and remove hazardous substances and components (e.g. batteries) recycled in dedicated installations. Once depolluted, the remaining waste fractions are considered as non-hazardous and treated in recycling facilities permitted accordingly.

This regulatory framework is the baseline upon which operators base their business models and investments in modern shredder installations to recycle metal containing waste and post shredder facilities to treat fluff-light fractions such as plastics and dust. Any reclassification of fluff-light fractions and dust will disrupt well-functioning recycling value chains with direct consequences on the ability for facilities recycling ELVs, WEEE as well as mixed scrap to operate and meet the recycling targets set in the ELV or WEEE Directives.

⇒ Economic value of metal containing waste

The value of end-of-life products, such as ELVs, WEEE and mixed scrap will immediately drop as a result of change of classification from non-hazardous to hazardous of shredder residues. One might not exclude that their value, already suffering from degraded market conditions which have hampered the economic viability of a number of recyclers across Europe, would shift from positive to negative.

It means, in practical terms, that entire business models, relying for example on direct collection by recycling companies or on producer responsibility schemes for cars or WEEE, can ultimately fall due to disproportionate costs and burdens to recycle and more likely dispose end of life products.

⇒ Permitting of facilities, social impacts and potential collateral regulatory impacts

Shredder installations and post shredder facilities recycling fluff-light fractions and dust are permitted to receive non-hazardous waste. A change of classification will force them to apply for a new permit which would be impossible to obtain when local land-use planning requirements prohibit permitting facilities treating hazardous waste in areas where the shredder and/or post shredder facility is located.
It means, in practical terms, that:
- **Best case scenario**: an interim period will be needed for treatment operator to apply for a new permit granting them the right accept hazardous waste during which little or no facility (in some EU countries) will be permitted to receive hazardous fluff-light fractions and dust;
- **Worst case scenario**: in many instances, operators which invested, over the last ten years, in state of the art installations to recycle, for example, highly mixed plastic residual fractions from ELVs and WEEE and achieve a standardised level of quality meeting product legislation will simply have to close their installations permitted to process solely non-hazardous residual waste.

In both scenarios:
- **Change of classification will stop investors’ interest in post shredder technologies**, which remains a nascent market whose development is already undermined by challenging economic conditions and regulatory uncertainty about legacy substances, and **incentivise landfilling as the easiest option to treat fluff-light fractions and dust**;
- **Job losses are inevitable and can easily be quantified per industrial unit.** Unassessed collateral regulatory and permits impacts may also arise from the interplay between the classification of HP 14 and the Seveso III Directive.

⇒ **Lack of installations to dispose newly classified hazardous waste and additional costs**

**The use of the preferred method will result in the reclassification of much more streams than the selected ones assessed. They won’t be enough capacity to treat newly classified hazardous waste.**

Taking the example of France often referred to in the Study, 650 000 tonnes per year of residues arise alone from shredding metal containing waste, such as ELVs and WEEE, which are then treated in post shredder facilities to recycle residual fractions, waste to energy plants or landfilled in non-hazardous waste installations (for the mineral fractions). The waste to energy industry alone produces 3 million tonnes of incinerator bottom ash. Should shredder residues and other waste streams become hazardous, no capacity exists in France (and other Member States) to treat in hazardous waste installations such large tonnages. Extra-costs for the recycling industry will be extremely significant:
- First, because the price to incinerate or finally dispose waste in facilities accepting hazardous waste is substantially higher than for non-hazardous waste;
- Second, because of the capacity shortage, prices of hazardous waste treatment solutions will surge.

For example:

- **Average landfill prices** of residual waste, under current conditions, can more than double from 50€/ton for non-hazardous residual waste to 100€ for hazardous waste, in Germany, or even 150€ to 200€ in other countries such as Austria or France.
- **Average incineration prices for the organic residual waste**, under current conditions, can triple from prices ranging between of 100€ - 140€ / ton for non-hazardous waste to prices ranging between 270€ -300€ / ton for hazardous waste, in Germany.

A change of classification will not only make it difficult if not impossible to recycle residues in post shredder and/or plastic recycling plants, it will result in extra-costs that the recycling cannot afford.

⇒ **Net environmental losses**

The Study acknowledges that “There is no evidence of pollution with contaminated fluff and dust” (p. 116, section 6.3.4.1.). Forced disposal in hazardous waste landfills can only result in higher environmental harm than if shredder residues were recycled. This would be a huge step back for the circular economy.